



**JOHN A. ZECCA**  
EXECUTIVE VICE PRESIDENT  
CHIEF LEGAL OFFICER & CHIEF  
REGULATORY OFFICER  
805 KING FARM BLVD  
ROCKVILLE, MD 20850

**VIA ELECTRONIC MAIL**

May 26, 2020

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

**Re: Proposed Rule on Market Data Infrastructure (Release No. 34-88216; File No. S7-03-20, RIN 3235-AM61)**

Dear Ms. Countryman:

The Commission's Proposed Rule on Market Data Infrastructure<sup>1</sup> is too risky to adopt.

With all the debate about equity market structure, including market data, one might think our markets are a mess. That couldn't be further from the truth. The performance and quality of the U.S. equity markets are exemplary and have steadily improved over the years – to investors' benefit. Bid-ask spreads are tighter; price discovery is more efficient; execution speeds are faster; market quality is up; trading costs are down; and surveillance is more sophisticated. As an exclamation point, the equity markets have functioned remarkably well during the historic volumes, volatility, and stresses of the COVID-19 pandemic when the stakes are as great as they've ever been.<sup>2</sup>

In other words, the national market system is a success, for which the Commission deserves credit. There couldn't be a worse time to jeopardize this success than now. Yet that's exactly what the Proposal does. Here's how.

**“Regulation NMS II.”** The Commission fails to recognize, and thus insufficiently analyzes, how the Proposed Rule would essentially rewire the equity markets. Nasdaq does not refer to the Proposal as “Regulation NMS II” lightly. Isn't the Proposal about market data infrastructure, including the operation and content of the SIP as the title claims? Yes. But that's just part of what it's about. The Proposal is also about quotation display, locked and crossed markets, round lots, order protection, and best execution – all of which the Commission studied at length when it proposed, re-proposed, and then adopted Regulation NMS in 2005.

The magnitude of the Proposed Rule is obscured because the Commission describes it relatively narrowly in terms of market data, instead of explaining to market participants and other interested parties the Proposal's full reach, scope, and impact.

While such obscurity in a rulemaking is inherently troublesome, the primary problem is this: The Proposal gives short shrift to the intricacies, market dynamics, and interdependencies that characterize the U.S. equity markets and determine how they operate and perform over time. The SEC's Roundtable on Market Data and Market Access and the work of the SEC's Equity Market Structure Advisory Committee do not fill the void for the Commission, as neither took up in a holistic manner the kind of sweeping market structure restructuring that the Proposal would usher in. Interestingly, the Commission compares what it proposes for equity markets to public utility restructuring, a massive undertaking that took years to unfold and that introduced new public utility regulation, spawned litigation, and, at best, led to mixed results for households and other electricity consumers.

The Commission also neglects to consider the significant impact of its Proposal on issuers and small broker-dealers, as well as on the options markets. It overlooks the fact that the Proposal, by adding significant complexity to the operation of the markets, would concurrently affect market surveillance and enforcement costs and capabilities.

Furthermore, the Commission, in an apparent rush to finalize the rulemaking in the midst of a pandemic, rejected several reasonable requests from brokers, issuers, exchanges and other concerned market participants for an extension of the 60-day comment period so that commenters could have adequate opportunities to weigh in on the totality of the Proposal while also struggling for economic survival.<sup>3</sup> During the comment period, nearly 100,000 Americans have lost their lives and 40 million have lost their jobs due to COVID-19.<sup>4</sup> Within this context, it is striking – albeit no surprise – that as of the day before the comment period expired for Reg NMS II, the Commission received only 14 comments, or four percent of the number of comments it received as of the day before the comment period expired for the original Reg. NMS.<sup>5</sup>

The lack of deep analysis regarding the Proposal's extensive reach across many aspects of our well-functioning markets creates a high probability of unintended negative consequences that are likely to far outweigh any of the intended benefits.

**The Market for Market Data.** The Commission assumes and asserts that the Proposed Rule will lead to actual competition among multiple competing consolidators. However, these assumptions and assertions are not an appropriate foundation upon which to base such a significant rulemaking. What's required – and what's missing – is a rigorous economic analysis of the market for market data that more carefully evaluates whether competing consolidators will enter and under what conditions, how they will operate upon entry, their incentives to innovate across various dimensions of market data quality, and how they will price their market data products.

When such an analysis is done, it readily reveals that, in reality, there's a strong chance that the Proposal will yield a market with either few competing consolidators that can exert market power or many competing consolidators charging higher prices for market data. For example, as to the former, there may be insufficient demand to support a substantial number of competing consolidators if large consumers of depth-of-book data opt to self-aggregate over time, perhaps to gain a latency advantage. As to the latter, if there are lots of entrants that

differentiate their products to compete, as the Commission hopes, each consolidator may have to increase the price it charges to cover its high fixed costs since it would have to recover those costs from customers representing the comparatively small portion of the overall demand for market data that the consolidator supplies.

Notably, the Proposal acknowledges that some market structures – such as the distribution of core data – with high fixed costs and economies of scale may not be conducive to multiple entrants in the first place. This concession undermines the Proposal’s central predicate.

None of this is to say that the real-world impact of the Proposed Rule on the market for market data is determinate. Rather, just because the Proposed Rule allows for competition, it does not necessarily follow that competition will occur or that anything approximating a competitive outcome that benefits investors will result. In fact, there are sound economic reasons to worry that the Proposal will make things worse.

**Multi-Tiers and the National Best Bid and Offer.** The Commission is concerned that information asymmetries between SIP data and proprietary data create a two-tiered market data environment. The Commission proposes to redress this by expanding the definition of “core data” to include depth-of-book data that is now contained in exchange proprietary feeds, and says that competing consolidators will compete to reduce consolidated feed latencies.

However, the Proposal overlooks that it fosters the very problem it wishes to solve. The Proposed Rule centers on promoting competition. In practice, competition, if it were to occur, would translate into multiple competing consolidators developing and offering to market participants differentiated products of different quality, different latencies, and different prices. In other words, if the Proposal accomplishes its goal, the expected outcome is what only can be described in accordance with the Commission’s own definitions as a proliferation of market data tiers and information asymmetries, albeit rooted in competitive dynamics instead of regulatory standards and structures. Self-aggregation would add additional market-wide disparities in terms of data content and speed. Larger firms that have the wherewithal to pay for the best or fastest data products or to become self-aggregators would benefit from these disparities, while smaller firms that cannot do so would suffer.

A particularly worrisome result is that product differentiation among competing consolidators will render a single “gold source” National Best Bid and Offer (“NBBO”) a relic of the past. Among other things, a fragmented NBBO would sow confusion, compromise market quality, and complicate compliance with best execution obligations at the expense of the investors that broker-dealers serve. Indeed, eliminating the single NBBO, along with limiting investor protections against trade-throughs and locked and crossed markets, would together undermine investor confidence in the fairness of the equity markets.

**More Regulation and the “Quality Floor.”** The Proposed Rule is premised on more competition, but it will likely result in more regulation. Like most markets, the market for market data is segmented. Different market participants demand and are willing to pay for different data at different speeds; as noted above, the hallmark of a market is that different products are supplied in response. But therein lies still another fundamental difficulty that the

Proposal introduces to the national market system. If competing consolidators focus on different segments of demand as the Commission contemplates they will, there is every reason to anticipate that some market data products will be of inferior quality, falling short of regulators' expectations notwithstanding that the products may be at a quality/price combination that a specific market segment finds acceptable.

Put differently, in regulated markets of all types, regulators often set minimum standards as a "quality floor." The market for market data is unlikely to be an exception. Even if it is not this Commission's current intention, the odds are high that a future Commission will find it necessary to impose new mandates, beyond Regulation SCI, to ensure that the quality of market data products does not deteriorate or otherwise fall below a certain level and that competing consolidator market data feeds remain available and reliable. When that happens, new regulatory barriers to entry and business growth will mean less of the very competition that the Commission depends on as the backbone of the Proposal.

**Rate Cases.** The Proposed Rule's longer-term effects hinge, in large part, on how the fees paid to exchanges for core data are set. References to fees being "reasonably related to cost" elide the complexity of determining the right price, and there are considerable negative consequences to the equity markets of choosing the wrong price.

The Proposal's passing mention of public utilities suggests an apt benchmark for what a fee-setting exercise would typically involve as an integral part of a restructuring like the Commission proposes for market data. Utility rate cases take years, requiring detailed and extensive financial and accounting analyses, economic assessments regarding joint cost allocations, judgments about fixed and variable costs, determinations about a utility's budget and priorities, methodologies to decide on a reasonable return on capital, and testimony from a wide range of stakeholders. Setting the fee for core market data might not be as involved as setting the fee for railroads, telecommunications, or electricity, but it's still a very demanding and time-consuming task that is well beyond anything the Commission has ever done to evaluate a fee. The Proposal makes no acknowledgement of this whatsoever.

One reason selecting a price can be vexing for regulators is that it's not just about ensuring that the price isn't too high; it's also about ensuring that the price isn't too low. In the context of the Proposal, if the fee exchanges are permitted to charge for core data is set too low and their revenues decline, exchanges will have less incentive to invest in product and technological innovations and other improvements for meeting their regulatory and operational responsibilities. In addition, exchanges may be compelled to increase other fees they charge for trading to help make up the shortfall. At Nasdaq, for example, the average all-in cost of trading has decreased in recent years – a result that is flatly inconsistent with any assertion that Nasdaq is earning excess profits by charging supra-competitive prices for market data and so can just absorb a loss of market data revenues.

**Legal Violations.** Given that all of this and much more that is laid out in this comment letter, not only should the Commission refrain from proceeding with this Proposal on policy grounds, but it also cannot proceed on legal grounds. The Commission does not have unbounded authority. The Proposal violates the Exchange Act of 1934<sup>6</sup> by contravening Congress's

objectives in authorizing the establishment of the national market system and depriving exchanges of key rights and protections the federal securities laws afford them. The Proposal violates the Administrative Procedure Act<sup>7</sup> because the Commission fails to engage in a qualitative or quantitative analysis that meets the bar set for regulators by the courts. The Proposal violates the U.S. Constitution in that it takes from exchanges their market data without adequate compensation.

These are not idle or academic considerations. If the Commission moves forward with this rulemaking on this record, it will face the ultimate setback of having its final rule overturned.

Nasdaq has never argued for unwavering adherence to the status quo. What Nasdaq has consistently insisted upon – just as the law has – is that the Commission only change its rules and regulations when there is a sound, reasoned, and economically-justified basis to conclude that the regulatory change will do more good than harm for investors and the U.S. equity markets. The Proposal fails this test and, in so doing, sets the stage for a more-tiered market, additional informational asymmetries, new compliance challenges, higher market data fees and other trading costs for investors, and more government regulation. Ironically, this is the precise opposite of what the Commission seeks to achieve.

## **I. OVERVIEW OF COMMENTS**

The optimal structure of the national market system has been debated continuously and often contentiously since Congress first conceived of it in 1975. Over the years, the Commission, the exchanges, other industry factions, academics, and investors have fashioned a collection of disparate trading venues into an interconnected system – a system that preserves and fosters competition among trading venues and that protects investors by ensuring ready access to the data they need to inform their trading and investment decisions. In 2005, debates over the optimal structure of this system culminated in the adoption of Regulation National Market System or “Reg NMS”<sup>8</sup> and the construction upon it of the regulatory framework that is the existing national market system. While Reg NMS has received its share of criticisms, the national market system that it has produced is the most fair, orderly, transparent, efficient, innovative, low-cost, reliable, and resilient capital markets in the world.

Even so, opportunities abound to make incremental improvements to the existing market system – improvements that leverage its strengths as well as the substantial investments that Nasdaq and others have made to it over time. Nasdaq has been at the vanguard of efforts to refine and improve the national market system, and often in ways that have been contrary to its economic self-interest. In just the past few years alone, Nasdaq has proposed to: (i) replace the existing one-size-fits-all tick size regime with intelligent ticks that would vary with the trading characteristics of individual securities;<sup>9</sup> (ii) afford issuers of thinly-traded securities a choice to terminate unlisted trading privileges for their securities so to concentrate liquidity and improve trading;<sup>10</sup> (iii) eliminate the Order Protection Rule for the smallest equities markets to afford these markets freedom to innovate; (iv) modify the SIP revenue formula to increase market quality and strengthen “lit” quotes;<sup>11</sup> (v) update the definitions of “Professional” and “Non-Professional” users of market data to ensure that Main Street investors pay lower fees to access such data; and (vi) create one Consolidated Tape Plan from the current three to reduce costs to

the industry. Nasdaq has proposed these market structure reforms, and others, as part of two public policy initiatives that it launched to reinvigorate the environment for the listing and trading of securities in the public markets: Project Revitalize<sup>12</sup> and the TotalMarkets initiative.<sup>13</sup>

Although incremental initiatives have the potential to bolster the existing national market system in a measured manner, the Commission is now poised, without empirical data to justify its actions, to demolish the entire system. Indeed, the Proposed Rule reaches far beyond market data to revisit, if not blow apart, the fundamental tenets of Reg NMS, including quotation display, locked and crossed markets, trade-throughs of displayed orders, disclosures of market performance, and best execution. As noted above, Nasdaq truly believes that the Proposed Rule is a “Regulation NMS II.”

Like many a sequel, however, Reg NMS II fails to measure up to the original. The original Reg NMS was a product of years of healthy public debate, hearings, roundtable discussions, advisory committee recommendations, and concept releases. The rulemaking process itself provided ample opportunity for public comment and demonstrated sensitivity to the comments received.<sup>14</sup> The result was decidedly imperfect and controversial, but it was, at the very least, a thoroughly-vetted effort to modernize the national market system. Moreover, the Commission adopted Reg NMS at a time when the markets were stable and calm and when market participants were ready and able to absorb the changes it prescribed. By contrast, the Commission hastily flung Reg NMS II upon the markets, without having achieved prior consensus even from its own advisory committee, and without having provided adequate opportunity for public comment. To support Reg NMS II, the Commission cites cherry-picked statements made by self-interested panelists at a single roundtable discussion that do not fully reflect the overall debate. The Commission also proposes Reg NMS II at one of the most challenging and perilous periods in the history of the modern capital markets and of the national and global economies, more generally. Even as the markets have operated soundly throughout this period, and investor confidence in the markets has remained high, the Proposal would introduce complexities and risks that would threaten to undercut years of investments in testing, resiliency, and coordination that have enabled the markets to persevere during crises, while undermining the fundamental fairness of the markets upon which investors depend.

The flaws in the Proposed Rule are myriad and profound.

**First, the Proposal abandons the principle that free and fair competition, rather than government mandate, is the most effective driver of the development and direction of the markets.**<sup>15</sup>

While the Commission plays a vital role in ensuring that competition is robust and fair, and that the public interest is well-served, markets perform best when the Commission is careful not to stray from these carefully circumscribed missions. Unfortunately, the Proposed Rule does stray from this competition principle.<sup>16</sup> It would expand the control of a government-mandated consortium, allow the consortium to fix the fees charged for what are today competitive products, appropriate to the consortium data that is the product of creative and innovative efforts, and select winners and losers among market participants. In so doing, it would further

complicate market structure, create unintended consequences as a result of that complexity, and destroy market participants' incentives to innovate. Indeed, Nasdaq fears that the Proposal would damage the national market system in the following profound ways:

- Shedding the single NBBO – which has long been investors' "North Star" for price discovery – in favor of multiple NBBOs would further complicate market structure, confuse investors as to whether they are actually seeing the best price, and hinder market surveillance and enforcement efforts.
- Supplementing core market data with depth-of-book data would confound market participants in fulfilling their best execution obligations, in that there is no discussion as to how broker-dealers are to choose among NBBOs in evaluating best execution or how depth-of-book or auction data fits into those obligations. Indeed, the Proposal suffers from its failure to clarify or modernize best execution to account for its changes.
- Supplanting the exclusive SIPs with perhaps dozens of competing consolidators and self-aggregators would be a needlessly complex and convoluted solution to a discrete concern. It would perversely result in the creation of a many-tiered market in place of the two-tier market that the Commission claims exists today. It would imperil the markets by placing the distribution of core data in the hands of untested technology vendors that, while theoretically cheaper than the exclusive SIPs, would lack the expertise, experience, and resources that the exclusive SIPs bring to these critical tasks, as well as the same degree of regulatory oversight to which the exclusive SIPs are now subject.
- Expropriating the proprietary market data products that Nasdaq and others have spent years developing would rob them of the fruits of their labors and dash their incentives to develop new and innovative data products going forward.
- Finally, undermining core tenets of Reg NMS, like order protection, would deprive investors of existing safeguards against trade-throughs, increase instances of locked and crossed markets, and disadvantage retail investors in obtaining best prices as their orders may no longer receive protection.

**Second, the Proposal rests upon unfounded assumptions about the national market system and the Proposal's benefits to it.**

- The Commission concludes that an "asymmetry" exists in the accessibility of core and non-core market data because non-core data, such as depth-of-book and auction data, must be purchased from each exchange on a proprietary basis.<sup>17</sup> In making this assumption, the Commission failed to collect data regarding whether any meaningful number of market participants that desire access to non-core data are actually unable to obtain it, either directly from exchanges or indirectly (and often free of charge) from their brokers.
- Because *some* market participants choose to supplement core data by purchasing non-core proprietary data, the Commission assumes that non-core data must be necessary to *all* market participants and investors, such that the Commission must make it available to the public on

the same basis as core data.<sup>18</sup> In making this assumption, the Commission fails to consider that proprietary market data is neither necessary nor relevant to the business models and trading or investment strategies of many, if not most, ordinary investors and market participants.

- The Commission assumes that its Proposal will create a system of multiple competing data consolidators and self-aggregators that would distribute data more cheaply and quickly and with higher quality than do the existing SIPs.<sup>19</sup> However, as the Commission acknowledges,<sup>20</sup> it is far from certain that any prospective consolidator would have a financial motivation to enter the market. Moreover, firms that might otherwise become the customers of competing consolidators could decide to self-aggregate instead, thereby diminishing the business prospects for competing consolidators. Even if multiple competing consolidators do emerge, they would not be able to distribute consolidated data as quickly as the direct exchange feeds and their customers would not be able to consume it as quickly as self-aggregators.
- The Commission first assumes that data costs would drop under its Proposal and, on top of that assumption, it also assumes that the benefits of purportedly cheaper data prices outweigh the risks associated with entrusting the consolidation and distribution of core data to inexperienced, untested technology vendors that would be subject to lighter regulation of their products, and fewer regulatory obligations concerning their reliability and resiliency, than are the existing SIPs.
- The Commission fails to analyze the impact that the technological or financial failure of a competing consolidator may have on the customers that rely on it. If its customers do not have an immediately available substitute, the impact of such a failure would be significant to them.
- Finally, the Commission ignores the likelihood that different consolidators will provide differing levels of service, replacing an allegedly two-tiered market with a multi-tiered market. Even if multiple competing consolidators end up racing against each other to produce unique or superior data products or to distribute data more quickly, they would likely charge premiums for better products and faster services. If so, whatever concerns the SEC may have now about market participants needing to pay high costs to access the best and fastest data will not be solved by its Proposal; to the contrary, the Proposal would only make this problem worse.

**Third, the Proposed Rule is internally inconsistent in many respects.**

- The Proposed Rule purports to knit the national market system more tightly together, but its calls to fragment the NBBO and to decentralize the system for distributing market data would effectively tear the system apart.
- The Commission bemoans the complexity of the existing national market system, but its proposals to de-couple round lot sizes from protected order sizes would result in a system that is considerably more complex than what exists now. Such added complexity is more



than a mere inconvenience or just an added cost; it would create new fault lines for the national market system to break down, and it would do so without empirical justification for risking a well-functioning system. The Commission asserts that it intends to enhance competition for the distribution of data, but in fact, the Proposal would replace actual competition with a government-supervised rate-setting board. The Commission would no longer permit competition to determine the prices of market data or to spur innovation; instead, the Commission would assign a body of competitors and their customers to collectively fix those prices.

- The Commission claims to combat conflicts of interest but at most it trades one set of potential conflicts for another. It would create conflicts of interest among firms that would gain input into, and commercially-sensitive information about, the pricing of the data that they consume, even as the Commission seeks to eliminate alleged conflicts of interests among exchanges that currently set the prices of the SIP data that they produce.
- While in recent years, the Commission has expressed a desire to enhance the trading environment for thinly-traded securities, this Proposal would increase the complexity and costs associated with trading such securities.
- Finally, even as the Proposal purports to increase access to useful market data, it would stifle the incentives to innovate that led Nasdaq and other exchanges to produce auction and depth-of-book data in the first place.

**Fourth, the Proposed Rule conflicts with an order the Commission adopted just three weeks ago.**<sup>21</sup>

Under the NMS Governance Order, the Commission ordered participants in current equity data plans to propose a single, new equity data plan, whereas Reg NMS II would replace the exclusive SIPs with a system of multiple competing consolidators and self-aggregators. In the NMS Governance Order, the Commission denied that any inconsistencies exist between the Governance Order that envisioned a tightly centralized system and Reg NMS II that proposes a widely decentralized one.<sup>22</sup> Not only did the Commission inadequately explain this inconsistency, it also waited to address the inconsistency until just three weeks before its deadline expired for public comment on Reg NMS II. As a result, Nasdaq and other market participants have had insufficient time to digest and respond to the Commission's position.

**Fifth, this Proposal violates the Exchange Act, the APA, and the United States Constitution.**

- The Proposal exceeds the Commission's authority, under Section 11A of the Act,<sup>23</sup> to provide for the "fair collection" or distribution of market data because it would expropriate the exchanges' proprietary data without affording them an opportunity for adequate compensation.
- Such expropriation likewise violates the Takings Clause of the U.S. Constitution, which provides that private property shall not be taken for public use, without just compensation.<sup>24</sup>

- Also in violation of Section 11A of the Act,<sup>25</sup> the Proposal fails to give due regard for the public's interest in maintaining exchanges' incentives to innovate and enhance their proprietary data products.
- The Proposal is also inconsistent with Sections 6 and 19 of the Exchange Act, which authorize exchanges to set their own fees for market data products, subject only to Commission oversight.<sup>26</sup>
- And for the reasons discussed above, the Proposal would inhibit efficiency and competition, which are burdens that the Commission is required under Section 3(f) of the Act<sup>27</sup> to consider and justify before adopting the Proposed Rule.
- The Proposal would violate the APA by arbitrarily and capriciously subjecting Nasdaq and various other market participants to disparate treatment. For example, the Proposal's round lot and order protection proposals would treat issuers – as well as those who wish to trade or invest in issuers' stocks – differently depending upon the prices of their stocks.

**Sixth and finally, the timing of the Proposed Rule could not have been worse or less justifiable.**

Since the Proposal hit the Federal Register in late-March, the entire nation has been in the throes of the COVID-19 pandemic. Lives were and are at risk; businesses are closing or moving employees to remote work; and markets were at their most volatile. Given these circumstances, Nasdaq and others<sup>28</sup> pleaded with the Commission to pause the rulemaking, or at least to extend its comment period, echoing a call made by Commissioner Allison Lee.<sup>29</sup> Inexplicably, the Commission met these requests with silence, even as it has seen fit, for the very same reasons, to pause many of its other pending rulemakings, and to relax its other deadlines and requirements.<sup>30</sup> The Commission's determination to rush through this Proposal to profoundly re-write the market structure that has served America during this crisis while pausing other rulemaking more directly tied to providing relief for our economy struggling to reopen is not only arbitrary and capricious but is a disservice to the U.S. economy.

The U.S. markets performed nearly flawlessly during the pandemic under unprecedented stress.<sup>31</sup> The Commission should celebrate that success. Instead, it is rushing to do open-heart surgery on the markets while potential commenters are distracted with concerns about personal and professional survival. Many who will be affected by the Proposal – including issuers and small broker-dealers – will not be able to file comments during this crisis.<sup>32</sup> It is telling that as of May 25th – the day before the comment period expired for Reg NMS II, the Commission received only 14 comment letters (of which 9 request extensions), whereas on the day prior to the expiration of the comment period for the original Reg. NMS, the Commission had received approximately 330 comment letters.<sup>33</sup> Although some may ultimately file comments late, many will believe that they cannot do so, and the overall number of comments will likely be small. A rulemaking of this magnitude stands to be seriously, if not fatally, flawed if the public is denied a meaningful opportunity to comment.

Accordingly, at a minimum, the Commission should re-open the public comment period

for the Proposed Rule for at least another 60 days, so that those who missed the submission deadline may file their comments, while those, like Nasdaq, which did file comments by today's deadline, will have an opportunity to supplement them. More appropriately, the Commission should withdraw the Proposal and engage in the detailed and careful research and discussion that a proposal of this magnitude ordinarily receives but which did not occur here. Moreover, should the Commission decide to alter the Proposal substantively in response to comments received, including by jettisoning certain elements while retaining others, then the Commission should re-propose the Proposal, as it did during the original Reg. NMS rulemaking, so that the public could have an adequate opportunity to weigh in on the revisions and any unique or different impacts they might have on the markets.

## **II. THE PROPOSAL WILL HARM THE MARKET AND INVESTORS**

### **A. The Proposal abandons the Gold Source NBBO that was the *raison d'être* of the National Market System and investors' North Star since 1975.**

The "NBBO" is the best bid and best offer for an NMS security that is calculated and disseminated on a current and continuous basis by the exclusive SIPs. The Proposed Rule replaces this single NBBO with a multiplicity of localized and potentially disparate NBBOs, defined as the best bid and best offer that is calculated and disseminated on a current and continuing basis by a competing consolidator or calculated by a self-aggregator.<sup>34</sup> The Commission does not estimate how many "NBBOs" might exist under the new regime, but expects approximately twelve competing consolidators, whose NBBOs would be supplemented by NBBOs set by an indeterminate number of self-aggregators.

In the adopting release for Regulation NMS, the Commission explained that, when Congress mandated the creation of the NMS in 1975, "the systems for disseminating consolidated market data would 'form the heart of the national market system.'"<sup>35</sup> This consolidated stream would allow "information users, particularly retail investors . . . to obtain data from a single source that reflects the best quotations and most recent trade price for a security, no matter where such quotations and trades are displayed in the NMS."<sup>36</sup> This is because "retail investors justifiably expect that their orders will be executed at the NBBO. Investors generally can know the best quoted prices at the time they place an order by referring to the consolidated quotation stream for a stock."<sup>37</sup>

The benefits of the single NBBO are as clear today as they were in 2005 when Reg NMS was adopted: simplicity and confidence. Retail investors are given the confidence that their trades will be executed at the best price, and the best price can be easily determined because it is on the consolidated feed, which functions as a universal reference point.

This simplicity – and, by extension, the accompanying confidence – disappears with multiple NBBOs. This is because the competing consolidators will be positioned at different locations, and the time it takes for data to travel from one location to another will prevent the competing consolidators from "seeing" the same trade at the same time. This is true because of technological advances: the computers that consolidate exchange data operate at speeds in the microseconds range, and therefore a competing consolidator that is geographically close to a

trade will be able to identify and process a transaction faster than a competing consolidator that is farther away from a transaction. These geographic discrepancies, multiplied by millions of transactions, will necessarily lead to differences in NBBOs among the competing consolidators. The Commission recognizes this unavoidable fact of geography.<sup>38</sup> Moreover, if, as expected, competing consolidators offer trade-offs between cost and efficiency, the NBBO provided by the low-cost consolidator may differ significantly from the one offered by a more efficient, and more expensive, consolidator.

This is not a mere matter of perception; it has profound regulatory implications. A transaction will be compliant with a regulation – or not – depending on the location of the competing consolidator. Many regulations require identification of an NBBO for implementation:

- **Trade-through prevention:** The Order Protection Rule<sup>39</sup> requires trading centers to have policies and procedures in place that are reasonably designed to prevent trade-throughs of “protected bids or protected offers” in NMS stocks, subject to certain exceptions; these exceptions require identification of the NBBO.
- **Locked and crossed markets:** Exchanges are required to adopt and enforce rules that require their members to reasonably avoid displaying quotations that lock or cross any protected quotation in an NMS stock, and that prohibit exchange members from engaging in a pattern or practice of displaying quotations that lock or cross any protected quotation in any NMS stock, absent an applicable exception.<sup>40</sup> These rules require the NBBO as a reference point.
- **Best execution:** The duty of best execution obligates a broker-dealer to exercise reasonable care to execute a customer’s order in a way to obtain the most advantageous terms for the customer.<sup>41</sup> Although the Commission states in the Proposed Rule that it intends for its proposed enhancements to core data to, among other things, facilitate best execution,<sup>42</sup> the Commission avoids discussing how broker-dealers are to choose among NBBOs in evaluating best execution. Here again, a trade-off between consolidators’ cost and efficiency may have significant regulatory ramifications.

Because many regulations depend on the NBBO, the formation of multiple NBBOs introduces the possibility that regulations will be inconsistently applied using data from different competing consolidators, and increases monitoring costs as regulators will have no single “gold standard” against which to measure compliance.

To avoid such confusion and inconsistencies, the Commission must address and clarify how SROs, competing consolidators and broker-dealers are to consider multiple NBBOs in the context of trade-through prevention, locked and crossed markets, and best execution. In particular, the Commission should consider the varying roles of SROs, competing consolidators, and broker-dealers in enforcing these obligations with respect to surveillance, investigation, and enforcement in both the intra-market and cross-market context. Before taking any action on the Proposed Rule, the Commission must evaluate whether it is practical for market participants and regulators to operate in a world where compliance must be measured against a confused mosaic

of conflicting NBBOs, with no standards for prioritizing them and whether such confusion will enhance the risk of bad actors successfully manipulating markets. The Proposed Rule as written is deficient in that it lacks such analysis, and will lead to confusion and inconsistent application of rules if adopted in its current form.

**B. De-coupling the display of round lot quotations from order protection would cause confusion and compromise critical investor protections against trade-throughs and locked and crossed markets.**

As part of the Proposed Rule, the Commission proposes to define the term “round lot” in Reg NMS so that instead of constituting an order for the purchase or sale of 100 shares of an NMS stock, as is convention under exchange rules, its size would vary instead by stock price. As a result of this proposed change, most of what are now “odd lots” – smaller-sized quotations in higher-priced NMS securities – would become round lots and thus would be included as part of the core consolidated data that would be disseminated to the public.

At the same time as the Commission proposes to adopt a definition of “round lots” that broadens the meaning of that term, and also proposes to apply this new definition to various Reg NMS rules, the Commission notably declines to apply this concept to Rule 611 – the Order Protection Rule. The Order Protection Rule provides for intermarket price protection of orders by restricting the execution of trades on one venue at prices that are inferior to displayed quotations at another venue. Specifically, it requires trading centers to have policies and procedures in place that are reasonably designed to prevent trade-throughs of protected quotations in NMS stocks, subject to certain exceptions. The Commission adopted the Order Protection Rule with the conviction that:

strengthened protection of displayed limit orders would help reward market participants for displaying their trading interest and thereby promote fairer and more vigorous competition among orders seeking to supply liquidity.

Moreover, the Commission stated that “strong intermarket price protection offers greater assurance, on an order-by-order basis, that investors who submit market orders will receive the best readily available prices for their trades.”

Under existing Rule 611, the Commission protects bids and offers in NMS stocks in round lots – which again, are generally understood to mean orders of 100 shares or multiples thereof. Rather than propose that Rule 611 will continue to protect all round lots going forward, under a proposed definition of that term which includes smaller-sized quotations in higher-priced stocks, the Commission instead proposes that quotations of less than 100 shares will not be protected. Indeed, the Commission proposes to amend the definition of “protected bid or protected offer” in Rule 600(b)(61) to require automated quotations that are the best bid or offer of a national securities exchange or national securities association to be “of at least 100 shares” in order to qualify as a protected bid or protected offer. Moreover, under the Proposal, protected quotations would only include odd lots at a single price that, when aggregated, are equal to or greater than 100 shares. This would modify the practices of many exchanges, which, pursuant to their rules, aggregate odd lots across multiple price points into round lots for purposes of

providing protected quotations to the SIPs.

In proposing to exclude from protection smaller-sized quotations in higher-priced stocks, the Commission suggests (but does not outright state) that it shares the views of some market participants that Rule 611 has negatively impacted equity market structure and that it should be repealed. Moreover, the Commission argues that extending order protection to the proposed new round lots would be unnecessary because: (i) improvements in electronic trading and automated routing technologies enable market participants to obtain the best prices available within the national market system; (ii) the proposed definition of a “round lot” would also improve the visibility of formerly odd-lot quotes; (iii) market participants continue to be subject to the duty of best execution, which would adequately incentivize them to engage with meaningfully-sized quotes, even if those quotes are unprotected; and (iv) proposed changes to market quality statistics would render market participants more accountable to investors for their failures to interact with such quotes.<sup>43</sup> Finally, the Commission states its belief that a single test for the applicability of the Order Protection Rule would be “simpler, would facilitate compliance with Rule 611, and would set consistent expectations among market participants.”

As a general matter, Nasdaq supports the Commission’s aims of increasing transparency and price discovery for odd-lot quotations in higher-priced securities, especially as average share prices continue to rise, stock splits become more infrequent, and odd lots in such securities comprise an increasingly large proportion of overall quoting and trading activity. Indeed, Nasdaq recently expressed its support for an initial proposal by the Operating Committees of the UTP and CQ Plans to add odd-lot quotations to plan data feeds, albeit as ancillary information on the SIP data feed.

Notwithstanding the fact that Nasdaq supports greater transparency for meaningful odd-lot quotes, Nasdaq questions the manner in which the Commission has chosen to provide such transparency. Indeed, the Commission fails to adequately explain its rationales for choosing to vary round lot sizes by share price or for choosing to associate each particular share price range with each particular round lot size. Similarly, the Commission fails to explain why it is reasonable, or in the interest of fair and orderly markets, to mandate large and clunky changes in round lot size when securities experience even small shifts in price around certain thresholds, but not in other cases. For example, a stock priced at \$500.00 and with a round lot size of 10 shares would see its round lot size drop dramatically to 2 shares if the stock price was to rise a mere penny. If, however, the price of the stock was to rise an additional penny, or even double in price, no further change in round lot size would occur. Such a result appears arbitrary.

Nasdaq also disagrees with the Commission’s proposal to protect fewer than all of the re-defined round lot quotes. Nasdaq acknowledges the Commission’s observation that the Order Protection Rule has long been controversial and that some market participants believe that its costs and burdens outweigh its benefits. Nevertheless, the Order Protection Rule has been a cornerstone of the national market system for the past 15 years. If the Commission agrees with critics that the Order Protection Rule is useless and obsolete, and that it should be repealed, then the Commission should say so expressly, rather than merely highlight criticisms that others have levied. Moreover, any effort by the Commission to repeal the Order Protection Rule, even in part, deserves a much more rigorous explanation and analysis than the perfunctory ones that the

Commission sets forth in this Proposal. Such an effort would be worthy of a separate and discrete rulemaking proposal.

Indeed, the Commission's stated rationale for declining to protect quotations of under 100 shares seems particularly wanting given that the Commission, in the Reg NMS Adopting Release, stated that it intended for the Order Protection Rule to specifically address such a "gap" in prior ITS provisions that allowed "some limit orders of small investors to be bypassed." Also in the Reg NMS Adopting Release, the Commission squarely confronted and rejected what is now the Commission's primary rationale for denying order protection for odd-lot quotes in higher-priced stocks. That is, in the Reg NMS Adopting Release, the Commission rejected arguments made by commenters that order protection was unnecessary because the "public availability of each market's quotations and ready access by all market participants to such quotations, competition among markets, a broker's existing duty of best execution, and economic self-interest would be sufficient to protect limit orders and produce the most fair and efficient markets."<sup>44</sup> In rejecting these arguments, the Commission stated that these arguments failed to account for certain problems that would be likely to persist in the absence of the rule, such as agent-principal conflicts of interest, which cause agents to act in their own self-interests and intentionally bypass limit orders with the best displayed prices. The Commission said that such arguments also fail to account for the fact that investors – and in particular retail investors – would likely be unaware whether their small-sized orders had been executed at the best displayed price. Given the propensity for such problems to occur, the Commission said that the Order Protection Rule was necessary to "backstop" a broker's duty of best execution. Nasdaq submits that the Proposal fails to adequately explain why the concerns that the Commission expressed in the Reg NMS Adopting Release cease to be valid. An agency's abandonment of prior conclusions without a reasoned explanation is arbitrary and capricious.<sup>45</sup>

Likewise, the Commission fails to reconcile its Proposals with another of its stated purposes for adopting the Order Protection Rule, which is to encourage market participants to submit price-setting displayed limit orders by ensuring that submitters of such orders receive appropriate economic rewards for the public goods they provide, and by ensuring that others cannot free-ride off of their price discovery by bypassing their orders and executing at inferior prices. In the Proposal, the Commission asserts that its proposed changes to the round lot definition would create an economic benefit for market participants that now post odd-lot quotes at prices superior to the NBBO (to the extent that such odd lots would henceforth be deemed round lots), but it fails to consider that its proposal not to protect smaller-sized quotes in higher-priced securities would create an economic disincentive for market participants to submit such quotes in the first instance. To the extent that participants choose to submit fewer displayed orders in smaller-sized quotations of higher-priced stocks, then the Commission's decision to leave such orders unprotected would also undermine the transparency and price discovery benefits of including them in the consolidated data feed.

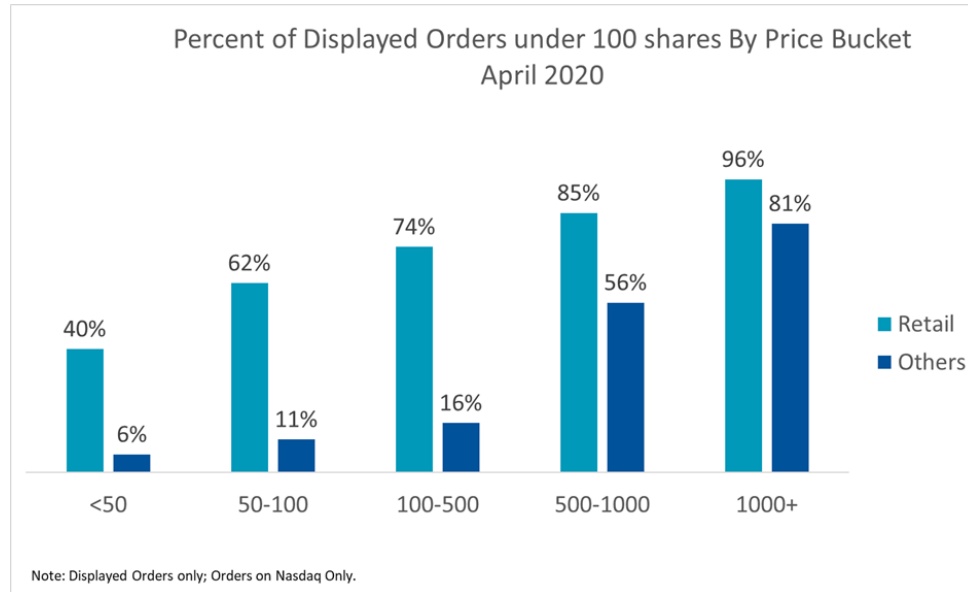
Moreover, Nasdaq disagrees with the Commission that participants would have adequate incentives, in many cases, to obtain the best prices available, in absence of order protection. For example, a participant looking to fill a large order for a stock might be more concerned with filling the entire order and doing so quickly; for such a participant, it would not be worthwhile to access an unprotected quote for a single share, even if such a quote represents the best available

price for that stock, if a substantially larger-sized protected quote is also available, albeit at a worse price.

At the very least, the Commission presents no reasonable basis for protecting some, but not all, round-lot quotes, and in particular, for protecting only quotes of 100 shares. The Commission merely asserts that a 100-share order protection cut-off is preferable because, in its view, this would be simpler and facilitate compliance. However, the Commission offers no support for this assertion and it defies common sense. Indeed, decoupling displayed round-lot quotes from order protection would introduce new layers of complexity into the national market system. For example, it would result in the creation of a protected best bid and offer (“PBBO”) that would differ in many cases from the true best bid and offer, even though both BBOs could be derived entirely from round lots. This Proposal would also introduce questions about such issues as whether to use overall best bids or offers or only PBBOs for pegging purposes.

The proposal to protect only quotes of 100 shares or more would unfairly discriminate against retail investors, whose orders tend to be smaller in size than orders of other categories of participants. Inexplicably, retail orders would face a disproportionate risk of becoming subject to trade-throughs and locked and crossed markets under the Proposal, even though retail investors are at greatest need of the protections that Rules 610 and 611 provide.

**Figure 1**



Additionally, the Commission itself acknowledges that the Proposal could widen the spread of the protected best bid and best offer due to the fact that exchanges would no longer be able to aggregate odd-lot orders across different price levels together to create protected quotes. The Commission states that it cannot quantify to what extent protected quotes would widen because the effects would partially depend on how market participants adjust their order



submissions based on the new round lot size, which the Commission is unable to predict. However, Nasdaq believes that this change could cause spreads to increase significantly.

More generally, the Commission's proposed new definition of a "round lot" would complicate the national market system by upending longstanding conventions as to how market participants and their systems view and process quotes. In common market parlance, 1 order of a security is shorthand for 100 shares and many data systems reflect this convention. Market participants would need to reprogram their systems to specify when "1" refers to 100, 20, 10, 2, or just 1 share. Systems would also need to be programmed to properly identify which round lot size is applicable to a security, and that determination would need to be repeated on a monthly basis, based upon changes to the average closing price of the stock during the prior calendar month on its primary listing exchange.

Although the Commission asserts that its Proposal to reassess a stock's applicable round lot size on a monthly basis, rather than on a real-time, weekly, or bi-weekly basis, would reduce complexities and costs for market participants associated with making more frequent tier adjustments, the Commission's proposal would also generate its own complexities and costs. For example, a monthly recalculation of round lot sizes would be operationally risky and could cause errors with cascading effects. Moreover, the Proposal could cause a stock's round lot size to become significantly out of step with what it should be, particularly during periods of significant market volatility or when stock splits occur. If stocks become stuck in incorrect round lot size tiers, then substantial confusion may ensue among market participants as to whether quotes in such stocks are protected or not. Additionally, just before the end of each month, uncertainty will arise as to whether a stock that has flirted with one of the tier thresholds during the course of the month will cross it and become subject to a new round lot size; such uncertainty could confuse participants as to how to structure and price their orders. Similarly, there would be confusion as to whether or not the execution information about such stocks needs to be added to Rule 605 reports. Such confusion, in turn, could cause best priced quotes to be mistakenly or needlessly bypassed, and investors to be misled by execution quality statistics.

The Commission acknowledges that upgrading and reprogramming systems to account for its proposed round lot definition, and for its proposed change to the Order Protection Rule, would entail "some" costs for market participants and trading venues. However, the Commission hastily minimizes such costs, even though, at least as to trading venues like Nasdaq, the Commission states that it lacks detailed information about what those costs would entail. Indeed, the Commission estimates that such costs would only be \$140,000 per trading venue based upon representations that CHX made several years ago as to its costs for implementing the Tick Size Pilot. Nasdaq believes that this \$140,000 figure grossly underestimates the costs to Nasdaq of reprogramming its matching engines and other systems to accommodate the proposed changes to round lot sizes and the Order Protection Rule. In fact, Nasdaq estimates that its costs to implement these changes across its family of exchanges, including labor, system reprogramming costs, and the costs of upgrading its existing hardware and purchasing new hardware (to accommodate the expected increase in data traffic) will be approximately \$3.4 - \$4 million – or almost 3000 percent higher than the Commission's projection.<sup>46</sup> Moreover, these costs would be replicated many times over by other trading venues and brokers.

Finally, the Commission fails to consider alternatives to its proposals on round lots and protected quotes, including Nasdaq's recent proposal for the Commission to adopt an "intelligent tick" regime, in which the standard one cent tick that applies to all NMS stocks would be replaced with tick sizes that vary depending upon the trading characteristics of each such stock. The adoption of intelligent ticks of NMS stocks would allow for smaller orders to represent the best price but would also result in a meaningful notional value of orders at the best prices. Specifically, intelligent ticks would reduce the relevance of lot size and improve protected quotes by aggregating liquidity at specific price levels. Properly calibrated tick sizes would reduce the number of price levels and incidences of flickering quotes caused by negligible price differences, both of which would result in greater aggregation of quotes at particular price levels, thereby reducing the number of odd lot orders. This would lower the number of odd lots through market forces without requiring the actions that the Commission proposes. It would also have the additional benefits of increasing liquidity, promoting quote competition, and reducing trading costs, all of which would improve market quality.

**C. The Proposal allows quotes of less than 100 shares to lock and cross markets and will cause confusion.**

Many of the same concerns that Nasdaq has with respect to the Commission's round lot and trade-through protection proposals also apply to the Commission's proposal to allow orders to lock or cross unprotected round lot displayed quotes of less than 100 shares.

Rule 610(d) of Reg NMS requires each national securities exchange and national securities association to establish and enforce procedures that require its members to reasonably avoid displaying quotations that would lock or cross protected round lot quotations. Thus, to the extent that the Commission proposes not to extend trade-through protection to quotations of less than 100 shares, Rule 610(d) would no longer protect such quotations from orders that would lock or cross them. The Commission's stated rationale for allowing participants to submit orders that lock or cross quotations of less than 100 shares is the same as its rationale for declining to protect such quotes from trade-throughs. That is, the Commission cites concerns raised by some market participants that the market complexity associated with Rule 610(d) outweighs its benefits, such that the Commission should repeal the Rule altogether if it accepts these concerns. Additionally, the Commission argues that applying Rule 610(d) to quotations of less than 100 shares is unnecessary because "market forces, such as the economic incentives of market participants to obtain the best price and resolve locked or crossed markets, as well as improvements in trading and order routing technology, are sufficient to mitigate excessive locking or crossing of quotations in the new round lot sizes and to resolve such locked or crossed markets efficiently."

Once again, Nasdaq is concerned that the Commission is attempting to casually undermine a bedrock feature of the national market system without even so much as conducting an independent assessment of the need to do so or a thorough analysis of the effects of doing so. Nasdaq believes that the Commission is cavalier in asserting that protection against locked and crossed markets has become unnecessary. In Nasdaq's view, nothing in the Proposed Rule suggests that the original rationale for adopting Rule 610(d) is no longer valid: "[a]llowing market participants simply to ignore accessible quotations in other markets and routinely display

locking and crossing quotations is inconsistent with” the “basic principle underlying the NMS ... to promote fair competition among markets, but within a system that also promotes interaction between all of the buyers and sellers in a particular NMS stock.”<sup>47</sup>

The Commission is unwarranted in dismissing as economically insignificant the reality that its Proposal will increase instances in which markets are locked and crossed. First, the concept of economic significance is relative. Although the aggregate economic impact of increased instances of locked or crossed markets may seem insignificant to the Commission, the individual economic impact may be substantial, especially for individual investors for whom trades of 10 shares of AMZN are meaningful investment activities. Retail investors, who would be more likely under the Proposal to have their limit orders represent the NBBO, would likely be confused and frustrated if their orders are locked or crossed. Such confusion and frustration would undermine their confidence in the fairness of the markets.

In any event, even if the Commission is correct that protection against locked and crossed markets is no longer warranted, the Commission fails to explain why it is reasonable, and not arbitrary, for it to roll back Rule 610(d) only for quotes of under 100 shares, rather than for all quotes in NMS stocks.

Finally, even though the Commission acknowledges that market participants would bear costs associated with implementing its proposal, including re-programming systems, the Commission also acknowledges that it does not really understand what these costs would entail. In fact, Nasdaq estimates that its costs to implement this proposal will be approximately \$800,000 to \$1.2 million.<sup>48</sup>

**D. The proposed definition of “round lot” will render execution quality statistics less accurate.**

The Commission’s proposal to define round lots broadly, and to change the scope of trade-through and locked/crossed markets protections, would in turn impact the execution quality statistics that market centers must publish pursuant to Reg NMS, Rule 605.

For example, any Rule 605 execution quality statistics that rely on the NBBO as a benchmark would be affected by the inclusion of round lots comprising smaller quotation sizes. The Commission itself acknowledges that execution quality statistics on price improvement for higher-priced stocks may show a reduction in the number of shares of marketable orders that received price improvement because price improvement would be measured against a narrower NBBO.

Moreover, the Commission acknowledges that changes in the rate of locked and crossed markets could also affect how Rule 605 execution quality statistics are calculated. The Commission notes that orders received when the NBBO is crossed for more than 30 seconds are generally not included in Rule 605 execution statistics. To the extent the changes in the definitions of round lots and protected quotes cause an increase in the frequency or length of crossed markets, the Commission acknowledges that more orders could end up being excluded from Rule 605 execution statistics, which could cause some Rule 605 execution statistics to less

accurately reflect actual execution quality.

Lastly, the creation of multiple NBBOs would undermine one of the primary objectives of Rule 605, which is to “generate execution quality statistics that are comparable among different market centers.”<sup>49</sup> Whereas each market center’s order executions are benchmarked against a single NBBO and are readily comparable, going forward, a straightforward comparison would no longer be possible in cases in which executions on different trading centers occur pursuant to multiple NBBOs.<sup>50</sup>

**E. The Proposal fails to explain how the Duty of Best Execution and other investor protections are to be met under the expanded definition of core data.**

The best execution obligation plays an integral part of our national market system. In 1975 when Congress directed the Commission, through Section 11A of the Act, to facilitate the establishment of a national market system, one of the five principal national market system objectives was to ensure the best execution of investor orders.<sup>51</sup> Congress believed that linking all markets for qualified securities through communication and data processing facilities would, among other things, contribute to the best execution of customer orders.<sup>52</sup> Today, a broker-dealer’s obligation to obtain the best execution for its customer continues to be derived, in part, from the common law agency duty of loyalty, which obligates an agent to act exclusively in the principal’s best interest.<sup>53</sup> Therefore, when a broker-dealer acts on behalf of a customer in a transaction, the broker-dealer is under a duty to exercise reasonable care to obtain the most advantageous terms for the customer.<sup>54</sup> The requirement also applies when a broker-dealer is trading in a principal capacity with a customer.<sup>55</sup> To ensure our members understand the importance of, and adhere to, their best execution obligation, we have incorporated the requirement in our rules.<sup>56</sup>

With the adoption of Reg NMS, certain order protection and order handling rules have become woven into the obligation of best execution. The Commission has asserted previously that these rules facilitate a broker-dealer in obtaining the best price for a customer order in a manner that is consistent with the objectives of the national market system.<sup>57</sup> For example, Rule 604(a) requires a specialist to immediately display: (1) the price and full size of customer limit orders that are better than the specialist’s current best quote for an NMS stock, and (2) the full size of each customer limit order held by the specialist that is priced equal to the specialist’s bid or offer, and the NBBO. The customer limit order must represent more than a de minimis change in relation to the size associated with the specialist’s bid or offer.<sup>58</sup> This rule improves the opportunities for broker-dealers to satisfy their best execution obligations for customer orders.<sup>59</sup> Under the existing rule, displayed orders are required to be round lots of at least 100 shares. One exception to the Rule 604 requirement is odd lot customer orders.<sup>60</sup>

Although the Proposal does not recommend any specific changes to Rule 604, its proposed definition of round lot narrows the odd lot exception by allowing for the display of certain stocks that are less than 100 shares. Moreover, the proposed definition of round lot may result in the display of customer limit orders that may be at the NBBO, but are less than 100 shares. Such orders would not meet the requirements of the Commission’s proposed

amendments to the Rule 611 definition of a “protected bid or protected offer” and as a result, these customer orders could be traded-through to a price inferior to the NBBO. As the Commission previously emphasized, broker-dealers routing orders for automatic execution must periodically assess the quality of competing markets to assure that order flow is directed to markets providing the most beneficial terms for their customers’ orders with the purpose of satisfying their best execution requirements.<sup>61</sup> Therefore, the Commission’s shift from defining round lots as 100 shares separates brokers’ Rule 604 requirements from their best execution obligations. Consequently, the proposed change creates challenges for a broker-dealer to meet its best execution obligations because under the proposed amendments, a customer limit order that is less than 100 shares would not be protected under Rule 611.

Rule 611 has always been intertwined with the obligation of best execution. It was originally designed to be a “backstop” to a broker-dealer’s duty of best execution.<sup>62</sup> It does so by preventing trade-throughs of protected bids or protected offers in NMS stocks.<sup>63</sup> However, Reg NMS II’s proposal to limit trade-through protection to customer limit orders of at least 100 shares would permit broker-dealers to engage in behavior that is seemingly contrary to the duty of best execution. That is, it would allow broker-dealers to execute customer orders at prices inferior to the NBBO if the NBBO was set by quotes of less than 100 shares. Thus, the Proposal would sow confusion among broker-dealers as to whether such behavior, while permitted under Rule 611, is nevertheless consistent with best execution principles. If the Commission decides to proceed with its proposed changes to Rule 611, then it should also promulgate clear guidance as to whether and under what circumstances trade-throughs would satisfy best execution obligations.

### **III. THE COMMISSION FAILS TO CONSIDER HOW THE PROPOSAL WILL ALTER THE MARKET FOR MARKET DATA.**

The Proposed Rule raises at least three inter-connected economic issues that are key to understanding its impact on the market for market data and the price of trading services:

- **Cost-Based Pricing of Market Data Sold by Exchanges.** The Commission’s Proposal appears to be intended to introduce cost-based regulation of the prices charged for market data by exchanges without considering the costs and pitfalls of such regulation;
- **Competition among Consolidators.** The Commission fails to provide a basis for its view that its Proposal would result in a sufficient number of efficient “differentiated” consolidators or that such consolidators would address the Commission’s stated concerns with the current system; and
- **Price of Trading Services.** The Commission’s attempt to eliminate what it views as the exercise of market power in the sale of market data is likely to lead to higher prices for trading services, especially for retail investors, without offering them commensurate benefits.

We will address each of these issues in turn.

**A. The Proposal fails to consider the costs of cost-based regulation.**

The Commission is concerned that the price of market data sold by exchanges is above competitive levels.<sup>64</sup> The Proposal appears to be designed to eliminate what it views as exchanges' market power by: (1) expanding the current definition of "core data" to include types of data currently sold as proprietary data, such as depth-of-book data;<sup>65</sup> and (2) imposing cost-based regulation on the exchanges' sale of NMS information to consolidators and self-aggregators.<sup>66</sup>

But implementing the Commission's directive that the price charged by an exchange for NMS information be "reasonably related" to its costs is fraught with difficulties that the Commission does not address or even acknowledge. The Commission provides no guidance on how to determine the "cost of market information." This is an especially vexing omission given that the Commission recognizes that "the production of both core data and proprietary data feeds involves relatively high fixed costs and low variable costs."<sup>67</sup>

Importantly, "fixed costs of the production of both core data and proprietary data feeds are not specific to the production of data but also support the exchanges' other services such as intermediating trades."<sup>68</sup> That is, trading platforms such as exchanges provide a variety of services and products, including trade execution services and market data (and connectivity services). Because market data is both an input to and a byproduct of executing trades on a particular trading platform, market data and trade execution services are, as the Commission recognizes, examples of "joint products" with "joint costs."

It is widely accepted in the economics literature that there is no meaningful way to allocate "common costs" across different joint products. A classic example of joint products with joint costs is "beef and hides." A farmer who raises cattle and sells beef and hides incurs joint costs – such as the cost of cattle feed – that cannot be unambiguously allocated to either beef or hides. Thus, there is no economically meaningful way to separately determine whether the revenue from selling beef is "reasonably related" to the cost of supplying beef, or whether the revenue from selling hides is "reasonably related" to the cost of supplying hides.<sup>69</sup>

The costs incurred by an exchange include directly "allocable costs" as well as costs that are jointly incurred on behalf of subsets or all the relevant products and services. For accounting purposes, joint costs may be allocated across business lines for particular business reasons (such as a need to have a particular business unit be responsible for managing a particular cost center). However, from an economic standpoint, no one such allocation methodology is preferred to another and all have problems for the overall efficiency of a firm's operations, business decisions, and potential long-term viability.

The Commission does not explain how an exchange is supposed to determine its "cost" of providing market information in the presence of substantial joint costs. If a consolidator or self-aggregator challenged a proposed price for NMS information as being higher than justified by an exchange's cost of producing that data, the Commission does not explain how it would evaluate such a claim. Because of the presence of substantial joint costs, any "cost-based" methodology to evaluate the price of NMS information charged to potential consolidators or self-

aggregators would require inherently arbitrary cost allocations. For example, one potentially contentious issue would likely be the proper treatment of subsidies that most exchanges offer to liquidity providers – the Commission has not explained whether these subsidies would be treated as a cost of generating market data.<sup>70</sup> After all, absent such subsidies, an exchange could lose transactions to rivals and thus generate less market data.

Without such guidance, it is not clear how the Commission would evaluate any proposed price charged by an exchange to a consolidator or self-aggregator for NMS information. Industries in which cost-based regulation has been used have typically spent years and dedicated large resources, including a large staff with relevant expertise, developing methodologies to facilitate the evaluation of prices relative to various economic and/or accounting measures of costs. In the railroad industry, for example, the U.S. Surface Transportation Board (which replaced the U.S. Interstate Commerce Commission in 1996) developed the “Efficient Component Pricing Rule” or “ECPR” as a core concept to address joint-cost issues. That process took many years, including years of litigation. Similarly, in the telecommunications industry, the Federal Communications Commission and state regulators developed the concept of the “Total Service Long Run Incremental Cost,” also over a number of years and also involving years of regulatory hearings and litigation. In general, developing and implementing such approaches is a complicated and time-consuming process. The Commission either does not recognize or does not acknowledge the administrative difficulties and data challenges of implementing such an approach for the pricing of NMS information. In the absence of even the outlines of a program for administering its proposed cost-based system of price regulation, the imposition of such a standard can only be viewed as arbitrary and capricious.<sup>71</sup>

**B. A sufficient number of consolidators may not enter the market.**

The Commission assumes, without justification, that its Proposal would produce an economically efficient market for the services that the Commission intends consolidators will provide to their customers (e.g., investors or their agents). That is, even if the prices charged by exchanges to consolidators for NMS information were set at “competitive” levels (however that would be determined), nothing in the Commission’s Proposal provides any basis to conclude that the price of NMS information sold by consolidators would be at an economically efficient level. In addition, nothing in the Commission’s Proposal provides any basis to conclude that a system of competing consolidators would address the Commission’s concerns with what it characterizes as a “two-tiered market data environment, where those participants that can reasonably afford and choose to pay for the proprietary feeds receive other content rich data faster than those who do not, such as smaller market participants that face higher barriers to entry from data and other exchange fees.”<sup>72</sup> Indeed, the Commission appears to propose replacing that “two-tiered” structure with a *multi*-tiered structure.

**1. The competing consolidators expected by the Commission may not enter the market.**

The Commission states that it “has several reasons to believe that it is likely that a sufficient number of firms would be willing to enter the space of competing consolidators so that the market would be competitive.”<sup>73</sup> Although the Commission does not provide any

explanation of how it came up with its estimate, it “preliminarily estimates that there could be up to twelve competing consolidators.”<sup>74</sup> While the Commission recognizes some uncertainty in this prediction, it “believes that the risk of few or zero competing consolidators is low.”<sup>75</sup>

If the Commission is basing its remarkably precise estimate (i.e., up to twelve) on any economic study or analysis, the Commission has not shared that supporting material with potential commenters. Furthermore, the Commission appears to have concluded that those consolidators will be economically efficient providers of NMS information.<sup>76</sup> The Commission does not, however, appear to have considered the possibility that even if multiple competing consolidators emerge, such firms may operate at inefficiently small scale and thus charge high prices for providing NMS information even if they compete with each other.

In short, the Commission apparently considered three potential outcomes:

- (1) “up to twelve” efficient competing consolidators;
- (2) zero successful consolidators; and
- (3) a “few” successful consolidators;

but did not consider another possible outcome:

- (4) a relatively large number of high-cost consolidators charging high prices for NMS information.<sup>77</sup>

The Commission’s analysis of the market for NMS information is based on the unsupported assertion that the first of these four outcomes is most likely, without taking into account the likely harm to buyers of NMS information if it is wrong. In this regard, the Commission does not consider the possibility (as evidenced by market dynamics in airlines and telecommunications) that following a period of entry, the marketplace “shakes out” with a long-run market structure involving very few surviving firms.

The Commission’s assertion that there would be sufficient demand to support “up to twelve” competing consolidators appears to ignore that a large share of the demand for NMS information may be filled by self-aggregators and thus not be available to consolidators. Under the current system, for example, the Commission notes that a participant at a Roundtable stated: “[T]he big fish . . . are the major consumers of depth-of-book data. I think there was some evidence . . . that there were only 50 to 100 firms, period who buy all of the depth-of-book feeds.”<sup>78</sup> The Commission also explains that it “understands that approximately 50 to 100 firms purchase all of the [depth-of-book] proprietary feeds from the exchanges and do not rely on the SIP data for their trading. Conversely, the number of users of the SIP data is much larger (in the millions), suggesting that many users rely on the exclusive SIPs alone.”<sup>79</sup> Vertical integration into self-aggregation by at least some of these 50 to 100 firms would divert a large volume of desirable demand from third-party consolidators and thus limit their profitable opportunities.<sup>80</sup>

At least some of current purchasers of depth-of-book data (e.g., the 50 to 100 “big fish”) are potential or likely self-aggregators because, as the Commission recognizes, self-aggregators



may have a “minor” latency advantage over market participants that decide to utilize a competing consolidator for their consolidated market data.<sup>81</sup> Notwithstanding this latency advantage, the Commission concludes that it “preliminarily believes that the addition of competitive forces with the introduction of competing consolidators should minimize these inherent latencies.”<sup>82</sup>

This statement appears to involve circular reasoning – the Commission appears to be arguing that *if* there are successful competing consolidators, the latency advantage of self-aggregators will be minimized, but does not consider that most demand could be filled by self-aggregators because, in part, of that latency advantage, thereby potentially preventing the successful entry of competing consolidators (which would, according to the Commission, minimize that advantage).

In any event, the Commission’s apparent dismissal of a “minor” latency advantage as of competitive concern is in tension with its claim that “[t]oday, the U.S. equity markets have evolved into high-speed, latency-sensitive electronic markets where trading is dispersed among a wide range of competing market centers *and even small degrees of latency affect trading strategies.*”<sup>83</sup> If self-aggregators account for a substantial share of the demand for NMS information, there may not be sufficient demand for any successful stand-alone consolidators. That is, if self-aggregators capture a large share of the demand for NMS information, there may be zero viable consolidators (i.e., outcome 2).

Alternatively, SROs or other firms may have cost or other economic advantages (e.g., scale or scope economies) not enjoyed by other potential consolidators, and so whatever demand is not filled by self-aggregators may be captured by a relatively small number of firms (e.g., the SROs currently selling proprietary data), or only one firm. If there are only a small number of viable consolidators, or only one viable consolidator, competition may not be sufficient to achieve the Commission’s stated goals. Indeed, the Commission states that “due to the fixed-cost nature of the market and resulting economies of scale, without differentiation, the competing consolidator market could consist of only one competing consolidator because the largest competing consolidator would be able to offer the most competitive price.”<sup>84</sup> Thus, if differentiation does not occur, the Proposal will merely recreate the status quo through a substantial expenditure of time and money by the industry.

If a substantial number of “differentiated” consolidators emerges, however, such consolidators likely would have to charge relatively high prices to cover their fixed costs. The Commission does not provide any explanation of how it came up with its estimate, but it “preliminarily estimates that there could be up to twelve competing consolidators.”<sup>85</sup> If the Commission’s prediction were correct, each of the consolidators would have to incur fixed costs. As we have discussed, the Commission notes that “the production of both core data and proprietary data feeds involves relatively high fixed costs and low variable costs.”<sup>86</sup> That is, if the Commission’s prediction of 12 consolidators were correct, the fixed costs associated with the two exclusive SIPs would be supplemented with the fixed costs associated with 12 consolidators, likely resulting in a substantial increase in industry fixed costs. Such an increase in fixed costs would ultimately have to be borne by industry participants, including investors, and ultimately recovered from consumers of market data. Although the Commission states that it “preliminarily

believes that the introduction of competition should help to ensure that proposed consolidated market data is disseminated in a cost-effective manner,<sup>87</sup> viable consolidators need to cover their fixed costs in the long run.

The Commission also states that “[c]ompeting consolidators’ ability to differentiate may be necessary to ensure multiple competing consolidators are serving the market.”<sup>88</sup> If many or most consolidators are able to survive only by offering differentiated products, many or most consolidators may have relatively few customers but would nonetheless have to cover their fixed costs, implying that such consolidators would have to charge relatively high prices and earn relatively high margins to be economically viable because their fixed costs would be “spread” over a relatively small number of customers. For example, if most of the demand for detailed NMS information comes from the 50 to 100 “big fish,” and half of those customers become self-aggregators, twelve consolidators would have to split the remaining 25 to 50 large customers; in this case, on average, each consolidator would have only about two to four of these large customers, so the price paid by each large customer would have to cover a large share of a consolidator’s fixed costs. Thus, even if all consolidators operate in a “cost-effective” manner in the sense that each earns only a competitive rate of return, the price of NMS information may be relatively high because the Commission’s Proposal could result in inefficiently high industry fixed costs. Even if twelve differentiated consolidators competed with each other, in the long run each would potentially have to charge relatively high prices to a small number of customers to cover its fixed costs (i.e., outcome 4).

**2. The introduction of additional consolidators may not address the Commission’s concerns with the current system.**

Even if the Commission’s Proposal resulted in its preferred outcome – up to twelve economically efficient consolidators selling differentiated products, with customers choosing among a diverse group of such products, each comprising a different assemblage of market data with different prices and latencies – it does not explain how such a structure would address its concerns with the current system’s “disparity [between participants that buy proprietary feeds and those that do not] and its effect on investors.”<sup>89</sup> The Commission does not explain how replacing a “two-tiered market data environment” with a market data environment with differentiated sellers selling differentiated consolidated market data products – that is, a “multi-tiered” environment – would alleviate its concern.

Furthermore, as has already been observed, a market data environment with differentiated consolidators selling differentiated products could introduce new concerns that the Commission has not addressed. For example, consolidators selling differentiated products may produce differentiated NBBOs, raising questions about how a broker could fulfill its obligation to fill orders at “the” NBBO. Alternatively, many or all of the differentiated consolidators may create cheaply priced data packages that have only limited market information, potentially reducing the availability of market information to investors other than self-aggregators. Consolidators may even launch a new fragmentation war as latency-focused clients try to co-locate near a preferred data source.

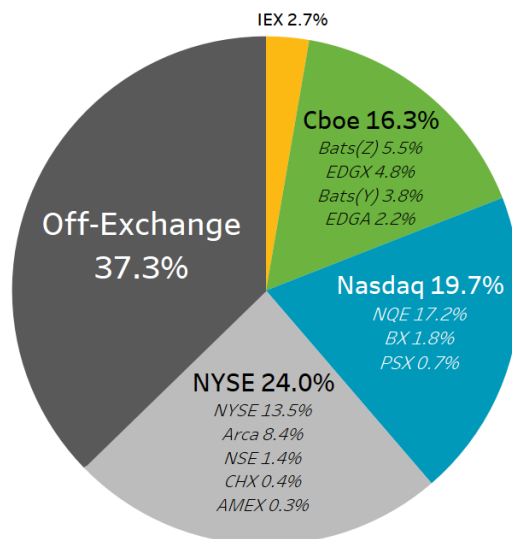
**C. The Commission ignores the effect of its Proposal on the cost of trading.**

As has been discussed, the Commission is concerned that the price of market data sold by exchanges is above competitive levels, and implies that its Proposal will reduce that price. The Commission’s analysis implicitly assumes that the changes it proposes to the market for market data will not affect the price of trading services. However, the Commission’s analysis is flawed because it does not consider the inextricable link between an exchange’s revenues from selling market data (and connectivity services) and its incentives on how to price trading services. If the implementation of the Commission’s Proposal reduced the contribution from the sale of market data to exchange revenues, it likely would lead to higher trading costs, especially for retail investors.

Firms like Nasdaq, the New York Stock Exchange, and BATS Global Markets operate trading “platforms,” and compete on a variety of dimensions, including the provision of trading services, market data, and connectivity services. Exchanges owned by these firms compete to provide trading services with each other, as well as with a variety of alternate trading platforms that host over-the-counter trading. Over-the-counter trading services are provided by a large number of variegated entities, including “dark pools,” which are multilateral organizations that “pool” the orders of traders and match them internally. Figure 2 presents the trading shares by platform operator at the end of 2019, and shows that no single platform or platform operator accounts for even 25 percent of trading in U.S. equities, and that over-the-counter trading accounts for a larger share of all trades than any platform operator.

**Figure 2**

Share of Trading in Securities Listed on U.S. National Securities Exchanges  
 Note: Based on share volume, full-year 2019.



Source: Nasdaq Economic Research

Many customers that purchase trading and other services from an exchange are sensitive to and concerned with the “all-in” price of trading.<sup>90</sup> For such customers, what matters to their

purchasing decisions is the total outlay relative to the quality of the services obtained from an exchange, and from rival exchanges. Hence, their willingness to interact with an exchange is sensitive to the all-in price of the bundle of services purchased on that exchange compared to the all-in price available at other exchanges (as well as the relative quality of exchange services). Thus, the price and quality of any service, such as market data, cannot and should not generally be analyzed in isolation (i.e., separate from the price and quality of other services that a customer purchases from the exchange).

Because many customers are sensitive to the all-in price of trading, competition among trading platforms, including dark pools, can be expected to constrain the aggregate return each platform earns from the sale of the array of its products, including market data and connectivity services. Thus, for example, if an exchange increases the price of one service, thereby increasing the all-in price, competition from other platforms would be expected to force it to reduce the price of another service (all else equal) to enable it to compete successfully with other trading platforms.

Indeed, a study cited by the Commission (i.e., Budish et al. (2019)) explicitly discusses the inverse relationship between market data/connectivity and the price of trading services: “[e]xchanges have incentive to cut their trading fees even below the perfectly competitive (i.e., zero profit) level in order to win market share and increase revenues from market data and co-location/connectivity.”<sup>91</sup> Budish et al. conclude that

[w]hile not zero, [the price of trading services] is arguably economically small. Across the approximately 1 trillion shares traded during regular hours each year, this adds up to about \$200M. As a point of comparison, the operating expenses for BATS’ U.S. equities business alone were \$110M in 2015. . . . NYSE’s operating expenses for its U.S. equities and options business in 2012, its last full-year of operation before the ICE acquisition, were \$718M. *In other words, regular-hours trading revenues do not nearly cover exchange operating expenses.*<sup>92</sup>

Budish et al. also report as a “stylized fact” that:

Exchange trading fees for high-volume traders are often slightly negative on a per-share per-side basis. For 4 of the top 8 exchanges the fee is negative for the highest volume tier, with the lowest observed fee being  $-\$0.00015$  or -1.5 mills per-share per-side (Nasdaq, BATS BZX, EDGX, BATS BYX; see Table 4.1). For another 3 of the 8 exchanges, the fee is negative for traders with high-enough volume who satisfy additional requirements, with the lowest observed such fee being  $-\$0.00040$  or -4 mills per-share per-side (NYSE, NYSE Arca, Nasdaq BX; see Appendix Table C.1). *These negative fees are consistent with exchanges being willing to lose money on trading fees . . . to make money on exchange-specific speed technology fees.*<sup>93</sup>

Because, as Budish et al. explain, “[e]xchanges have an incentive to cut their trading fees . . . in order to win market share and increase revenues from market data and co-location/connectivity,” a reduction in such revenues will affect the pricing incentives of exchanges with respect to trading fees.

In addition to the incentive to cut trading fees identified by Budish et al., the current structure of SIP fees provides an additional incentive for exchanges to keep trading fees at competitive levels (or even below-competitive levels, as Budish et al. explain). Under the current system, exchanges are not paid directly for providing core data to SIPs. Instead, an exchange earns a share of a SIP's revenue (less administrative expenses) based on its share of trading in a security and the share of time that the exchange offers the best price for a security. SIP revenues are substantial – for example, the Commission notes that “[e]xclusive SIP revenues from data fees totaled more than \$430 million in 2017.”<sup>94</sup> All else equal, an exchange thus has an incentive to reduce its trading fees because doing so will increase the amount of trading on its exchange (and likely the share of time that the exchange offers the best price) and thus increase its share of SIP revenues. Because the Commission's Proposal would eliminate the exclusive SIPs and replace them with consolidators and self-aggregators, this additional incentive to reduce trading fees would also be eliminated.<sup>95</sup>

As discussed earlier, the Commission notes that “exchanges’ revenues from selling proprietary data and connectivity services . . . went up over the last several years.” The Commission suggests that these additional revenues reflect excess profits attributable to exchanges’ market power in the sale of market data (e.g., citing the conclusion by Budish et al. “that each exchange has market power with respect to the data products (and the speed technology) specific to that particular exchange”). Thus, the Commission appears to believe that exchanges earn excess profits, and those excess profits can be eliminated by reducing the price of market data through cost-based regulation. But the Commission's analysis is incomplete and flawed because it fails to appropriately analyze competition between trading platforms, and never considers the all-in price of trading in its discussion.

To see the flaw in the Commission's analysis, consider that between 2010 and 2018 (the time period discussed by the Commission), Nasdaq revenue from market data (which includes both exchange data and other market non-exchange data products) increased from \$85.4 million to \$152.3 million, an increase of 78.4 percent in dollar terms, and 54.9 percent in inflation-adjusted terms.<sup>96</sup> Similarly, Nasdaq revenue from connectivity services increased from \$103.2 million in 2010 to \$167.6 million in 2018, an increase of 62.4 percent in dollar terms, and 41.0 percent in inflation-adjusted terms. Ignoring the fact that the vast majority of these increases are due to new products and new customers (and not the result of price increases as the Commission claims), these increases are roughly consistent with the Commission's statement that exchanges have increased their revenues from selling proprietary data and connectivity services over time (although not by “three orders of magnitude or more”<sup>97</sup>).

If, as the Commission suggests, the increase in revenues from market data reflects excess profits, the all-in price of trading on Nasdaq presumably would have increased. But that did not happen – in inflation-adjusted terms, the increase in Nasdaq's market data and connectivity revenues almost exactly offset the decline in its trading revenues, which fell from \$251.1 million in 2010 to \$189.6 million in 2018, a decline of 24.5 percent in dollar terms; adjusting for inflation, trading revenues fell by 34.4 percent. Nasdaq's total inflation-adjusted revenues from market data, connectivity, and trading services were \$506.4 million in 2010 and \$509.5 million in 2018 (in 2018 dollars), an increase of less than one-tenth of one percent per year.

Furthermore, during the same period, trading dollar volume on Nasdaq’s equity exchanges increased by over 50 percent – from about \$30.6 trillion in 2010 to \$47.3 trillion in 2018. As a result, the average all-in cost of trading – that is, total Nasdaq revenues divided by total Nasdaq trading volume – fell by 24.9 percent between 2010 and 2018.<sup>98</sup> In particular, the all-in cost per \$100,000 of trading volume fell from \$1.44 in 2010 to \$1.08 in 2018.<sup>99</sup> See Figure 3, which shows that despite the growth of market data and connectivity revenue between 2010 and 2018, the all-in cost of trading on Nasdaq’s exchanges (measured per \$100,000 of trading volume) declined substantially between 2010 and 2018.

**Figure 3**

Cost Per \$100,000 Trading Dollar Volume



This result supports the view that Nasdaq’s revenues are constrained by competition from a variety of exchanges and other trading platforms – indeed, Figure 3 indicates that competition reduced Nasdaq’s all-in cost of trading between 2010 and 2018. Figure 3 is inconsistent with a view that increases in Nasdaq’s market data revenues between 2010 and 2018 reflect excess profits that the Commission’s Proposal apparently aims to eliminate.

If, as the Commission apparently intends, its Proposal reduces exchanges’ revenues from market data, the price of trading services likely would increase (i.e., if the all-in price of trading is already at the competitive level, regulation that reduces one source of revenue will have to be offset).<sup>100</sup> Such increases in the price of trading expenses would be expected to harm investors that do not make use of the expanded NMS information (e.g., depth-of-book data), including many retail investors. For example, the Commission notes that “the needs of some retail investors that visually consume NMS information (e.g., humans looking at quotes on a screen) differ from those of institutional trading systems that electronically consume NMS information.”<sup>101</sup>

Even investors that would make use of the expanded NMS information could be harmed by the Commission's Proposal. For example, the Commission states that it

preliminarily believes that market participants that currently rely solely on SIP data could use the additional depth-of-book information to improve trading strategies and to lower execution costs. To the extent that the advantage of having this information depends on other traders not having it, *this economic effect would represent a transfer from the current users of depth-of-book information to those market participants who would now get access to, and would be able to utilize, this information.*<sup>102</sup>

If the Commission is correct, certain trading strategies that are currently profitable may not be profitable if the Commission's Proposal were implemented. The Commission does not appear to have evaluated the potential effects of changes in trading strategies. For example, such changes in trading strategies could reduce liquidity on "lit" markets and/or increase spreads on exchange-based trading.<sup>103</sup>

Thus, the Proposal is premised on a cherry-picked analysis of the growth of market data revenues that fails to consider offsetting changes in trading costs and the fact that revenue growth has largely not been the product of price increases. Likewise, the Proposal fails to consider steep decreases in all-in trading costs while focusing myopically on a single component of those costs. The failure to provide an adequate analysis of these factors renders the Commission's factual basis for the proposed rule inadequate, and the resulting proposed rule arbitrary and capricious.<sup>104</sup>

#### **IV. THE PROPOSED MARKET FOR MARKET DATA IS ANTI-COMPETITIVE, UNWORKABLE AND WILL UNDERMINE EFFECTIVE REGULATION.**

The Proposal will: (i) introduce a market for market data that is less competitive than the system established by Regulation NMS in 2005; (ii) place ratemaking responsibility on a new NMS Plan operating committee that is ill-suited for such responsibilities; and (iii) undermine effective regulation by increasing the complexity of regulatory compliance while decreasing the resources available for regulation. Nothing in the Proposal will benefit Main Street investors, and may in fact harm them.

##### **A. Expanding the scope of core data to include depth-of-book and auction data is anti-competitive.**

Today, "core" data – basically, the price, size, and exchange of the last sale and the NBBO – is distributed by two central processors operated by a group of exchanges under SEC supervision with input from an industry advisory committee. Exchanges also distribute proprietary data feeds, which include data in addition to core data. For example, many exchanges offer order book feeds that disseminate all order information so that consumers can build their own view of the exchange order book. The SEC proposes to classify most exchange data as "core" data. Among other things, this would include certain depth-of-book data and auction information.

Specifically, the Commission proposes to introduce the concept of “Consolidated Market Data” as the umbrella term to cover all NMS Plan information, including “core data,” “regulatory data,” “administrative data,” “exchange-specific program data,” and additional regulatory, administrative, or exchange-specific program data to be defined pursuant to an NMS Plan amendment. “Core data” will include depth-of-book data, auction information, and regulatory and administrative data. Depth-of-book data will be defined as aggregated quotes at each price between the best bid (and best offer) and the protected bid (and protected offer) (if different), as well as the five price levels above the protected offer and below the protected bid. Auction data provides information about the extent to which buy orders exceed sell orders (or vice-versa), a reference price based on an internal calculation, and the indicative price for the auction based on orders received at that time.

The proposal to drastically expand the definition of core data to include most categories of information used by vendors, broker-dealers, and investors would fundamentally change the balance between competition and regulation established by Regulation NMS in 2005. At that time, the Commission sought to avoid the creation of a “totally centralized system that loses the benefits of vigorous competition and innovation among individual markets,”<sup>105</sup> and therefore “allow[ed] market forces, rather than regulatory requirements, to determine what, if any, additional quotations outside the NBBO are displayed to investors.”<sup>106</sup> The Commission granted SROs increased authority and flexibility to offer new and unique market data to the public in order to expand the amount of data available to consumers, and also spur innovation and competition for market data.<sup>107</sup>

With respect to core data, Regulation NMS limited its definition of “consolidated display” to the “prices, sizes, and market center identifications of the NBBO and ‘consolidated last sale information,’” explaining that “[b]eyond disclosure of this basic information, market forces, rather than regulatory requirements, will be allowed to determine what, if any, additional data from other market centers is displayed.”<sup>108</sup> “[V]endors and broker-dealers will have the ability to decide what, if any, additional data from other market centers beyond this basic disclosure to display.”<sup>109</sup> “[E]fficiency is promoted when broker-dealers who do not need the data beyond the prices, sizes, market center identifications of the NBBO and consolidated last sale information are not required to receive (and pay for) such data.”<sup>110</sup> Efficiency is also promoted when “broker-dealers may choose to receive (and pay for) additional market data based on their own internal analysis of the need for such data.”<sup>111</sup> The Commission explained that, “[p]articularly for retail investors, the NBBO continues to retain a great deal of value in assessing the current market for small trades and the quality of execution of such trades.”<sup>112</sup>

This fundamental shift in balance from competitive, proprietary data products to a consolidated information field is unnecessary and harmful, and the failure to investigate the implications of this proposal constitutes a failure in reasoned decision-making under the APA.

It is unnecessary because all of the new “core” data streams are already available to anyone who needs them, and are already sufficient for display usage, order protection, and best execution. Depth data is for serious traders, who currently can purchase every single quote and order at every price level for securities listed on Nasdaq. The Commission proposes that the depth feed be limited to the five price levels above the protected offer and below the protected



bid, rather than the full depth available on proprietary data feeds. It is unclear whether this truncated set of information would be useful to any set of investors at all, and the Commission provides no analysis on this point. The fact that the Commission is designing a product without actually determining whether there will be demand for it – beyond the demand that will be mandated by the Vendor Display Rule – is arbitrary and capricious under the APA. Moreover, the uncertainty over demand for the five levels illustrates why it is important to leave product design up to the competitive market, which can readily determine whether there is a demand for such information, and fill that demand. As the Commission itself acknowledges, moreover, adding all of depth in the consolidated feed would not be tenable, as it is likely to increase both latency and bandwidth requirements.

Auction data is even more esoteric: it is designed to assist sophisticated market participants in the Nasdaq opening, closing, IPO, and halt crosses to identify trading opportunities in a highly competitive environment, providing these users with important information about the likely opening and closing prices of a security. Anyone who needs this data can buy it now, and it is likely to be useless to anyone who does not currently buy it. Categorizing it as “core” data will not make it any more or less available. The addition of exchange-specific program information is particularly puzzling: this is an essentially unknown category of information that may or may not be useful to particular categories of investors, and may or may not be subject to competitive forces, yet the Commission has added this as a category of information because it appears to have determined that virtually all categories of information – even indeterminate ones – constitute core data.

This significant expansion of core data is not only unnecessary; it is accompanied by significant costs. While depth-of-book and auction information is useful for sophisticated traders, it would not be readily apparent to the average investor without advanced training how to use it, and is highly likely to generate confusion and frustration.

Moving these sophisticated data products into the SIP feeds – and making them subject to pricing decisions by a consortium of exchanges and stakeholders, as explained below – will all but eliminate the incentives for exchanges to develop innovative market data products. The proprietary data feeds offered by Nasdaq and other exchanges are the product of substantial investments and years of innovation by exchanges. Those innovations were made possible because exchanges have an incentive to develop information-rich proprietary data feeds for which sophisticated market participants – pursuing complex trading strategies that require more granular information than the data currently disseminated by the exclusive SIPs – are willing to pay a reasonable fee.

A prime example of an innovation is the auction data feed that the Commission now seeks to subsume within the SIP. Nasdaq currently provides Net Order Imbalance Information (“NOII”), which offers indicative clearing prices and net order imbalance information in the minutes leading up to an auction.<sup>113</sup> The technology required to develop the NOII product required a significant investment, which was based on the need to stay competitive.

There are other examples of innovative products, such as Nasdaq Basic, Nasdaq Last Sale (“NLS”), and NLS Plus. Nasdaq Basic is a cost-effective data stream (saving customers \$253

million since 2009) that provides best bid and offer data from the Nasdaq market center, tick-by-tick price and size information for trades executed on the Nasdaq market center or trades reported to the FINRA/Nasdaq Trade Reporting Facility, and official opening and closing price data.<sup>114</sup> NLS is designed to convey real-time order execution data to the general investing public,<sup>115</sup> and NLS Plus is designed to convey a broader array of information to the public.<sup>116</sup> There are innovative delivery mechanisms such as Enhanced Display Solutions (“EDS”), Managed Display Solutions (“MDS”), and Hosted Solutions. EDS allows retail users to manipulate data through an Application Programming Interface (“API”) or similar solution.<sup>117</sup> MDS allows small and mid-size firms to lower data costs as compared to data feeds.<sup>118</sup> Hosted Display solutions allow the distribution of exchange data through third parties.<sup>119</sup> There are also configuration innovations, such as the TotalView-ITCH feed, which lowers bandwidth demands relative to comparable data feeds,<sup>120</sup> and the OUCH pricing feed, which offers both equities and options data,<sup>121</sup> and Field Programmable Array (“FPGA”) technology, which results in more deterministic behavior of the data feed.<sup>122</sup> There are also numerous, more incremental technological changes incorporated into Nasdaq’s routine technical refresh process.

Expanding the scope of core data distributed through the SIP provides no real benefit – all of the information is already available to everyone who needs it from multiple sources – and there is a real risk that the proposed “cost-based” pricing model discussed above will not provide a sufficient incentive structure to innovate in the future.

#### **B. The new NMS Plan operating committee is ill-suited for rate-making.**

On May 6, 2020, the Commission ordered the UTP and CTA operating committees to create a new NMS Plan to replace the current UTP and CTA/CQ Plans. The order changed the composition of the advisory committee, the voting power of individual exchanges, and the functions of the operating committee. The Commission has stated that it intends the new NMS Plan Operating Committee to supervise the distribution of data under the Proposed Rule. As explained in Nasdaq’s comment letter on the Governance Proposal submitted on February 28, the NMS Plan voting provisions exceed the Commission’s authority under Section 11A of the Exchange Act,<sup>123</sup> and we incorporate those arguments herein by reference.<sup>124</sup> Nasdaq is aware of no historical precedent – state or federal – other than the National Recovery Administration instituted as part of the New Deal that similarly vests so much government authority in private persons.<sup>125</sup>

The Proposed Rule places additional responsibilities on the new NMS Plan Operating Committee: setting a fee schedule for the sale of data to competing consolidators and self-aggregators, and for the sale of any proprietary data products of the exchanges that provide any of the newly defined “core data.”<sup>126</sup>

These proposed changes enormously increase the power of that governing body over the market for market data. The UTP/CTA Plan Operating Committees – and indeed the Commission – have no experience with this type of cost allocation. Moreover, directing the Operating Committee to undertake this cost-allocation exercise without any standards to guide its activities is inherently arbitrary, since the Operating Committee will be unable to predict whether its decisions about cost allocation and permissible rates of return will be second-guessed by the

Commission.

The impact of setting fees incorrectly can be grave. As the Commission itself has explained, U.S. exchanges, like most exchanges around the world, rely on market data revenues as a substantial source of funding.<sup>127</sup> A reduction in overall funding will limit the revenue available to exchanges to carry out their essential self-regulatory responsibilities, which require exchanges to expend substantial resources monitoring and enforcing compliance with the Exchange Act and their own rules.<sup>128</sup>

**C. The proposed system of competing consolidators and self-aggregators will undermine effective regulation.**

The SEC touts many purported benefits of the competing consolidator model, but does not entertain the prospect that these benefits may not materialize. As discussed in Section III above, there may not be adequate entry of competing consolidators into the market, competition among market entrants may not in fact lower fees, and product differentiation – which robust competition would certainly produce – would recreate the problem of a multi-tiered market and require more thorough regulation of competing consolidators.

To these economic risks, we add regulatory risks: (i) the presence of low-cost consolidators may have an adverse impact on the maintenance of fair and orderly markets; (ii) the new consolidators will be subject to less stringent regulatory standards for capacity, integrity, resiliency, availability, and security than are the exclusive SIPs now; (iii), latency improvements may be more readily obtained through a Distributed SIP model; and (iv) the cost of regulatory compliance is likely to increase while the resources available to exchanges to fund market surveillance and other regulatory functions will decrease.

**Low-cost providers may require additional regulatory oversight.** Product differentiation will result in “high-speed/high cost” options as well as “cheaper/slower” options (and options in between). These cheaper/slower options are likely to be higher risk, and market participants that use them may not be able to change technical configurations quickly enough to avoid harm if technical issues materialize. This possibility may require the Commission to commence additional regulatory oversight beyond what is generally required under Regulation SCI.

**Competing consolidators will be subject to lower standards under Reg SCI.** Whereas presently, the systems that the exclusive SIPs operate are deemed to be “critical SCI systems” under Reg SCI, and thus are subject to heightened Commission scrutiny and more stringent temporal requirements for resiliency,<sup>129</sup> the Commission proposes that the systems of competing consolidators would only be deemed regular “SCI systems.”<sup>130</sup> The Commission reasons that the “critical” designation would no longer be required in a system of multiple competing consolidators because no one consolidator would be an exclusive source of data and thus, there would be no single point of failure, as there is today with the exclusive SIPs. However, the Commission’s argument assumes, without basis, that multiple competing consolidations will, in fact, enter the market. Also, the Commission fails to consider the fact that, even if multiple competing consolidators do emerge, product differentiation among them

may mean that certain consolidators would become uniquely important to market participants (e.g., due to their latency profiles), such that participants might not be able to readily address operational failures among those consolidators by substituting products offered by competitors. Indeed, the Commission has undervalued the likelihood that each competing consolidator will become a single point of failure for its customers.

Trading firms, and the investors they represent, would bear the risks and potential burdens of a consolidator's failure to comply with the rigorous standards of today's SIPs. And because consolidators' systems would not be deemed "critical," these risks and burdens would be heightened relative to today. Whereas today, a SIP must have policies and procedures in place to effect a two hour resumption of system service in the event of a disruption, under the Proposal, consolidators would not be obligated to resume operations of their systems until the next business day. To address such risks, each firm would likely feel obligated to connect to multiple consolidators to preserve access to data in the event of a failure, and they will incur additional costs to do so.

Because single points of failure would persist under the Proposal, and as a means of minimizing the costs and burdens to firms if such failures occur, the Commission should deem the SCI systems of competing consolidators to be "critical" in nature.

**Latency improvements can be achieved with lower risk.** Under current conditions, the most significant limitation on processing time is "geographic latency," the time it takes for electronic data to be sent from one processing center to another. Even at the speed of light, it takes at least 180 microseconds to cover the roughly 35 miles from NYSE to Nasdaq, 90 microseconds to go the 17 miles from Cboe to Nasdaq, and 120 microseconds to travel from Cboe to NYSE. By contrast, processing time for the UTP SIP was approximately 16 microseconds in December 2018. While some have advanced a "conspiracy theory" that exchanges intentionally keep the SIP slow, the reality is that Nasdaq has brought the full resources of its advanced technology business – which sells exchange and market surveillance technology to markets around the world – to bear on the design of the UTP SIP. As processing times asymptotically approach zero, the likelihood that competing consolidators will achieve further reductions that will be meaningful to customers is quite small.

Competing consolidators are not necessary to reduce geographic latency: the same reductions can be achieved through a Distributed SIP, with less regulatory disruption than set forth in the Proposed Rule. The Commission did not explicitly compare latency reductions for a Distributed SIP against the competing consolidator model, which represents another shortcoming in its comparison of benefits to costs.

**Diminished resources for surveillance and monitoring.** The proposal to have competing consolidators calculate independent NBBOs will inevitably increase the cost of regulatory compliance for exchanges, broker-dealers, and other market participants.<sup>131</sup> Trade-through prevention under the Order Protection Rule,<sup>132</sup> the avoidance of locked and crossed markets,<sup>133</sup> and enforcement of a broker-dealer's best execution obligations<sup>134</sup> all require the NBBO as a reference point.

At a minimum, all of these rules will have to be modified to recognize the existence of independent NBBOs, and the internal procedures of broker-dealers and exchanges will have to be modified to take these changes into account. In addition, surveillance programs and trading systems would need to be reprogrammed to allow multiple NBBOs and determine which to use in each instance. Even with these changes, the risk of differential treatment among similarly situated market participants will increase because an NBBO that applies to one market participant will simply not apply to another, creating a risk of uneven enforcement of the Exchange Act by introducing the subjective review of which NBBO to apply. Those firms that choose to become competing consolidators and self-aggregators will also have to modify their own internal policies and procedures to conform to the new registration of competing consolidators and restrictions on the action of self-aggregators. All of this will increase the regulatory burden on the industry.<sup>135</sup> Of greater concern, the increase in complexity associated with introducing these regulations will lead to confusion among market participants and, of even greater concern, among investors. We currently have orderly markets; that order may be placed in jeopardy by the proposed changes.

Likewise, the Proposal to establish multiple NBBOs would make it more challenging and costly for exchanges to enforce their rules. Indeed, the Proposal is likely to result in more frequent enforcement investigations, more expansive requests for data from broker-dealers, and more delays in concluding investigations as the task of evaluating the propriety of trading activity will become more complex.

While increasing the regulatory burden on exchanges (as well as broker-dealers), the Proposal will also limit the revenue available to exchanges to carry out their essential self-regulatory responsibilities, which require exchanges to expend substantial resources monitoring and enforcing compliance with the Exchange Act and their own rules.<sup>136</sup> The Commission itself, in the Regulation NMS authorizing release, recognized that this approach may impair the ability of exchanges to function. Some commenters on the Regulation NMS proposal had suggested that the Commission adopt a “cost-based” approach using “a very restricted view of market data costs – solely the costs of the Networks to collect data from the individual SROs and disseminate it to the public.”<sup>137</sup> The Commission rejected that view, explaining that U.S. exchanges, like most exchanges around the world, rely on market data revenues as a substantial source of funding.<sup>138</sup> Limiting market data revenue to some unspecified measure of cost would limit a critical source of funding and impair the ability of an exchange to fulfill its functions. Investors may suffer the consequences.<sup>139</sup>

Relatedly, the Commission established a revenue allocation formula designed to “allocate revenues to an SRO for its overall contribution of both quotations and trades.”<sup>140</sup> This formula was designed to “allocate revenues to those SROs that provide investors with the most useful market information, and thus that contribute to public price discovery, by allocating them a larger portion of Plan revenues.”<sup>141</sup> The Proposed Rule is silent on how this revenue allocation formula would work under the competing consolidator model, or whether it would continue at all. This must be addressed if the Proposed Rule is to be evaluated properly; failure to do so would be arbitrary and capricious, since the Commission would be eliminating an existing regulatory standard without articulating a reasoned basis for doing so.

In sum, creation of multiple NBBOs will increase the regulatory burden on exchanges, broker-dealers, and other market participants in enforcing multiple rules, while the emphasis on “cost-based” fees will curtail a key source of revenue used by the exchanges to enforce those very rules.

#### **D. The Proposal does nothing to help the Main Street investor.**

Even if the Proposed Rule produced the purported benefits cited by the Commission – and, for the many reasons cited herein, it likely will not work as intended – nothing in the Proposal actually benefits Main Street investors, and the revised market structure may in fact harm them.

Main Street investors do not pay for market data today – proprietary last sale data is available for free through various sources on the internet, and detailed proprietary data feeds are available at no additional charge from broker-dealers. The key to this pricing structure is that users pay only for what they need. Retail investors who do not use depth-of-book and auction data do not pay for it. Investors who trade based on information from display terminals do not pay for low-latency connections because they are too fast for the human eye. The market has been structured so that everyone pays for the basics – transaction and NBBO data – but no one has to pay for data that they do not use.

The Proposed Rule replaces “only pay for what you need” with a feed that is simultaneously providing too much and too little to be optimal for anyone – too much data for the retail investor and too little for sophisticated traders. This new feed will be harder to administer because of its complexity, and, if coupled with a fee structure that deprives exchanges of the resources needed to ensure that markets function smoothly, may interfere with market operations. As such, not only is there no benefit to Main Street investors, but they will also bear the costs of regulatory and market failures, as well as the erosion of critical investor protections as discussed in Section II above.<sup>142</sup>

### **V. THE PROPOSAL IS FATALLY LEGALLY FLAWED**

In addition to constituting bad policy, the Proposed Rule violates the Exchange Act, the APA, and the United States Constitution.

#### **A. The Proposal violates the Exchange Act.**

The Proposed Rule contravenes the Exchange Act in at least five respects.

*First*, the Proposed Rule would not assure the “fair collection” or distribution of market data under Section 11A(c)(1)(B) of the Exchange Act.<sup>143</sup> In the Proposed Rule, the Commission repeatedly invokes its authority under Section 11A(c)(1)(B) to promulgate rules that “assure the prompt, accurate, reliable, and fair collection, processing, distribution, and publication of information with respect to quotations for and transactions in” securities.<sup>144</sup> The Proposed Rule, however, exceeds the Commission’s authority under this provision of the Exchange Act.

The proprietary data feeds currently offered by Nasdaq and other exchanges – which disseminate the depth-of-book, odd lot, and auction data that the Commission proposes to include within its new definition of “core data” and to require exchanges to provide to competing consolidators and self-aggregators – are the product of substantial investments and years of innovation by exchanges. Those innovations were made possible because exchanges have an incentive to develop information-rich proprietary data feeds for which sophisticated market participants – pursuing complex trading strategies that require more granular information than the data currently disseminated by the exclusive SIPs – are willing to pay a reasonable fee.

The Proposed Rule would not provide for the “fair collection” or distribution of market data within the meaning of Section 11A(c)(1)(B) – and therefore exceeds the Commission’s authority under the Exchange Act – because it would expropriate the exchanges’ proprietary market data without adequate compensation. The Proposed Rule’s statutory infirmity is abundantly clear when it is considered in conjunction with the NMS Governance Order, which will establish a new operating committee for a consolidated “NMS” plan. That operating committee – which will include a market-data vendor, two broker-dealers, and other “non-SRO” voting members with an interest in lowering the fees for market data as much as possible – would be responsible for setting the compensation paid to exchanges for providing their proprietary market data to competing consolidators and self-aggregators. As Nasdaq explained in its comments on the January governance proposal, the non-SRO voting members would suffer from an irremediable conflict of interest in light of their motivation to keep market-data fees as low as possible; moreover, as Nasdaq further explained, the NMS Governance Order’s directive to allocate voting power based on “exchange groups” – a novel concept found nowhere in the Exchange Act or the Commission’s rules – will give those conflicted non-SRO voting members disproportionate voting power to set fees.<sup>145</sup> Accordingly, when considered together, the NMS Governance Order and the Proposed Rule would divest the exchanges of their valuable proprietary market data and give non-SROs, which lack any incentive to pay fair compensation to the exchanges, a significant role in establishing the fees that exchanges receive for that data.

As a result of this new rate-setting mechanism, competing consolidators and self-aggregators – some of whom may also be non-SRO voting members of the consolidated NMS plan responsible for setting consolidated data fees – would be able to obtain exchanges’ proprietary data without paying a reasonable fee for accessing that data and, in consolidating that data for resale or self-use, would be able to free-ride on the exchanges’ investments in developing their data products or use in other forms (such as ATS systems). Those exchanges that currently sell their proprietary market data would be effectively powerless to stop that free-riding. Although the Commission has suggested that an “augmented majority” voting structure could prevent non-SROs from dominating the consolidated NMS plan,<sup>146</sup> in reality, the reallocation of votes based on “exchange groups” would empower the conflicted non-SROs to align with a minority of exchanges to cram down unreasonably low data fees without the other exchanges’ consent. This government-mandated expropriation of exchanges’ proprietary data – undertaken for the benefit of competing consolidators and self-aggregators and without any assurance that exchanges will receive adequate compensation for their substantial investments – is the antithesis of a “fair” method of collecting and distributing market data.<sup>147</sup>

In addition, the Proposed Rule fails to address the interplay between the Commission’s

new framework for disseminating and pricing market data and the revenue allocation formula adopted as part of Regulation NMS.<sup>148</sup> That formula was carefully designed by the Commission to encourage price discovery by calibrating exchange revenues to the quality of their quotes. Its abandonment – which the Commission does not acknowledge, let alone justify – will further undermine the Act’s objective of ensuring that the collection of market data is fair.<sup>149</sup>

Moreover, the imposition of a “cost-based” standard without guidance regarding the costs on which fees are to be based or the permissible rate of return on invested capital, is likely to result in regulatory logjams, fees that do not actually cover costs, or a combination of the two. The Proposed Rule therefore exceeds the Commission’s authority under Section 11A(c)(1)(B) of the Exchange Act.

*Second*, the Proposed Rule conflicts with Sections 6 and 19 of the Exchange Act, which authorize exchanges to set their own fees for market-data products, subject to Commission oversight for compliance with the Exchange Act’s substantive requirements. Section 6(b)(4) of the Exchange Act requires that an exchange “provide for the equitable allocation of reasonable dues, fees, and other charges among its members and issuers and other persons using its facilities.”<sup>150</sup> Section 19(b) specifies the procedures by which exchanges may amend their rules – including rules “establishing a due, fee, or other charge” – subject to the Commission’s review.<sup>151</sup> Thus, under these two statutory provisions, exchanges are authorized to establish their own fees and are required to ensure that their fees satisfy certain substantive standards.<sup>152</sup>

The Proposed Rule conflicts with this statutory framework. Instead of vesting fee-setting authority in the exchanges themselves, the Proposed Rule, in conjunction with the NMS Governance Order, provides for the operating committee of the new consolidated NMS plan – under the partial control of non-SROs operating under an unmitigated conflict of interest – to set the fees for the exchanges’ compelled provision of proprietary data to competing consolidators and self-aggregators. The exchanges would therefore lose their statutory right to set their own fees, as well as their ability to ensure that their fees comply with the substantive requirements of Sections 6 and 19 of the Exchange Act. In contrast, under the current regulatory regime, the NMS plan operating committees set the fees that the exclusive SIPs may charge for consolidated data but do not set exchanges’ fees.<sup>153</sup> The Proposed Rule impermissibly reallocates the exchanges’ fee-setting authority to the operating committee of the consolidated NMS plan and thus exceeds the Commission’s statutory authority.

*Third*, the Proposed Rule does not further the public interest, the protection of investors, or the maintenance of fair and orderly markets. Section 11A(a)(2) of the Exchange Act requires that, when the Commission takes action to facilitate the establishment of a national market system, it give “due regard for the public interest, the protection of investors, and the maintenance of fair and orderly markets.”<sup>154</sup> The Proposed Rule fails to exhibit “due regard” for the statutory goals specified in Section 11A(a)(2) because it would eviscerate exchanges’ financial ability and incentive to invest in innovations that enhance the dissemination of market data and would deprive exchanges of an essential source of revenue used to fund other, vital aspects of their operations.

According to the Commission, the Proposed Rule would “enhance the availability and



usefulness of the NMS information that is required to be provided under the rules of the national market system for a wide variety of market participants.”<sup>155</sup> In reality, the Proposed Rule would actually inhibit that goal by impairing exchanges’ ability and incentive to invest in improvements to their proprietary data products. It is overwhelmingly likely that the operating committee of the new consolidated NMS plan – partially controlled by self-interested non-SROs motivated to reduce proprietary-data fees and not limited by obligations under the Exchange Act<sup>156</sup> – would reduce fees for proprietary market data to levels that provide exchanges with insufficient resources to fund improvements to that data and little incentive to divert other resources to facilitate data-product innovation. Thus, instead of enhancing market participants’ access to cutting-edge, innovation-driven proprietary-data products, the Proposed Rule would actually limit that access and thereby undermine the public interest and fair and orderly markets in violation of the Commission’s statutory obligations under Section 11A(a)(2).<sup>157</sup> Moreover, depriving exchanges of this important source of revenue would inhibit their ability to use market-data fees to fund enhancements to other aspects of their trading platforms, such as technological improvements to order execution and the development of new order types.<sup>158</sup> Impeding exchanges’ ability to provide market participants with state-of-the-art trading platforms is flatly at odds with the Commission’s obligation to give “due regard” under Section 11A(a)(2) to the public interest and the maintenance of fair and orderly markets.

The Proposed Rule would also limit the revenue available to exchanges to carry out their essential self-regulatory responsibilities, which require exchanges to expend substantial resources monitoring and enforcing compliance with the Exchange Act and their own rules.<sup>159</sup> These vital self-regulatory functions are subsidized by the revenue that exchanges earn from their proprietary data products. Redefining core data to include much of that proprietary data – and giving conflicted non-SROs a role in setting the fees for core data – would curtail that funding source and thereby impair exchanges’ ability to carry out their important self-regulatory responsibilities, in direct contravention of Section 11A’s objective of promoting the public interest, the protection of investors, and the maintenance of fair and orderly markets.

The deleterious consequences of the Proposed Rule would not be offset by any material benefits to the public interest. Indeed, far from putting retail investors on equal footing with more sophisticated traders, the Proposed Rule would place retail investors who subscribe to a competing consolidator at a disadvantage relative to those traders who can afford to self-aggregate and generate their own “NBBO” more quickly than retail investors reliant on third parties to obtain the NBBO. The Commission acknowledges this disparity, but asserts that “the introduction of competing consolidators should minimize these inherent latencies.”<sup>160</sup> The Commission offers no support for that conclusory speculation, which ignores that self-aggregation of the NBBO will invariably be faster than aggregation and transmission by a competing consolidator. Simply put, the Commission fails to come to terms with the fact that the Proposed Rule would replace the current “two-tiered” system the Commission purports to be displacing,<sup>161</sup> with a multi-tiered system because more sophisticated traders acting as self-aggregators would continue to have access to data faster than retail investors and other less sophisticated traders dependent on competing consolidators. Instead of solving this problem, competing consolidators would be likely to aggravate it by offering multiple levels of services with their own latency differentials, exacerbating the tiered structure that the Commission

criticizes. None of these outcomes would remotely benefit the public interest.<sup>162</sup>

*Fourth*, the Proposed Rule would inhibit efficiency and competition. Section 3(f) of the Exchange Act provides that whenever the Commission is engaged in rulemaking where it is required to consider the public interest, the Commission must also consider whether the action “will promote efficiency, competition, and capital formation.”<sup>163</sup> If the Commission fails to “apprise itself – and hence the public and the Congress – of the economic consequences of a proposed regulation,” then promulgation of the regulation is “arbitrary and capricious and not in accordance with law.”<sup>164</sup>

The Proposed Rule would impose substantial burdens on efficiency and competition. For example, as the Commission itself recognizes, disaggregating responsibility for dissemination of core data introduces the risk of discrepancies among competing consolidators with respect to the NBBO, as well as other key market information.<sup>165</sup> Thus, under the Proposed Rule, there is a very real possibility that market participants would receive materially different trade and quote data depending on the competing consolidator to which they subscribe. The dissemination of multiple NBBOs would complicate investors’ trading decisions and make it more challenging for broker-dealers to evaluate their best-execution obligations. These informational discrepancies, in turn, would impair the efficiency that Congress sought to promote when it directed the Commission to establish a national market system.<sup>166</sup>

The Proposed Rule would also have a profound impact on exchanges’ competitive position by depriving them of a substantial portion of the revenue they earn from proprietary market data. As discussed above, that reduction in revenue would undermine exchanges’ ability to develop new, and improve existing, products and services and to enhance their overall trading platforms. The inevitable outcome would be the imposition of a severe competitive disadvantage on exchanges, which would significantly impair their ability to compete for order flow. By imposing this competitive burden on exchanges, the Proposed Rule would drive more orders to less regulated, less transparent off-exchange venues and increase market fragmentation.<sup>167</sup> Even the Commission acknowledges that “it is possible that an exchange group could close some or all of its exchanges” as a direct result of the Proposed Rule.<sup>168</sup> This cost to the industry, coupled with the cost of the new infrastructure investments required by the competing consolidator model, indicates that the benefits of the Proposed Rule are unlikely to exceed its costs.

Enhancing the attractiveness of off-exchange trading venues vis-à-vis exchanges would not only generate severe competitive consequences that the Commission must take into account before deciding whether to proceed with the Proposed Rule, but would also undermine the core objective of the Proposed Rule, which seeks to enhance the availability of market data and improve transparency.<sup>169</sup> Driving a greater proportion of order flow to off-exchange venues – which generally are not required to disseminate information about trades and quotes<sup>170</sup> – is fundamentally incompatible with that regulatory objective.

Under Section 3(f) of the Exchange Act, the Commission must give full and thorough consideration to these profound effects on efficiency and competition before deciding whether to proceed with the Proposed Rule.<sup>171</sup> That consideration should lead the Commission to a single, inexorable conclusion: it would violate both the Exchange Act and the APA to proceed with the

Proposed Rule in the face of these far-reaching, pernicious consequences. Indeed, the Commission has a statutory obligation under the Exchange Act to refrain from promulgating rules that “impose a burden on competition not necessary or appropriate,”<sup>172</sup> and is prohibited under the APA from taking action that does not actually do “more good than harm.”<sup>173</sup> The Proposed Rule would violate both of those strictures by impairing market efficiency and upending the current competitive landscape – at the expense of investors, exchanges, and the very market transparency that the Proposed Rule is supposed to promote.

*Finally*, the Proposed Rule contradicts the free-market-oriented, competition-enhancing objectives that animate the Exchange Act, in general, and Congress’s decision to facilitate the establishment of a national market system, in particular.<sup>174</sup> In light of those statutory objectives, the Commission has adopted a market-based approach to assessing the validity of exchanges’ fees for their proprietary data products, which – consistent with Sections 6 and 19 of the Exchange Act – exchanges themselves are currently permitted to set.<sup>175</sup> In conflict with the Exchange Act and this longstanding Commission policy, however, the Proposed Rule would displace this market-based approach with government-mandated ratemaking, a practice long ago discredited as antithetical to free-market principles.<sup>176</sup> Under this ratemaking approach, the operating committee of the consolidated NMS plan would set the fees that exchanges can charge for proprietary data included in the new definition of “core data.”<sup>177</sup>

This government-mandated ratemaking would stymie competition, harm consumers, and impair the overall functioning of the securities market. As discussed above, assigning the responsibility to set fees for proprietary data to the operating committee of the consolidated NMS plan – including to its self-interested non-SRO members with strong incentives to minimize fees – would extinguish the exchanges’ financial motivation to compete with each other in the market-data arena. Due to the eradication of competitive incentives and associated reductions in essential market-data revenue, exchanges would be far less likely to invest in enhancements to their existing market-data products and the development of new products. This, in turn, would reduce consumer choice and deprive market participants of potentially valuable information about trades and quotes. The competition-stifling, innovation-detering consequences of the Proposed Rule’s ratemaking regime are anathema to the Exchange Act’s goal of establishing a national market system that promotes “fair competition” and “the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities.”<sup>178</sup>

#### **B. The Proposal subjects exchanges and issuers to disparate treatment.**

The Proposed Rule violates the APA in multiple ways.<sup>179</sup> Among many failures, the Proposed Rule would arbitrarily treat exchanges acting as competing consolidators differently from all other competing consolidators. An agency acts arbitrarily “when it treats similarly situated people differently.”<sup>180</sup> Consistent with this fundamental administrative-law principle, the Exchange Act prohibits the Commission from promulgating rules that “impose a burden on competition not necessary or appropriate.”<sup>181</sup> Accordingly, if the Commission intends to take action that would favor some regulated entities over others, it must have an articulable and justifiable reason for doing so.

The Proposed Rule cannot meet this standard. Under the Proposal, exchanges that act as

competing consolidators would be subject to pricing restrictions inapplicable to all other competing consolidators. The Exchange Act directly limits the fees that exchanges may charge for their services: Section 6(b) of the Act requires exchanges to “provide for the equitable allocation of reasonable dues, fees, and other charges” and prohibits exchanges from “permit[ting] unfair discrimination between customers.”<sup>182</sup> In addition, Section 19(d) prohibits exchanges from unlawfully denying access to their services, including their market-data products.<sup>183</sup> Non-SROs acting as competing consolidators, in contrast, would not face these regulatory restrictions. The fees such competing consolidators could charge for providing market data would not need to be “reasonable” or non-discriminatory under the Exchange Act, and the Proposed Rule expressly exempts competing consolidators from the Exchange Act’s denial-of-access procedures.<sup>184</sup>

In light of these regulatory disparities, non-SROs acting as competing consolidators would have a significant competitive advantage over exchanges acting as competing consolidators. Non-SROs would be able to set their consolidated-data fees without regard to whether they comply with the Commission’s conception of what is “equitable,” “reasonable,” and “non-discriminatory,” and without fear that they might be required to expend resources defending the validity of those fees in denial-of-access proceedings before the Commission. As a result, non-SRO competing consolidators would have greater pricing flexibility than exchanges – which would enable them, for example, to offer volume discounts or linked pricing that the Commission might deem discriminatory if offered by an exchange – and would be insulated from the regulatory costs and inefficiencies inherent in the denial-of-access process. Because the Commission has not even tried to explain or justify this disparate treatment of non-SRO competing consolidators and exchanges, the Proposed Rule is arbitrary and capricious under the APA and violates the Exchange Act’s prohibition on unnecessary and inappropriate burdens on competition.<sup>185</sup>

In addition, the Proposed Rule would arbitrarily subject issuers to disparate treatment by redefining “round lot” based on share value. The Commission proposes to apply varying definitions of “round lot” – and thereby alter the amount of information disclosed about trades and quotes – depending on a stock’s share value.<sup>186</sup> Under the Proposal, market participants would receive more information about higher-valued stocks (for which a “round lot” would comprise a comparatively smaller number of shares) than they would about lower-valued stocks (for which a “round lot” would comprise a comparatively higher number of shares). These varying definitions of “round lot” would discriminate against investors who wish to trade in lower-valued stocks and disadvantage issuers of such lower-valued stock by making investment in those stocks a less attractive option than investment in higher-valued stocks with larger amounts of available information about trades and quotes. The Commission fails to provide an adequate justification for this discrimination against issuers of lower-valued stock and those market participants, particularly retail customers, who wish to transact in such stock.<sup>187</sup> Moreover, as discussed above, adoption of the Proposal would mean that smaller orders in high-priced stocks would be subject to fewer protections against trade-throughs and locked/crossed markets than orders in lower-priced stocks, further disadvantaging retail investors without explanation or justification.

### **C. The Commission failed to create an evidentiary record for multiple aspects of the Proposal**

Despite the major shift that the Proposal will have on market structure, the Commission proposed Reg NMS II with no studies or established basis for its preliminary findings. The scant evidentiary record used to support Reg NMS II highlights why we believe that the Commission is conducting a rushed review of the national market system without considering fully the fundamental changes that will result from the proposed changes. Moreover, the Commission's approach is in marked contrast to the comprehensive steps taken prior to proposing Reg NMS.

Leading up to the Reg NMS proposal, the Commission conducted a thorough review to determine whether changes were necessary to the national market system. The Commission's extensive preliminary review included multiple public hearings and roundtables, an advisory committee, three concept releases, the issuance of temporary exemptions intended in part to generate useful data on policy alternatives, and a constant dialogue with industry participants and investors.<sup>188</sup> The process continued after the proposals were published for public comment, including a public hearing on the Reg NMS proposals followed by a supplemental request for comment. Conversely, the Commission is proposing Reg NMS II on a significantly shorter timeline using a dearth of data and cherry-picked statements by self-interested commenters to support its preliminary findings and proposed changes.

The Commission's failure to conduct or publish any studies in connection with Reg NMS II and its reliance on thinly supported evidence for key components of the Proposal causes Reg NMS II to fall short of its intent to improve the national market system. The Commission asserts the preliminary belief in Reg NMS II that its Proposed Rule "would promote fair and efficient markets and would facilitate the best execution of investor orders, and reduce information asymmetries between market participants who currently rely on market data provided through the exclusive SIPs and those who purchase the proprietary market data products offered by the national securities exchanges."<sup>189</sup> However, the working papers, concept releases, congressional testimony, and articles cited throughout the Proposal<sup>190</sup> fail to provide sufficient evidentiary support for this and other assertions made in the Proposal.

Reg NMS II's lack of evidentiary support is also demonstrated through the Commission's belief that inclusion of more odd-lot quoting information in core data would facilitate the best execution analyses of broker-dealers who do not subscribe to proprietary data feeds that include all odd-lot information.<sup>191</sup> The Commission's evidentiary support for this idea is based upon "Commission staff experience" derived from statements made by market participants in connection with the Commission's two-day roundtable held in October 2018.<sup>192</sup> Similarly, Roundtable comments are used as the primary evidence to support the Commission's belief that a decentralized consolidation model would reduce the transmission latency differentials between the SIP data and proprietary data.<sup>193</sup> The Commission cites merely one article that takes an opposing position to its latency argument and does not consider any other approaches to resolving its latency concerns.

The April 2017 Equity Market Structure Advisory Committee ("EMSAC") Meeting provided the Commission with recommendations related to Rules 610 and 611 that were later

memorialized in the 2017 Regulation NMS Subcommittee (“Subcommittee”) memorandum. The Subcommittee explained that the industry largely remained divided in its view on both the success and the continued need for the trade-through and the locked and crossed markets provisions of Regulation NMS.<sup>194</sup> The Subcommittee presented arguments on whether Rules 610 and 611 were needed going forward and concluded that the Commission should conduct a market-wide pilot for all NMS stock to evaluate the possible effects and unintended consequences that may occur by eliminating Rules 610 and 611.<sup>195</sup> The Subcommittee also recommended that the Commission conduct a quantitative measurement of the market-wide effect on displayed limit orders and also enhance its guidance and procedures related to best execution to ensure that orders are not disadvantaged as a result of eliminating Rule 611.

The Commission’s proposed actions extend far beyond the EMSAC Subcommittee’s recommendations and fail to take most of the Subcommittee’s suggestions into consideration, while selectively choosing the statements that support the Commission’s position in Reg NMS II. For example, the Commission rejected the Subcommittee’s recommendation and instead proposed that quotations in the new, smaller round lot sizes will not be subject to Rule 610(d) or Rule 611. The Commission, without explanation, also rejected the Subcommittee’s recommendation to conduct research or implement a pilot-based methodology to evaluate any unintended effects.<sup>196</sup>

The Commission should set aside the rushed and underdeveloped concepts set forth in Reg NMS II for a more comprehensive and well-thought-out methodology.

#### **D. The Proposal fails to reasonably analyze the potential costs to the industry and investors.**

Federal administrative agencies are required to engage in “reasoned decisionmaking” under the APA.<sup>197</sup> To do so, the agency must “examine[] the relevant data and articulate[] a satisfactory explanation for its action including a rational connection between the facts found and the choices made.”<sup>198</sup> A failure to engage in reasoned decisionmaking is “arbitrary, capricious, an abuse of discretion,” and will be set aside under the APA.<sup>199</sup> The Exchange Act also specifically requires the Commission to consider, in addition to the protection of investors, whether an action would promote efficiency, competition, and capital formation,<sup>200</sup> and the impact of proposed rules on competition.<sup>201</sup> The analysis of benefits and costs included in the Proposed Rule does not meet the “reasoned decisionmaking” standard of the APA, or the Commission’s obligations under the Exchange Act, for three reasons. First, the Commission relies on assumptions to support its conclusion and lacks adequate data to properly compare benefits to costs. Second, the Commission’s baseline for comparison is misleading. The Commission postulates a transition from a non-competitive market structure to a competitive market structure, ignoring current competition among exchanges in the market for market data and mischaracterizing other aspects of the current environment. Third, significant costs are ignored, including costs related to increasing regulatory complexity, causing investor confusion, instituting a rate-making process, and stifling innovation among exchanges.

This is not an exhaustive list of the deficiencies in the discussion of the benefits and costs of the Proposed Rule; it is a summary of the major deficiencies in the analysis that is sufficient to

show the Proposal's failure to meet the APA standard. This list can be supplemented if the exchange is given more time to comment.

**1. The Commission lacks adequate data to properly compare benefits to costs.**

The Commission relies on a number of questionable assumptions about how the proposal would work to reach its conclusion that benefits exceed costs. For example, the Commission "assumes that upon the introduction of the model, a sufficient number of competing consolidators would enter the market so that competitive market forces would have a significant effect on their behavior."<sup>202</sup> Also, "the Commission assumes that the effective national market system plan(s) would set fees for the proposed consolidated market data content that are reasonably related to costs."<sup>203</sup> As discussed above, there is an open question whether sufficient competing consolidators would enter the market, and determining whether a fee is "reasonably related to costs" is problematic due to the arbitrary nature of any allocation of joint costs and the absence of any Commission guidance on the permissible rate of return on capital.

In addition, the Commission identifies numerous gaps in data that should be essential to its analysis:

- In a discussion of the impact of the proposal on market data vendors, the Commission states that it is "uncertain about the potential size and scope of these effects because it is unable to determine both the role of these costs in producing the products supplied by the data services industry and the extent to which the enhanced quality of new core data could play a role in the quality of their products."<sup>204</sup>
- In discussing the restructuring of the NMS Plan operating committee, the Commission "acknowledges the uncertainty in [its] conclusion," noting that "[t]he literature on the economics of restructuring of public utilities does not provide clear guidance. Some papers show efficiency gains from regulatory restructuring, yet others claim no efficiency gains or efficiency declines after regulatory restructuring of public utilities."<sup>205</sup>
- Regarding the level of competition among non-SRO market data aggregators, the Commission states that it "currently does not have a precise estimate of the number of players in this market and does not know how specialized these players are."<sup>206</sup>
- In discussing the impact of the Proposal on routing for order flow, the Commission states that it "cannot determine how many market participants may choose to change routing strategies as a result of the new depth-of-book information, nor to what extent the new depth-of-book information would cause market participants to change where they route their orders."<sup>207</sup>
- On the critical question of whether the Proposed Rule would raise or lower SIP fees for equivalent content, the Commission states that it "is unable to determine whether the effective national market system plan(s) for NMS stocks would propose a fee structure reflecting different tiers of data content for the proposed consolidated market data. . . . As a result, the proposal could increase the content fees for the equivalent of SIP data. This

potential outcome is highly dependent on the effective national market system data plan(s) and fee proposals.<sup>208</sup>

The answers to these questions may change the outcome of the analysis, and therefore must be addressed before the benefits and costs of the Proposal can be determined.

## 2. The baseline comparison is misleading.

The Commission mischaracterizes its “baseline” – i.e., the current state of the market for market data – as compared to the Proposal with respect to: (i) the market for proprietary data products; (ii) information “asymmetries” among consumers of market data; (iii) fees for SIP and proprietary data; (iv) conflicts of interest; and (v) the cause of latency differences.

**Competition in the Market for Market Data:** The Commission systematically mischaracterizes the current market as non-competitive and the Proposed Rule as competitive: “the proposed rule introduces a competitive marketplace for the consolidation and dissemination of consolidated market data to replace the centralized consolidation model, which is not currently subject to competitive pressures.”<sup>209</sup> This is a false dichotomy that ignores the current competition among exchanges in the sale of proprietary data products as part of the competition between exchanges for order flow based on all-in costs. The more accurate comparison is between market competition among exchange platforms, as is currently the case, and competition among competing consolidators under a new NMS Plan. The Commission fails to analyze that.

Relatedly, the Commission mischaracterizes its own Proposal in asserting that “the proposed enhancements to core data could increase competition between proposed consolidated market data and proprietary data feeds, which could lead to exchanges charging lower fees for proprietary market data.”<sup>210</sup> It is not clear how such competition could occur, given that the Proposal is to authorize the NMS Plan to set all fees, including fees for proprietary data products, which contain core data.

**Information “Asymmetries”:** The Commission states that the Proposal would “reduce information asymmetries that exist between market participants who subscribe to proprietary DOB and other proprietary products and market participants who only subscribe to SIP data, and could allow some market participants who subscribe to the more expensive proprietary DOB products to replace them with potentially cheaper consolidated market data feeds.”<sup>211</sup>

The Commission also states, however, that it expects the competing consolidators would compete by differentiating their products: “the competing consolidators would be able to differentiate among themselves by product customization; by focusing on different segments of demand; and/or by offering varying levels of other services such as customer service, ease of user interface, analytics, data reformatting and normalization services, and latency rates.”<sup>212</sup>

The Commission fails to resolve the contradiction between these two assertions. The Commission believes that the current market is characterized by “information asymmetries” because not all customers buy the same data, yet expects the competing consolidators to customize their products, thereby creating new information asymmetries. The Commission



needs to explain this contradiction.

**Comparing Prices for SIP and Proprietary Data:** The Commission states that “SRO proprietary feeds for depth-of-book data are significantly more expensive than the exclusive SIP feeds.”<sup>213</sup> This is an apples-to-oranges comparison: a depth-of-book feed contains many times more information than a top-of-book feed such as the SIP, and therefore the higher price for the depth-of-book product reflects higher value. A proper comparison between a SIP feed and a top-of-book feed such as Nasdaq Basic shows that proprietary feeds are less expensive than the SIP.

**Conflicts of interest:** The Commission misleadingly states that “[t]he proposed change would have the benefit of mitigating the influence of existing conflicts of interest inherent in the existing exclusive SIP model.”<sup>214</sup> As discussed in Section IV.B above, the Commission ignores the fact that it is adding new conflicts of interest to the equity NMS plans by introducing non-SRO votes that are not legally constrained from voting in their own self-interest.

**Latency Projections:** The Commission states that “another benefit of the decentralized consolidation model would be to substantially reduce the latency differential between proposed consolidated market data and proprietary data,”<sup>215</sup> yet the Commission does not explain how it expects that lower latency to materialize. As discussed in Section IV.C above, the bulk of the current latencies are due to geography, the time it takes data to travel between processing centers. Geographic latency could be addressed either through a distributed SIP or competing consolidators. If the Commission expects its projected latency gains to be addressed by reducing geographic latency, it should also explain why the Proposed Rule is preferable to the distributed SIP, which addresses the same problem.

### **3. Significant costs and alternative proposals are ignored.**

The Commission neglects to examine the costs of the Proposal related to increased regulatory complexity, the possibility of investor confusion, new analytic infrastructure required to enable the Commission to engage in rate-making, the impact on exchange operations, and the reduction in incentives for exchanges to develop innovative products. The Commission also overlooked Nasdaq’s intelligent tick proposal as an alternative to the proposed round lot regime.

**Regulatory Complexity:** The creation of multiple NBBOs will inevitably increase the cost of regulatory compliance for exchanges, broker-dealers, and other market participants. Trade-through prevention, the avoidance of locked and crossed markets, and enforcement of a broker-dealer’s best execution obligations all require the NBBO as a reference point. At a minimum, all of these rules will have to be modified to recognize the existence of multiple NBBOs, and the internal procedures of broker-dealers and exchanges will have to be modified to take these changes into account.

**Investor Confusion:** The Commission dismisses out of hand the possibility that multiple NBBOs may confuse market participants.<sup>216</sup> Without a “gold standard,” the existence of multiple NBBOs is likely to result in investor confusion, and possibly a loss of investor confidence. This confusion may be compounded by the introduction of new data on the SIP. While depth-of-book and auction information is useful for sophisticated traders, its utility would

not be readily apparent to the average investor without advanced training, potentially generating confusion and frustration.

**Rate-making Infrastructure:** The Commission has stated that fees should be cost-based. As explained in Section III.A, however, setting a “cost-based” fee will be exceptionally difficult given that there is no meaningful way to allocate costs among multiple joint products. Complex rate-making of this type will require a specialized infrastructure to evaluate rate proposals. The Commission ignores this type of cost.

**Exchange Operations:** As the Commission has noted, U.S. exchanges, like most exchanges around the world, rely on market data revenues as a substantial source of funding.<sup>217</sup> A reduction in such revenue would limit the ability of exchanges to carry out their essential self-regulatory responsibilities, which require exchanges to expend substantial resources monitoring and enforcing compliance with the Exchange Act and their own rules.<sup>218</sup>

**Innovation:** Subjecting market data fees to approval by a consortium of exchanges and stakeholders will all but eliminate incentives for exchanges to develop innovative market data products, and even opens the possibility that the body will create a fee structure that discriminates against exchanges in favor of other consolidators. It will also inhibit the ability of exchanges to use market-data fees to fund enhancements to other aspects of their trading platforms, such as technological improvements to order execution and the development of new order types. The Commission failed to examine such costs.

**Intelligent Ticks:** In addition to these failures to consider certain costs, the Commission also failed to consider alternatives to its proposals on round lots and protected quotes, including Nasdaq’s recent proposal for the Commission to adopt an “intelligent tick” regime, in which the standard one cent tick that applies to all NMS stocks would be replaced with tick sizes that vary depending upon the trading characteristics of each such stock.<sup>219</sup>

#### **E. The Proposed Rule would effect a taking of exchange property.**

In addition to all of the Proposed Rule’s infirmities under the Exchange Act and the APA, the Proposal would also violate the Takings Clause by effecting a physical taking of Nasdaq’s property without just compensation. The Fifth Amendment of the U.S. Constitution provides that private property shall not “be taken for public use, without just compensation.”<sup>220</sup> Pursuant to this constitutional prohibition, when the “government directly appropriates private property for its own use,” that appropriation “is a *per se* taking that requires just compensation.”<sup>221</sup> In those circumstances, the government must pay just compensation even if the original property owner retains “a contingent interest in a portion of the value of the property.”<sup>222</sup>

The Proposed Rule would require Nasdaq and the other exchanges to turn over vast amounts of their proprietary market data – valuable property that Nasdaq currently sells to market participants at a reasonable rate of return – to competing consolidators and self-aggregators at prices set by the operating committee of the consolidated NMS plan. Thus, under the terms of the Proposed Rule, the government would expropriate property belonging to Nasdaq and redistribute it to Nasdaq’s competitors at prices set, in part, by the non-SRO members of the

consolidated NMS plan's operating committee. As purchasers of that data and potential competing consolidators and self-aggregators, those non-SRO members would be laboring under a conflict-of-interest and would have no incentive to pay "just compensation" for the property taken from Nasdaq. The Proposed Rule therefore would effect a physical taking of Nasdaq's proprietary data without any guarantee of just compensation.

**F. The Proposal denies the exchanges adequate value for their copyright interest in auction data.**

Nasdaq possesses copyright rights in its auction data as a compilation,<sup>223</sup> and the Commission's Proposal would require that Nasdaq forfeit these copyright rights.

An original and creative selection or arrangement of facts is protectable as a copyright compilation.<sup>224</sup> Although there have been auctions of financial instruments for hundreds of years, Nasdaq has developed a unique approach to auctions that includes a creative selection and arrangement of auction data. When performing an opening or closing auction, Nasdaq receives orders and periodically simulates different variations of the auction based on those received orders and disseminates (via NOII messages) the results of those simulations. The frequency at which the NOII is disseminated changes over the course of an auction; for example, in the closing auction, the NOII is disseminated every ten seconds for the first five minutes of the auction, and then every second for the final five minutes of the auction. The NOII includes a number of data fields, including: Symbol (indicating the security to which the NOII relates); Near Indicative Price (which is based on orders in both the closing and continuous books); Far Indicative Price (which is based on orders solely in the closing book); Current Reference Price (which is based solely on orders in the continuous book); Paired Shares (indicating how many shares would execute at the Current Reference Price); Imbalance Shares (indicating the number of shares that would remain after execution at the Current Reference Price); and Imbalance Side (indicating whether the Imbalance Shares relate to buy orders or sell orders). The three prices in the NOII are not simply based on executed transactions, but rather they are simulations of what the price "would be" if the auction were to execute at that moment, based on different inputs. Each day, Nasdaq generates over 400 simulations of these three prices for each security. As there are over 3000 securities traded on Nasdaq each day, this means that Nasdaq compiles more than 1.2 million NOII records each day. The selection and arrangement of the NOII data fields are original and reflect Nasdaq's creative judgment; Nasdaq did not copy this selection of auction data, and there is no precedent for this unique and creative assembly of auction data fields. Because it is original and creative, Nasdaq's compilation of auction data is copyrightable.

As copyright owner, Nasdaq has the exclusive right to reproduce its compilation in copies, to prepare derivative works based on the compilation, and to distribute copies of the compilation.<sup>225</sup> By forcing Nasdaq to put its copyrighted works on the SIP (in essence compelling Nasdaq to grant licenses to its data on the terms applicable to SIP data), the Proposal would force Nasdaq to surrender these rights, robbing Nasdaq of its ability as copyright owner to obtain fair market value for licenses for its intellectual property.

### **G. The Commission has engaged in a rushed and ill-considered process in proposing fundamental changes to the National Market System.**

The difference in deliberation between Regulation NMS and the Proposed Rule, essentially a rewrite of Regulation NMS, is stark. Consideration of Regulation NMS began with a broad and systematic review over five years.<sup>226</sup> Prior to formulating its proposals, the Commission's review "included multiple public hearings and roundtables, an advisory committee, three concept releases, the issuance of temporary exemptions intended in part to generate useful data on policy alternatives, and a constant dialogue with industry participants and investors."<sup>227</sup> In addition, "Commission staff prepared several studies of relevant trading data to help evaluate and respond to the views of commenters."<sup>228</sup> This period of consideration was followed by a proposing release in February 2004, a supplemental request for comment in May 2004, and a re-proposing release in December 2004.<sup>229</sup>

In contrast, the Commission virtually ignored the recommendation of its own Equity Market Structure Advisory Committee,<sup>230</sup> which was formed specifically to recommend market structure reforms in formulating a proposed rule. Instead, the Commission relies on a single Roundtable forum that should have been the start of a discussion, not its entirety.<sup>231</sup>

The lack of careful consideration is evident. In January 2020, the Commission proposed changes to the governance of the equity National Market System plans which, as described in detail in Nasdaq's comment letter on that proposal,<sup>232</sup> are inconsistent with the Proposed Rule in critical ways. The sheer number of questions asked by the Commission – more than 300 – demonstrates that the Commission lacks confidence in its Proposal.

As further benchmarks for comparison, individual NMS Plans – subsets of Regulation NMS – took years to draft. The UTP Plan began to develop a plan to form itself into a limited liability company, CTC Plan, LLC, in approximately October 2013; a completed plan was submitted to the Commission in July 2015, nearly two years later, and the Commission has never acted upon it. The Commission directed the SROs to submit a plan for the Consolidated Audit Trail in September 2012, which was submitted in September 2014, and approved in August 2016. The plan to Address Extraordinary Market Volatility, known as the Limit Up – Limit Down Plan, began development in the aftermath of the "Flash Crash" on May 6, 2010, was approved on May 31, 2012,<sup>233</sup> and full implementation did not occur until May 12, 2014.<sup>234</sup>

In light of the lack of deliberation – and the serious issues with implementation described above – Nasdaq recommends that the Commission withdraw the Proposed Rule and engage in further deliberations, just as the Commission did when it first promulgated Regulation NMS.

## **VI. CONCLUSION**

In sum, the Commission's Proposal is unwarranted, unwise, and unauthorized. The Commission prepared it in haste, with little prior input or evidentiary basis, and it has released it needlessly in the midst of a global health and economic crisis. It proposes sweeping changes to the national market system, but its approach to doing so is dangerously haphazard. It is a product of untested assumptions, it is rife with intellectual inconsistencies, and its purported

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benefits are speculative, at best. If adopted as proposed, its only legacy will be a national market system that is considerably more complex, and considerably less protective, innovative, and reliable than the existing system. Accordingly, Nasdaq respectfully requests that the Commission decline to adopt the Proposal and instead pursue more measured, thoughtful, and collaborative solutions to market structure problems.

Sincerely,



John Zecca

Executive Vice President and Chief Legal Officer

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

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- <sup>1</sup> See Securities Exchange Act Release No. 34-88216 (Feb. 14, 2020), 85 FR 16726 (March 24, 2020) (the “Proposal” or the “Proposed Rule”).
- <sup>2</sup> See Remarks of Chairman Jay Clayton to the Financial Stability Oversight Council. (May 14, 2020), available at <https://www.sec.gov/news/speech/clayton-remarks-financial-stability-oversight-council-051420> (“Despite these extraordinary volumes and volatility, the ‘pipes and plumbing’ of the securities markets—i.e., the clearing agencies, exchanges, ATSS and securities information processors, among other things—functioned largely as designed, and importantly, as market participants would expect. In other words, we can report that during this time of unprecedented stress, we have observed no systemically adverse operational issues with respect to our key infrastructure.”).
- <sup>3</sup> See Ltr. from Mr. J. Zecca, EVP and Chief Legal Officer, Nasdaq, to the Honorable J. Clayton, Chairman, SEC, (Apr. 7, 2020), available at <https://www.sec.gov/comments/s7-03-20/s70320-7061476-215453.pdf>; Ltr. from Ms. J. Conley, SVP and Corporate Secretary, Nasdaq, to Ms. V. Countryman, Secretary, SEC, (Feb. 28, 2020), available at <https://www.sec.gov/comments/4-757/4757-6892874-211004.pdf>; (the “February Comment Ltr.”); see also Ltr. from Mr. G. LaBranche, President & CEO, National Investor Relations Institute to Ms. V. Countryman, Secretary, SEC, dated May 22, 2020; Ltr. from Mr. P. Healy, CEO, Issuer Network, to Ms. V. Countryman, Secretary, SEC, dated May 20, 2020, available at <https://www.sec.gov/comments/s7-03-20/s70320-7225556-216971.pdf>; Ltr. from Invesco Advisors, State Street Global Advisors, Northern Trust Global Investments, Boston Partners, Brandywine Asset Management, Voya Investment Management, and Schroders Investment Management to Ms. V. Countryman, Secretary, SEC, dated May 15, 2020, at <https://www.sec.gov/comments/s7-03-20/s70320-7220747-216928.pdf>; Ltr. from Ms. K. Unger, CEO/Executive Director, the Security Traders Association of New York, Inc. to Ms. V. Countryman, Secretary, SEC, (May 14, 2020), available at <https://www.sec.gov/comments/s7-03-20/s70320-7195381-216849.pdf>; Ltr. from Ms. Allison Bishop, President, Proof Services LLC to Ms. V. Countryman, Secretary, SEC, (May 1, 2020), available at <https://www.sec.gov/comments/s7-03-20/s70320-7144460-216255.pdf>; Ltr. from Mr. C. Iacovella, CEO, American Securities Association, to Ms. V. Countryman, Secretary, SEC, (April 23, 2020), available at <https://www.sec.gov/comments/s7-03-20/s70320-7113310-215973.pdf>; Ltr. from Ms. L. Moore, President and CEO, TechNet, to Ms. V. Countryman, Secretary, SEC, (April 29, 2020), available at <https://www.sec.gov/comments/s7-03-20/s70320-7135314-216170.pdf>. Nasdaq also notes that public interest groups, associations of state and local governments, and public officials have similarly requested that federal agencies pause their rulemaking proceedings during the pendency of the COVID-19 crisis. See Letter from Amnesty Int’l, et al., to Mr. Russel T. Vought, Director, Office of Management and Budget, (March 19, 2020), available at <https://www.amnestyusa.org/our-work/government-relations/advocacy/extension-of-public-comments-amid-covid-19-pandemic/>; Ltr. from National Governors Association, et al., to President Donald J. Trump, dated March 20, 2020, available at <https://www.nga.org/letters-nga/state-and-local-government-organizations-seek-pause-on-public-comments-on-rulemaking-processes/>; Ltr. from Sens. C. Van Hollen and S. Brown to the Hon. J. Clayton, Chairman, SEC, dated March 17, 2020, available at <https://www.banking.senate.gov/newsroom/minority/brown-demands-hud-and-independent-financial-regulators-cease-non-coronavirus-related-rulemaking-during-this-public-health-emergency> (“The SEC and all federal regulators should suspend all rulemakings that are unrelated to or could impede our nation’s response to the COVID-19 epidemic and instead focus and prioritize actions on activities related to the economic risks posed to markets and capital formation. This cessation should include extension of any pending comment periods on rules not related to the immediate risks to our financial markets ...”).
- <sup>4</sup> See Tony Romm, Jeff Stein, and Erica Werner, *2.4 Million Americans Filed Jobless Claims Last Week, Bringing Nine-week Total to 38.6 Million*, Washington Post, May 21, 2020, available at <https://www.washingtonpost.com/business/2020/05/21/unemployment-claims-coronavirus/>; Centers for Disease Control, *Cases in the U.S.*, at <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html> (last updated May 22, 2020) (citing almost 95,000 deaths due to COVID-19 in the United States);
- <sup>5</sup> Compare <https://www.sec.gov/comments/s7-03-20/s70320.htm> (last visited May 25, 2020) with <https://www.sec.gov/rules/proposed/s71004.shtml> (counting 329 comments received as of June 29, 2004).
- <sup>6</sup> 15 U.S.C. § 78a *et seq.* (the “Exchange Act” or the “Act”).
- <sup>7</sup> 5 U.S.C. § 551 *et seq.* (the “Administrative Procedure Act” or the “APA”).
- <sup>8</sup> See 17 CFR 242.600 *et seq.* In adopting Reg NMS, the Commission attempted to leverage new data processing and communications technologies to achieve the objective of efficient, competitive, fair, and orderly markets that are in the public interest and protect investors. See Regulation NMS, Final Rule, Securities Exchange Act Release No. 34–51808 (June 9, 2005), 70 FR 37496, 37497 (June 29, 2005) (the “Reg NMS Adopting Release”).
- <sup>9</sup> See T. Cohen and L. Dillard, *Intelligent Ticks: A Blueprint for a Better Tomorrow*, (Dec. 16, 2019), available at <https://www.nasdaq.com/docs/2019/12/16/Intelligent-Ticks.pdf> (the “Intelligent Tick Proposal”).
- <sup>10</sup> See Ltr. from Mr. J. Zecca, EVP and Chief Legal Officer, Nasdaq, to the Honorable J. Clayton, Re: Application to Permit Issuer Choice to Consolidate Liquidity by Terminating Unlisted Trading Privileges, (Feb. 5, 2020), available at <https://www.nasdaq.com/docs/2020/02/05/2020%20UTP%20Termination%20Application.pdf>.
- <sup>11</sup> See *id.*

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12 See A. Friedman, *The Promise of Market Reform: Reigniting America’s Economic Engine*, (May 4, 2017), available at  
13 [https://www.nasdaq.com/docs/Nasdaq\\_Blueprint\\_to\\_Revitalize\\_Capital\\_Markets\\_April\\_2018\\_tcm5044-43175.pdf](https://www.nasdaq.com/docs/Nasdaq_Blueprint_to_Revitalize_Capital_Markets_April_2018_tcm5044-43175.pdf).  
14 See A. Friedman, *TotalMarkets: A Blueprint for a Better Tomorrow*, (April 10, 2019), available at  
[https://www.nasdaq.com/docs/Nasdaq\\_TotalMarkets\\_2019\\_2.pdf](https://www.nasdaq.com/docs/Nasdaq_TotalMarkets_2019_2.pdf).

14 After the Commission first proposed Reg NMS in February 2004, see Regulation NMS, Proposed Rule, Securities  
Exchange Act Release No. 49325 (Feb. 26, 2004), 69 FR 11126 (Mar. 9, 2004), it held a public hearing on the proposal  
on April 21, 2004. It then extended the original 60-day public comment period by an additional 30 days. See  
Securities Exchange Act Release No. 49749 (May 20, 2004), 69 FR 30142 (May 26, 2004). After the Commission  
received upwards of 700 comments, it re-proposed Reg NMS in December 2004. See Regulation NMS, Proposed Rule,  
Securities Exchange Act Release No. 34-50870 (Dec. 16, 2004), 69 FR 77424 (Dec. 27, 2004). The Commission  
thereafter received 1,500 comments on its re-issued proposal, and it did not adopt a final rule until June 9, 2005. See  
Reg NMS Adopting Release, supra. The final rule became effective in part, on August 29, 2005, but it did not become  
fully effective until July 2006.

15 See Self-Regulatory Organizations; Notice of Filing of Proposed Rule Change by the New York Stock Exchange, Inc.  
to Rescind Exchange Rule 390; Commission Request for Comment on Issues Relating to Market Fragmentation,  
Securities Exchange Act Release No. 34-42450 (Feb. 23, 2000), 65 FR 10577, at 10584 (Feb. 28, 2000) (“Section 11A  
of the Exchange Act charges the Commission with maintaining and strengthening a national market system for  
securities. In fulfilling this responsibility, the Commission has not attempted to dictate the ultimate structure of the  
securities markets. Instead, it has sought to establish, monitor, and strengthen a framework that gives the forces of  
competition sufficient room to flourish and that allows the markets to develop according to their own genius.”).

16 One need only look to the results of the Tick Pilot to understand how costly it can be when the Government decides to  
experiment with changes to the underlying structure of the equities markets. See Bill Alpert, *Congress’ Failed Stock  
Market Experiment Cost Investors \$900 Million*, Barron’s, (Sept. 14, 2018), available at  
<https://www.barrons.com/articles/sec-tick-size-pilot-program-1536961160>.

17 See Proposed Rule, supra, at 16752.

18 See id. at 16753 (“The discussions at the Roundtable and the comments received, however, suggest that many market  
participants need more than the best bids, best offers, and the NBBO disseminated by the exclusive SIPs in order to  
trade competitively and to optimize the placement of customer orders.”).

19 See id. at 16853.

20 See id. at 16858 (“The Commission recognizes the risk that there could be too few competing consolidators to realize  
[reduced prices and improved quality] . . . , in which case the proposed competitive changes may have a number of  
costs . . .”).

21 See Order Directing the Exchanges and the Financial Industry Regulatory Authority to Submit a New National Market  
System Plan Regarding Consolidated Equity Market Data, Securities Exchange Act Release No. 34-88827 (May 6,  
2020), 85 FR 28702 (May 13, 2020) (the “NMS Governance Order”).

22 See id. at 28708.

23 15 U.S.C. § 78k-1(c)(1)(B).

24 See U.S. Const., amend. V.

25 15 U.S.C. § 78k-1(a)(2).

26 15 U.S.C. §§ 78f(b)(4), 78s(b)(3)(A).

27 15 U.S.C. § 78c(f) (providing that, whenever Commission engages in rulemaking where it is required to consider the  
public interest, it must also consider whether the action “will promote efficiency, competition, and capital formation”).

28 See n.3, supra.

29 See Commissioner A. Lee, *Statement on Regulatory Priorities and COVID-19*, (April 3, 2020), available at  
<https://www.sec.gov/news/public-statement/statement-lee-regulatory-priorities-covid-19-2020-04-03>.

30 See SEC, *SEC Coronavirus (COVID-19) Response*, (March 17, 2020), available at [https://www.sec.gov/sec-](https://www.sec.gov/sec-coronavirus-covid-19-response)  
[coronavirus-covid-19-response](https://www.sec.gov/sec-coronavirus-covid-19-response) (“Certain of the Commission’s proposed actions had comment periods that expired in  
March. We understand that challenges associated with COVID-19 may have delayed the completion and submission of  
some comment letters at that time. (...). For that reason, as previously noted, the Commission did not take final action  
on these items before May 1 in order to allow commenters additional time if needed.”); see also Division of Trading  
and Markets, No Action Letter; Consolidated Audit Trail Reporting, (March 16, 2020), available at  
<https://www.sec.gov/divisions/marketreg/mr-noaction/2020/consolidated-audit-trail-reporting-031620.pdf> (extending  
industry compliance period due to the fact that “disruptions as a result of COVID-19 have placed new stresses and  
competing priorities on the infrastructure and staff required to implement the Consolidated Audit Trail”); Order Under  
Section 36 of the Securities Exchange Act of 1934 Granting Exemptions From Specified Provisions of the Exchange  
Act and Certain Rules Thereunder, Securities Exchange Act Release No. 34-88318 (March 4, 2020), 85 FR 13680  
(March 9, 2020) (order exempting public companies from certain disclosure filing requirements during the COVID-19  
crisis); SEC, Press Release, *Agencies Will Consider Comments on Volcker Rule Modifications Following Expiration of  
Comment Period*, (April 2, 2020), available at <https://www.sec.gov/news/press-release/2020-79>.

31 See n.2, supra.

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32 On May 8, 2020, Nasdaq conducted an industry webinar on the Proposal. During that webinar, which garnered approximately 600 participants, Nasdaq conducted an online poll to determine how many participants were already familiar with the Proposal. 57 percent of respondents indicated that they had yet to read it. The fact that so many persons would be interested enough in the Proposal to participate in a webinar about it, but yet had not actually read the Proposal less than three weeks before its comment period expires, suggests that many interested parties will not ultimately file comments.

33 See n.5, supra.

34 See Proposed Rule, supra, at 16750.

35 See Reg NMS Adopting Release, supra, at 37503; see also id. at 37557 (“The Exchange Act rules and joint-SRO Plans for disseminating market information to the public are the heart of the NMS. Pursuant to these rules and Plans, investors are able to obtain real-time access to the best current quotes and most recent trades for all NMS stocks. As a result, investors of all types--large and small--have access to a comprehensive, accurate, and reliable source of information for the prices of any NMS stock at any time during the trading day.”).

36 See Reg NMS Adopting Release, supra, at 37569.

37 See id. at 37579.

38 See Proposed Rule, supra, at 16774 (“The Commission acknowledges that the introduction of multiple entities generating consolidated market data would result in multiple versions of consolidated market data.”).

39 17 CFR 242.611.

40 17 CFR 242.610(d) & (e).

41 See 2017 Report on FINRA Examination Findings (Dec. 6, 2017), available at <https://www.finra.org/rules-guidance/guidance/reports/2017-report-exam-findings/best-execution>.

42 See Proposed Rule, supra, at 16734.

43 But see Section II.B, infra (discussing the impact of the Proposal on the usefulness of market quality statistics).

44 See Reg NMS Adopting Release, supra, at 37506.

45 See *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983).

46 Nasdaq estimates these costs based upon the need to purchase new hardware, including servers and backups for both primary and disaster recovery sites, to connect its exchange systems to 12 competing consolidators and to comply with Rule 603. Nasdaq also estimates a cost of two person-years to re-program each of its existing systems to accommodate the changes. Lastly, the costs would include regulatory testing, quality assurance, and operations monitoring and maintenance on a going forward basis.

47 Reg NMS Adopting Release, supra, at 37547.

48 Nasdaq bases this estimate on the labor and hardware costs to re-program its existing systems to accommodate the changes.

49 Frequently Asked Questions about Rule 11Ac1-5, FAQ 21 (June 22, 2001), available at <https://www.sec.gov/interps/legal/slbim12a.htm>.

50 Indeed, the Proposal’s elimination of a single consolidated NBBO would arguably make compliance with the rule impossible. See id. (in construing the predecessor of Rule 605, stating that “[m]arket centers must calculate their statistics based on the time that the central processor for the applicable national market system plan assigns to the Consolidated BBO when it is disseminated”).

51 See 15 U.S.C. § 78k-1(a)(1)(D).

52 Id.

53 Restatement 2d Agency § 387 (1958); *Newton v. Merrill, Lynch, Pierce, Fenner & Smith*, 135 F.3d 266, 270 (3d Cir. 1998); see Securities Exchange Act Release No. 34902 (October 27, 1994), 59 FR 55006, 55007 at n.15 (November 2, 1994) (“Payment for Order Flow Release”) (citing Restatement 2d Agency Sections 387; 424 (1958)); see also U.S. Securities and Exchange Commission Division of Market Regulation, *Market 2000 An Examination of current Equity Market Developments* at V-1 (Jan. 1994), available at <https://www.sec.gov/divisions/marketreg/market2000.pdf> (“Market 2000 Study”); *Best Execution: Guidance on Best Execution Obligations in Equity, Options and Fixed Income Markets*, FINRA Regulatory Notice 15-46 at 2 (Nov. 2015) (“FINRA Best Execution Guidance”).

54 Rest. 2d Agency § 424 (1958); *In re Hughes*, 27 S.E.C. 629, 636 (1948), aff’d 174 F.2d 969 (D.C. Cir. 1949); Payment for Order Flow Release, 59 FR at 55007, n.15; *Newton*, 135 F.3d at 270; FINRA Best Execution Guidance, supra, at 2.

55 FINRA Rule 5310(e); see also Market 2000 Study at V-17 n.7.

56 Nasdaq Rule 9, Section 11(a) incorporates FINRA Rule 5310 by reference.

57 Securities Exchange Act Release No. 37619A (Sept. 6, 1996), 61 FR 48290, 48292 (“Order Handling Rules Release”).

58 17 CFR 242.604.

59 Order Handling Rules Release, supra, at 48292.

60 17 CFR 242.604.

61 Order Handling Rules Release, supra, at 48290, 48323.

62 Reg NMS Adopting Release, supra, at 37538.

63 See 17 CFR 242.611.

64 Proposed Rule, supra, at 16819 (“Indicia that exchanges may not be subject to robust competition include that many



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broker-dealers state that even in the face of increasing proprietary data fees they feel compelled to buy proprietary data to be able to provide competitive trading strategies for their clients.”).

65 See id. at 16736 (“The Commission is proposing a definition of core data that would incorporate the information that is currently provided in SIP data as well as additional information, including quotation data for smaller-sized orders for higher-priced stocks, certain depth-of-book data, and additional auction information.”).

66 See id. at 16770 (“[T]he Commission notes that it “has previously stated that fees for consolidated SIP data can be shown to be fair and reasonable if they are *reasonably related to costs*.”) (emphasis added).

67 See id. at 16819.

68 Id.

69 Competition among farmers will constrain the margin a farmer earns on cattle, which reflects revenue from sales of both beef and hides and the total costs of raising cattle. Beef and hides then contribute to the recovery of joint and common costs in proportion to each product’s markup of the realized price over product-specific marginal cost multiplied by the volume of sales. Note, however, that this is an *ex post* calculation that can only be made once sales volumes and product prices are known. What can be determined is whether, at the minimum, each activity covers its incremental cost and, at the maximum, it does not contribute more than its “standalone” cost (i.e., the cost that a supplier would incur if it provided *only* that product or service). Any rate that falls within these limits is free of cross-subsidy. In the instant setting, the situation is even more complicated because many customers purchase both beef and hides (i.e., trading services and market data), so to speak, and thus are likely more concerned with their expenditures on all purchases rather than the price of individual products.

70 Other issues that the Commission may have to address when it evaluates a proposed price for NMS information include: (1) what is the appropriate risk-adjusted rate of return that should be applied to exchange assets, including intellectual property?; and (2) does the data generated from market transactions “belong” to the market participants or the exchange on which the trades were made (because historically, some users of market data have argued that production of the data has zero marginal cost and should thus be free)? However, even vocal critics of exchanges should recognize that a zero price does not allow fixed costs to be covered and therefore leads to zero output.

71 Without clear standards, it is unclear how the Commission will meet its obligation to conduct the “reasoned analysis that the Exchange Act and the APA require.” Susquehanna Int’l Grp., LLP v. SEC, 866 F.3d 442, 447 (D.C. Cir. 2017)

72 See Proposed Rule, supra, at 16767-68.

73 See id. at 16810.

74 See id. at 16775, n.510; see also id. at 16865 (“However, the benefits to market participants of efficient aggregation and comparison and the benefits to potential competing consolidators of efficient benchmarking depend on the number of competing consolidators that ultimately register with the Commission, which we estimate to be relatively low at twelve.”).

75 See id. at 16836.

76 See id. at 16775 (“[T]he Commission preliminarily believes that the introduction of competition should help to ensure that proposed consolidated market data is disseminated in a cost-effective manner.”).

77 The Commission does not fully consider the possibility that which outcome will ultimately prevail depends on the totality of the regulatory actions it ultimately implements as well as on other technological developments in production and transmission of market data.

78 See Proposed Rule, supra, at 16738, n.140.

79 See id. at 16812.

80 Under the Commission’s proposal, self-aggregators are defined as “brokers or dealers that elect to collect and generate consolidated market data for their own internal use” Id. at 16730. The Commission explains that “[a]ny self-aggregator that disseminates to any person—including to an affiliate or subsidiary of the self-aggregator—or makes public the proposed consolidated market data, or any subset of the proposed consolidated market data, would be required to register as a competing consolidator” Id. at 16791. However, the Commission has also asked for comments on the question: “Should self-aggregators be permitted to disseminate proposed consolidated market data to their affiliates and subsidiaries without being required to register as a competing consolidator?” Id. at 16791. Thus, it appears possible that the Commission’s proposal would be amended to allow self-aggregators to disseminate NMS information to affiliates, thereby increasing the number of “big fish” that could become self-aggregators. Another possibility is that exchanges eager to get the business of self-aggregators will offer “enterprise license” pricing packages that allow a firm and all of its affiliates to receive prop data for one price. Thus, even if the Commission does not allow self-aggregators to share data with affiliates, the market may achieve the same result.

81 See id. at 16791 (“Self-aggregators may have a minor latency advantage over market participants that decide to utilize a competing consolidator for their consolidated market data, due to the fact that self-aggregators will be collecting and consolidating this data for themselves rather than relying on a competing consolidator to do so, and therefore would eliminate a potential latency cost that comes with an extra hop within a given data center.”).

82 See id. at 16791.

83 See id. at 16728 (emphasis added).

84 See id. at 16836.

85 See id. at 16775, n.510.

86 See id. at 16819.

87 See id. at 16775.

88 See id. at 16836.

89 See id. at 16768.

90 See Statement of J. Ordovery and G. Bamberger filed with the U.S. Securities and Exchange Commission, File No. SR-NASDAQ-2010-174, on behalf of NASDAQ Stock Market, (Dec. 30, 2010) (“Bamberger and Ordovery”), ¶ 38 (“Even if a trading platform had some unique information that is potentially valuable to (some) consumers, the total price of trading on that platform – which includes the price of market data available from the platform that the trader elects to purchase – is constrained by the total price of trading on rival platforms.”), available at <https://www.sec.gov/rules/sro/nasdaq/2012/34-66724-ex3a.pdf>.

91 Eric Budish, et al., *Will the Market Fix the Market? A Theory of Stock Exchange Competition and Innovation*, University of Chicago, Becker Friedman Institute for Economics Working Paper No. 2019-72, at 31 (May 2019), available at <https://ssrn.com/abstract=3391461> (“Budish et al.”).

92 Id. at 32 (emphasis added, footnote omitted). The Budish et al. study assumes that “perfectly competitive” trading fees are equal to a marginal cost of zero. See id. at 31). But see Bamberger and Ordovery, supra, at ¶ 48 (“[M]arginal cost pricing is not feasible when there are increasing returns to scale because if all sales were priced at marginal cost, the vendor would be unable to defray the forward-looking costs of providing the service and would (ultimately) go bankrupt and would have to exit the industry. Stated simply, pricing services at marginal cost in an industry with a cost structure like that of NASDAQ is a prescription for bankruptcy.”).

93 Budish et al., supra, at 34 (emphasis added).

94 See Proposed Rule, supra, at 16816.

95 As discussed in more detail below, the Commission’s sub silentio decision to replace an allocation formula that rewards displayed liquidity, and that was proposed and adopted by the Commission as part of Regulation NMS, with a rate-setting consortium that will establish fees to be paid to exchanges by consolidators and self-aggregators in accordance with an unspecified cost-based formula, is neither acknowledged nor justified by the Commission. Accordingly, it reflects another arbitrary and capricious aspect of the Proposal.

96 Based on internal Nasdaq data (inflation adjustment based on the All-Items Consumer Price Index). The growth in revenues from market data reflects the addition of revenue from the sale of new products, sales to new customers, incremental sales to existing customers, and price increases. Between 2010 and 2018, price increases accounted for only about 35 percent of the total increase in market data revenue. That is, about 65 percent of the increase in market data revenue reflects sales of new products, or increased sales to new and existing customers.

97 See Proposed Rule, supra, at 16819.

98 The all-in cost of trading relative to trading volume is the relevant metric because, in general, stock purchasers are indifferent to the number of shares they purchase, and thus the all-in cost per share traded is not a relevant “price.” For example, an investor who wants to purchase \$100,000 in stock will generally be indifferent as to whether the purchase represents 1,000 shares at \$100 or 2,000 shares at \$50.

99 In 2010, Nasdaq revenue equaled 0.00144 percent of trading volume on the Nasdaq equity exchanges; in 2018, Nasdaq revenue equaled 0.00108 percent of trading volume on the Nasdaq equity exchanges (i.e., a decline of 24.9 percent). To make the figures easier to read, they are reported as cost per \$100,000 of trading volume.

100 Alternatively, if the Commission likewise constrains the ability of exchanges to recoup fixed costs by adjusting transaction fees, the financial viability of exchanges may be threatened.

101 See Proposed Rule, supra, at 16734.

102 See id. at 16825.

103 More generally, if the Commission’s proposal increases the number of firms that can implement data-intensity strategies (because of a decline in the cost of data), profitability to each trader will fall and thus reduce the willingness to pay for data. Put simply, forecasting the equilibrium levels of demand for consolidated data is complicated yet seems essential to an understanding of the likely evolution of the market for market data.

104 As discussed in Section V.D below, federal administrative agencies are required to engage in “reasoned decision-making” under the APA. Michigan v. EPA, 192 L. Ed. 2d 674, 135 S. Ct. 2699, 2706 (2015). The Commission’s failure to evaluate the potential effects of changes in trading strategies is “arbitrary, capricious, an abuse of discretion” and is therefore fatally flawed under the APA’s reasoned decision-making standard. See Bus. Roundtable v. Sec. Exch. Comm’n, 647 F.3d 1144, 1148 (D.C. Cir. 2011).

105 See Reg NMS Adopting Release, supra, at 37499.

106 See id. at 37567; see also id. at 37530 (“Given the existence of highly sophisticated order routing technology and the requirement to route orders to access the best bids and offers under the Market BBO Alternative, these commenters asserted that competition and best execution responsibilities would lead market participants to voluntarily access depth-of-book quotations in addition to quotations at the top-of-book. The Commission believes that such a competition-driven outcome would benefit investors and the markets in general.”).

107 See id. at 37597 (“[E]fficiency is promoted when broker-dealers who do not need the data beyond the prices, sizes,

market center identifications of the NBBO and consolidated last sale information are not required to receive (and pay for) such data. The Commission also believes that efficiency is promoted when broker-dealers may choose to receive (and pay for) additional market data based on their own internal analysis of the need for such data.”).

108 See id. at 37569.

109 See id. at 37593.

110 See id. at 37597.

111 See id. at 37597; see also id. at 37593 (“Vendors, broker-dealers, and investors will benefit from this reduced consolidated display requirement through a more efficient use of system capacity and because the costs of obtaining necessary data may be lowered. The Commission believes that giving investors the ability to choose (and pay for) only the data they need and use will be beneficial.”); id. at 37503 (“[T]he amendments promote the wide availability of market data by authorizing markets to distribute their own data independently (while still providing their best quotations and trades for consolidated dissemination through the Plans) and streamlining outdated requirements for the display of market data to investors.”); id. at 37567 (“The adopted consolidated display requirement will allow market forces, rather than regulatory requirements, to determine what, if any, additional quotations outside the NBBO are displayed to investors. Investors who need the BBOs of each SRO, as well as more comprehensive depth-of-book information, will be able to obtain such data from markets or third party vendors.”).

112 See id. at 37567.

113 See NASDAQ to Introduce Options NOIView Data Feed in Coordination with the Launch of the NASDAQ Options Market (Aug. 1, 2007), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=nva2007-050>.

114 See “NASDAQ OMX Plans To Offer New NASDAQ Basic Entitlement” (Nov. 3, 2008), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=nva2008-080>.

115 See “NASDAQ Introduces Plans for New Proprietary Real-Time NASDAQ Last Sale Data Feed” (Jan. 29 2007), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=nva2007-005>.

116 See “NASDAQ OMX Launches NLS Plus – A Proprietary U.S. Trade Data Feed With Consolidated Volume” (Oct. 1, 2010), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=dn2010-023>.

117 See “Nasdaq Announces New Fee Structure and More Flexible Enhanced Display Solution Program” (Oct. 1, 2014, revised January 16, 2015), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=DN2014-10>; see also “NASDAQ OMX Introduces Enhanced Display Solution Pricing for NASDAQ Depth Information” (Jan. 4, 2012), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=DN2012-1>.

118 See “Update: Nasdaq Announces U.S. Managed Data Solutions (MDS) Fee Changes Effective Jan. 1, 2016” (Oct. 7, 2015), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=dn2015-04>.

119 See “Nasdaq Basic Derived Data Distribution via a Hosted Solution Policy Change” (Sept. 1, 2016), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=dn2016-04>.

120 See “NASDAQ OMX to Introduce Binary Version of TotalView-ITCH Feed for The NASDAQ Stock Market” (Oct. 24, 2008), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=nva2008-076>.

121 See “NASDAQ OMX Announces Updates to the OUCH Pricing Feed (MatchView)” (Aug. 11, 2011, updated Oct. 18, 2011), available at <http://www.nasdaqtrader.com/TraderNews.aspx?id=dn2011-007>.

122 See “Nasdaq Reintroducing FPGA Order Entry Ports, Announcing Port and Pricing Updates for 2016” (Dec. 9, 2015) available at <https://www.nasdaqtrader.com/TraderNews.aspx?id=ETA2015-194>, 15 U.S.C. § 78k-1.

123 February Comment Ltr., supra.

124 The Supreme Court held the National Recovery Administration to be unconstitutional on other grounds. See A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495 (1935).

125 See Proposed Rule, supra, at 16792.

126 Reg NMS Adopting Release, supra, at 37560. (“[T]he U.S. equity markets are not alone in their reliance on market data revenues as a substantial source of funding. All of the other major world equity markets currently derive large amounts of revenues from selling market information, despite having significantly less trading volume and less market capitalization than the NYSE and Nasdaq.”).

127 15 U.S.C. § 78f(b); id. § 78s(g)(1).

128 See 17 CFR 242.1000, 1001(a)(v) (requiring SCI entities to have plans in place that are reasonable designed to achieve two hour resumption of critical SCI systems following a wide-scale disruption, versus plans for next business day resumption of regular SCI systems).

129 See Proposed Rule, supra, at 16786-87.

130 See id. at 16777 (“[D]o commenters have any concerns about competing consolidators calculating independent NBBOs?”).

131 17 CFR 242.611.

132 17 CFR 242.610(d).

133 See 2017 Report on FINRA Examination Findings (Dec. 6, 2017), available at <https://www.finra.org/rules-guidance/guidance/reports/2017-report-exam-findings/best-execution>.

134 Proposed Rule at 96 (“Do commenters believe it would be costly for market participants to adjust procedures and

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136 systems to comply with Rule 611 and prevent trade throughs at the smaller round lot sizes?”).

137 15 U.S.C. § 78f(b); id. § 78s(g)(1).

138 Reg NMS Adopting Release, supra, at 37560.

139 Id. at 37504 n.46 (“[T]he U.S. equity markets are not alone in their reliance on market data revenues as a substantial source of funding. All of the other major world equity markets currently derive large amounts of revenues from selling market information, despite having significantly less trading volume and less market capitalization than the NYSE and Nasdaq.”).

140 Id. at 37560 (“Yet nearly the entire financial burden of collecting and producing market data is borne by the individual markets, not by the Networks. If, for example, an SRO’s systems break down on a high-volume trading day and it can no longer provide its data to the Networks, investors would suffer the consequences of a defective data stream, regardless of whether the Networks are able to continue operating.”).

141 Id. at 37590.

142 Id.

143 In addition, the proposal detracts from other market structure improvements that deserve more attention from the Commission, such as improving the operation of the U.S. Treasury bond market, which has not functioned as smoothly as equity markets during the recent crisis.

144 15 U.S.C. § 78k-1(c)(1)(B).

145 See, e.g., Proposed Rule, supra, at 16727, 16729, 16771.

146 See Notice of Proposed Order Directing the Exchanges and the Financial Industry Regulatory Authority to Submit a New National Market System Plan Regarding Consolidated Equity Market Data, Securities Exchange Act Release No. 34-87906 (Jan. 8, 2020), 85 FR 2164, at 2175-76 (Jan. 14, 2020).

147 See id. at 2181.

148 Cf. Options Market Structure, Release No. 34-26871, 54 FR 24058, 24063 & n.57 (June 5, 1989) (the “fair collection” of data requires “fair competition” and a level playing field).

149 See Reg NMS Adopting Release, supra, at 37561-62.

150 See id. The Commission’s unacknowledged abandonment of its longstanding approach to allocating consolidated-data revenue among exchanges would be arbitrary and capricious, and therefore violate the APA. See 5 U.S.C. § 706; see also FCC v. Fox Television Stations, Inc., 556 U.S. 502, 515 (2009) (“An agency may not, for example, depart from a prior policy sub silentio or simply disregard rules that are still on the books.”).

151 15 U.S.C. § 78f(b)(4).

152 Id. § 78s(b)(3)(A).

153 See NetCoalition & Secs. Indus. & Fin. Mkts. Ass’n v. SEC, 715 F.3d 342, 344-46 (D.C. Cir. 2013).

154 See 17 CFR 242.608(a)(5).

155 15 U.S.C. § 78k-1(a)(2); see also Indus. Union Dep’t, AFL-CIO v. Am. Petroleum Inst., 448 U.S. 607, 643-44 (1980) (provision requiring Secretary of Labor to “give due regard” to statutory factors “require[d] the Secretary to undertake some cost-benefit analysis”).

156 See Proposed Rule, supra, at 16734.

157 See February Comment Ltr., supra (explaining that exchanges have obligations under the Exchange Act, while new voting members under the proposed new NMS Plan do not).

158 Because the Proposed Rule would not actually achieve its goal of facilitating access to proprietary market data, it is also arbitrary and capricious, and therefore invalid, under the APA. See Motor Vehicle Mfrs. Ass’n of U.S., 463 U.S. at 43 (agency action is arbitrary and capricious where it lacks a “rational connection between the facts found and the choice made”) (internal citation omitted).

159 See Section IV.A, infra.

160 15 U.S.C. § 78f(b); id. § 78s(g)(1).

161 See Proposed Rule, supra, at 16791.

162 Id. at 16767.

163 Moreover, requiring competing consolidators to collect a broader range of consolidated data than the exclusive SIPs—not all of which would be helpful to or even comprehensible by retail investors—could increase costs across the board, imposing a burden on retail investors who have no interest in auction data or microsecond latency reductions and who would be required to subsidize these benefits for more sophisticated traders.

164 15 U.S.C. § 78c(f).

165 Bus. Roundtable, 647 F.3d at 1148 (internal quotation marks omitted).

166 See Proposed Rule, supra, at 16774 (“The Commission acknowledges that the introduction of multiple entities generating consolidated market data would result in multiple versions of consolidated market data.”).

167 See 15 U.S.C. § 78k-1(a)(1)(D) (“The linking of all markets for qualified securities through communication and data processing facilities will foster efficiency”).

168 See Proposed Rule, supra, at 16861 (the Proposed Rule “could improve the competitive positions of some off-exchange trading venues in the market for trading services”).

Id. at 16860.

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169 See id. at 16734.  
170 See 17 CFR 242.301(b)(3).  
171 See Sec’y of Agric. v. Cent. Roig Refining Co., 338 U.S. 604, 611-13 (1950) (statute that required the Secretary of  
Agriculture to “tak[e] into consideration” three factors required the Secretary “to mak[e] a forecast” and an “informed  
judgment”).  
172 15 U.S.C. § 78w(a)(2).  
173 Md. People’s Counsel v. FERC, 761 F.2d 768, 779 (D.C. Cir. 1985).  
174 See 15 U.S.C. § 78k-1(a)(1)(D) (“The linking of all markets for qualified securities through communication and data  
processing facilities will . . . enhance competition”).  
175 See NetCoalition v. SEC, 615 F.3d 525, 532 (D.C. Cir. 2010).  
176 See, e.g., SEC Commissioner P. Atkins, Remarks Before the Atlanta Chapter of the National Association of Corporate  
Directors, dated Feb. 23, 2005, available at <https://www.sec.gov/news/speech/spch022305psa.htm>; see also Time Warner  
Entm’t Co., L.P. v. FCC, 56 F.3d 151, 171 (D.C. Cir. 1995) (ratemaking regulations that tie revenue to the cost of services  
destroy the “incentive to be efficient”).  
177 See Proposed Rule, supra, at 16792.  
178 15 U.S.C. § 78k-1(a)(1)(C)(ii)-(iii). In addition to conflicting with the Exchange Act, the Proposed Rule’s ratemaking  
mandate is arbitrary and capricious because the Commission has never identified a meaningful manner in which to  
allocate costs across the joint services offered by an exchange.  
179 The Proposed Rule’s APA deficiencies are discussed throughout this comment letter and are incorporated herein by  
reference.  
180 Etelson v. Office of Pers. Mgmt., 684 F.2d 918, 926 (D.C. Cir. 1982); see also Steger v. Def. Investigative Serv., 717  
F.2d 1402, 1406 (D.C. Cir. 1983) (“The [agency] cannot, despite its considerable discretion, treat similar situations  
dissimilarly and, indeed, can be said to be at its most arbitrary when it does so.”).  
181 15 U.S.C. § 78w(a)(2).  
182 Id. §§ 78f(b)(4), (b)(5).  
183 Id. § 78s(d)(1). Although the Commission has ruled that exchanges’ market-data fees can be challenged as alleged  
denials of access under Section 19(d), see In re Sec. Indus. & Fin. Mkts. Ass’n, Release No. 84432, Admin. Proc. File  
No. 3-15350 (Oct. 16, 2018), available at <https://www.sec.gov/litigation/opinions/2018/34-84432.pdf>, Nasdaq continues  
to maintain that Section 19(d) does not authorize denial-of-access challenges to data fees. The issue is currently pending  
before the D.C. Circuit. See Nasdaq Stock Market LLC v. SEC, No. 18-1292 (argued Feb. 18, 2020).  
184 See Proposed Rule, supra, at 16778 (citing 15 U.S.C. § 78k-1(b)(5)).  
185 The Commission also fails to explain how the fees established by the new NMS Plan for each exchange’s “core” data  
products would be paid by that exchange if it chose to act as a competing consolidator, since the exchange could not  
recognize revenue from “purchasing” its own data.  
186 See Proposed Rule, supra, at 16741–42.  
187 As an alternative to this discriminatory approach, the Commission could simply amend the definition of “round lot” on  
an across-the-board basis so that it comprises less than the current definition of 100 shares for all stock, regardless of  
value.  
188 Reg NMS Adopting Release, supra, at 37497-98.  
189 See Proposed Rule, supra, at 16729.  
190 See, e.g. id. at 16728, n.15.  
191 See id. at 16816.  
192 See id. at 16816, n.85; see also Equity Market Structure Roundtables, Oct. 25-26, 2018: Roundtable on Market Data  
and Market Access, available at <https://www.sec.gov/spotlight/equity-market-structure-roundtables> (the “Roundtable”).  
Transcripts for both days of the Roundtable are available at [https://www.sec.gov/spotlight/equity-market-structure-  
roundtables/roundtable-market-data-market-access-102518-transcript.pdf](https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102518-transcript.pdf) (“Roundtable Day One Transcript”) and  
[https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102618-  
transcript.pdf](https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102618-transcript.pdf) (“Roundtable Day Two Transcript”). See Roundtable Day One Transcript, supra, at 178 (James Brooks,  
ICE Data Services) (“[R]oughly half of the global investment banks take the most comprehensive New York Stock  
Exchange order-by-order feed, the other half do not.”); id. at 181 (Michael Friedman, Trillium Management) (“[T]he  
big fish . . . are the major consumers of depth-of-book data. I think there was some evidence . . . that there were only 50  
to 100 firms, period who buy all of the depth-of-book feeds.”).  
193 See Proposed Rule, supra, at 16768.  
194 Memorandum to EMSAC from the Regulation NMS Subcommittee (April 3, 2017), available at  
<https://www.sec.gov/spotlight/emsac/emaac-regulation-nms-subcommittee-discussion-framework-040317.pdf> (the  
“EMSAC Memorandum”).  
195 Id. at 1.  
196 Id. at 2.  
197 Michigan, 135 S. Ct. at 2706 (“Not only must an agency’s decreed result be within the scope of its lawful authority, but  
the process by which it reaches that result must be logical and rational. It follows that agency action is lawful only if it

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198 rests ‘on a consideration of the relevant factors.’”) (internal citation omitted).  
Bus. Roundtable, 647 F.3d at 1148 (quoting Motor Vehicle Mfrs. Ass’n of U.S., 463 U.S. at 43); see also Bus. Roundtable, 647 F.3d at 1149 (explaining that decisions have been set aside where the Commission has “failed adequately to quantify the certain costs or to explain why these costs could not be quantified; neglected to support its predictive judgments; contradicted itself; and failed to respond to substantial problems raised by commenters.”).

199 Bus. Roundtable, 647 F.3d at 1148.  
200 15 U.S.C. § 78c(f).  
201 15 U.S.C. § 78w(a)(2).  
202 See Proposed Rule, supra, at 16836.  
203 Id. at 16839.  
204 Id. at 16856.  
205 Id. at 16858 (footnotes omitted).  
206 Id. at 16819.  
207 Id. at 16826.  
208 Id. at 16841.  
209 Id. at 16858.  
210 Id. at 16860.  
211 Id. at 16810.  
212 Id. at 16836.  
213 Id. at 16839.  
214 Id. at 16822.  
215 Id. at 16842.  
216 Id. at 16845 (“Finally, the Commission preliminarily believes that the decentralized consolidation model may result in multiple NBBO quotes observed by different market participants due to different aggregation methods used by competing consolidators. As discussed above, currently market participants may already observe multiple NBBO quotes. Therefore, the Commission preliminarily believes that the decentralized consolidation model would result in no meaningful difference in practice with respect to the existence of multiple NBBOs”) (internal footnote omitted).

217 Reg NMS Adopting Release, supra, at 37560 (“[T]he U.S. equity markets are not alone in their reliance on market data revenues as a substantial source of funding. All of the other major world equity markets currently derive large amounts of revenues from selling market information, despite having significantly less trading volume and less market capitalization than the NYSE and Nasdaq.”).

218 15 U.S.C. § 78f(b); id. § 78s(g)(1).  
219 See Intelligent Tick Proposal, supra.  
220 U.S. Const. amend. V.  
221 Horne v. Dep’t of Agric., 135 S. Ct. 2419, 2426 (2015).  
222 Id. at 2428.  
223 Feist Publ’ns, Inc. v. Rural Tel. Svc. Co., 499 U.S. 340 (1991).  
224 Kregos v. AP, 937 F.2d 700, 704 (2d Cir. 1991) (a table of nine categories of statistics about baseball pitchers was copyrightable as a compilation: “The universe of known facts available only from inspection of box scores of prior games is considerably greater than nine . . . In short, there are at least scores of available statistics about pitching performance available to be calculated from the underlying data and therefore thousands of combinations of data that a selector can choose to include in a pitching form.”); CCC Info. Svcs. v. Maclean Hunter Mkt. Reports, Inc., 44 F.3d 61, 65 n.4 (2d Cir. 1994) (“[C]hoices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimal degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws.”); id. at 67 (“The fact that an arrangement of data responds logically to the needs of the market for which the compilation was prepared does not negate originality. To the contrary, the use of logic to solve the problems of how best to present the information being compiled is independent creation.”). See Feist, 499 U.S. at 359.

225 17 U.S.C. § 106.  
226 Reg NMS Adopting Release, supra, at 37497 (“[F]or the last five years, the Commission has undertaken a broad and systematic review to determine how best to keep the NMS up-to-date.”).

227 Id.  
228 Id. at 37497-37498; see also id. at 37602 (“Moreover, Regulation NMS is the culmination of a long and open process that included the original proposals, a public hearing, a supplemental request for comment, the re-proposals, eight in-depth analyses of relevant trading data, and more than 2000 public comments.”).

229 See n.14, supra.  
230 See <https://www.sec.gov/spotlight/equity-market-structure-advisory-committee.shtml>  
231 See n.190, supra.  
232 See February Comment Ltr., supra, (discussing contradictions between the two orders).  
233 See <http://www.luldplan.com/>.

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<sup>234</sup> See <http://www.nasdaqtrader.com/TraderNews.aspx?id=ETU2014-09>. It is reasonable to expect that Commission staff might also review drafts of the Plan before its formal submission, as has been the case in some of the plans cited in this paragraph.