

**UNITED STATES OF AMERICA
before the
SECURITIES AND EXCHANGE COMMISSION**

In The Matter of the Application of:

**SECURITIES INDUSTRY AND FINANCIAL
MARKETS ASSOCIATION**

for Review of Actions Taken by Self-Regulatory
Organizations

Admin. Proc. File No. 3-15350

The Honorable Brenda Murray,
Chief Administrative Law Judge

RESPONSE BRIEF OF THE NASDAQ STOCK MARKET LLC

REDACTED VERSION

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INTRODUCTION

This rule challenge filed by the Securities Industry and Financial Markets Association (“SIFMA”)—an organization representing the interests of the nation’s largest financial institutions—is one of more than 150 pending challenges in which SIFMA invites the Commission to play the role of ratemaker for market-data products offered by the Nasdaq Stock Market LLC (“Nasdaq”) and other exchanges. After a five-day hearing in which Nasdaq produced extensive evidence about its pricing decisions, Chief Administrative Law Judge (“ALJ”) Brenda Murray concluded that such ratemaking is unnecessary because the ability of Nasdaq and other exchanges to set fees for their market-data products, including the depth-of-book products at issue in this proceeding, is subject to significant competitive constraints imposed by customers’ ability to switch to substitute products, modify the intensity of their data usage, or terminate use altogether, as well as their power to re-route order flow in response to price increases. The record that Nasdaq developed during the hearing—which includes testimony from the Nasdaq executive responsible for setting market-data prices, ordinary-course business documents, sales data, and expert testimony—amply supports the Chief ALJ’s findings regarding these competitive constraints on Nasdaq’s market-data pricing.

SIFMA’s brief proceeds as if that hearing never took place. SIFMA repeatedly ignores critical evidence supporting the Chief ALJ’s decision, including that many traders do not need any depth-of-book data at all; that most of those who do require such data only require data from a subset of exchanges, leaving them free to switch to other exchanges’ products (which occurs with great regularity); and that Nasdaq’s prices for depth-of-book data have generally remained unchanged for many years, including the price of Nasdaq’s TotalView depth-of-book product, which is available for \$14 a month to retail investors and \$70 a month to professional traders, such as the financial institutions represented by SIFMA. As to those approximately 100 highly

sophisticated trading firms whose business model may require depth-of-book data from all exchanges, the record establishes that they exercise significant pricing pressure on the exchanges because they can credibly threaten to redirect large volumes of order flow in response to market-data price increases, which is the reason that Nasdaq consults with those customers *before* implementing price increases, has implemented price caps to retain their order flow, and has lost substantial order flow for sustained periods of time after increasing market-data fees.

SIFMA has no answer to this evidence—which is not surprising given that it declined to introduce *any* evidence from its members during the hearing—and instead urges the Commission to focus on the exchanges’ marginal costs. But both the Commission and the D.C. Circuit have already rejected SIFMA’s cost-based standard in favor of a market-based approach, which is the reason that Nasdaq focused its evidentiary presentation on the substantial competitive constraints that limit its pricing decisions. Nor was SIFMA able to propose a concrete, articulable standard for determining whether the fee charged for a particular depth-of-book product is “fair or unfair,” Tr. 1016—leaving the Commission to guess whether, under SIFMA’s cost-based approach, the fees at issue in this proceeding, as well as those at issue in the scores of other pending Section 19(d) proceedings initiated by SIFMA, comport with the Securities Exchange Act (“Exchange Act”).

In light of the overwhelming and un rebutted evidentiary record developed by Nasdaq, the Commission should affirm the Chief ALJ’s decision and reject SIFMA’s effort to displace the settled market-based standard with cost-based ratemaking.

BACKGROUND AND LEGAL STANDARD

As a self-regulatory organization (“SRO”) registered with the Commission as a national securities exchange, Nasdaq is required under the Exchange Act to file rule changes with the Commission. *See* 15 U.S.C. § 78s(b)(1). Under the Dodd-Frank Wall Street Reform and

Consumer Protection Act, rule changes “establishing or changing a due, fee, or other charge imposed by the self-regulatory organization on any person” “shall take effect upon filing with the Commission if designated by the” SRO as immediately effective. *Id.* § 78s(b)(3)(A).

On September 7, 2010, Nasdaq filed a rule change concerning three depth-of-book products: Level 2, TotalView, and OpenView. *See* Release No. 34-62907, File No. SR-NASDAQ-2010-110 (Sept. 14, 2010) (“2010 Nasdaq Rule Change”).¹ Prior to implementation of this rule, customers paid distributor and direct access fees for TotalView and OpenView, but did not pay those fees for accessing Level 2. The rule change harmonized the distributor and direct access fees for these products by leaving in place the already-existing fees for TotalView and OpenView, and extending those same fees to users of Level 2. The rule change did not alter the fees for any distributor already paying TotalView or OpenView fees. Notwithstanding the Commission’s frequent invocation of its suspension power,² it did not suspend the 2010 Nasdaq Rule Change within the 60-day period provided by Section 19(b)(3)(C). 15 U.S.C. § 78s(b)(3)(C).

On May 30, 2013, SIFMA filed the present application (No. 3-15350) challenging a rule filed by NYSE Arca, Inc., assessing fees for its ArcaBook depth-of-book product as an unlawful limitation on access under Exchange Act Sections 19(d) and (f). *See* File No. SR-NYSEArca-

¹ Level 2 provides information on the best price for Nasdaq-listed securities quoted by each market participant, but does not include every price quoted by each participant. *See* Ordoover Rep. (Nasdaq Ex. 601) ¶ 13. TotalView contains all of the information in Level 2, but also includes every bid and offer designated by market participants as displayable. *Id.* OpenView provides depth-of-book information for non-Nasdaq listed stocks. *Id.*

² *See, e.g.*, 81 Fed. Reg. 72,624 (Oct. 20, 2016) (suspending SRO rule); 81 Fed. Reg. 39,089 (June 15, 2016) (same); 79 Fed. Reg. 43,106 (July 24, 2014) (same); 78 Fed. Reg. 71,700 (Nov. 29, 2013) (same); 77 Fed. Reg. 56,247 (Sept. 12, 2012) (same); 77 Fed. Reg. 26,595 (May 4, 2012) (same); 76 Fed. Reg. 58,065 (Sept. 19, 2011) (same); 76 Fed. Reg. 6,165 (Feb. 3, 2011) (same).

2010-97 (Nov. 1, 2010). That same day, SIFMA filed another application (No. 3-15351) challenging an additional 22 SRO rules setting market-data fees, including the 2010 Nasdaq Rule Change. SIFMA thereafter filed additional applications challenging at least another 130 market-data rule changes submitted by Nasdaq, NYSE Arca, and other exchanges, bringing the total number of pending rule challenges to more than 150.

In this proceeding, the Commission consolidated SIFMA’s challenge to the 2010 Nasdaq Rule Change with its challenge to NYSE Arca’s ArcaBook rule, and directed the Chief ALJ to “hold a hearing addressing whether the challenged rules should be vacated under the statutory standard set forth in Exchange Act Section 19(f)—as informed by the two-part test set out in [the Commission’s] 2008 ArcaBook Approval Order, [and] the D.C. Circuit’s decision in *NetCoalition I.*” Order Establishing Procedures and Referring Applications for Review to Administrative Law Judge for Additional Proceedings, Release No. 72182, at 20 (May 16, 2014) (footnote omitted). A brief summary of that legal framework and the Chief ALJ’s decision follows.³

Exchange Act Section 19(f). In determining whether Nasdaq’s rule change is an impermissible “prohibition or limitation” on “access to services offered by” the exchange, the Commission must assess whether the rule change is consistent with the purposes of the Exchange

³ The Commission also rejected Nasdaq’s threshold arguments that (1) allegedly unreasonable fees do not constitute a prohibition or limitation on access to the services of an SRO under Sections 19(d) and 19(f) of the Exchange Act and therefore cannot be challenged in a denial-of-access proceeding; (2) SIFMA is not an “aggrieved” party under Section 19(d); (3) SIFMA’s applications are untimely because they were not made within 30 days of filing of notice of the proposed rules; and (4) the initial burden of production and ultimate burden of proof in this proceeding rest on SIFMA. *See* Br. of the Nasdaq Stock Market LLC; Nasdaq OMX PHLX; and EDGX Exchange, Inc. In Response To Comm’n’s Order Regarding Procedures To Be Adopted In Proceedings (Aug. 30, 2013); Order Establishing Procedures at 10-19. Nasdaq incorporates those arguments by reference in order to preserve them for further review.

Act, 15 U.S.C. § 78s(f), which requires considering whether the rule “protect[s] investors and the public interest,” *id.* § 78f(b)(5), whether it “impose[s] any burden on competition not necessary or appropriate in furtherance of the purposes” of the Act, *id.* § 78f(b)(8), and “whether the action will promote efficiency, competition, and capital formation,” *id.* § 78c(f). In addition, SRO fees must be “fair and reasonable” and “not unreasonably discriminatory.” *Id.* § 78k-1(c)(1).

The Exchange Act, Regulation NMS, and precedent from the Commission and D.C. Circuit require the use of a market-based approach when applying those standards. Both Congress and the Commission have recognized that prices set for products and services in a competitive market are presumptively fair and reasonable, and do not impose an unnecessary burden on competition within the meaning of the Exchange Act. To that end, when Congress established the present national market system in the 1975 amendments to the Exchange Act, it afforded the Commission the flexibility to remove unnecessary regulatory barriers to competition and to permit market forces to determine prices where appropriate. Congress’s “objective [was] to enhance competition and to allow economic forces, interacting within a fair regulatory field, to arrive at appropriate variations in practices and services.” S. Rep. No. 94-75, at 8 (1975). Accordingly, Congress expressly charged the Commission with supervising the development of a system that would “evolve through the interplay of competitive forces as unnecessary regulatory restrictions are removed.” H.R. Rep. No. 94-229, at 92 (1975).

Consistent with this legislative mandate, the Commission and courts have repeatedly expressed their preference for competition over regulatory intervention in establishing prices, products, and services in the securities markets. In Regulation NMS, for example, the Commission indicated that market forces should generally determine the price of non-core market data—*i.e.*, all data other than last-sale reports, the current highest bid and lowest offer for

the security at each exchange, and the national best bid and offer—because market-based regulation “has been remarkably successful in promoting market competition in its broader forms that are most important to investors and listed companies.” 70 Fed. Reg. 37,496, 37,499, 37,569 (June 29, 2005).

The ArcaBook Order. Against this statutory and regulatory backdrop, the Commission adopted in the ArcaBook Order a market-based approach to evaluating the validity of market-data fees and expressly rejected SIFMA’s argument that Congress had mandated a cost-based approach. In that Order, the Commission emphasized that, when creating the national market system, “Congress intended to rely on competitive forces to the greatest extent possible.” 73 Fed. Reg. 74,770, 74,780 (Dec. 9, 2008). “If competitive forces are operative,” the Commission explained, “the self-interest of the exchanges themselves will work powerfully to constrain unreasonable or unfair behavior.” *Id.* at 74,781. The Commission therefore stated that, where possible, “reliance on competitive forces is the most appropriate and effective means to assess whether terms for the distribution of non-core data are equitable, fair and reasonable, and not unreasonably discriminatory.” *Id.*

To implement this market-based approach, the Commission adopted a two-part test. Step one asks “whether the exchange was subject to significant competitive forces in setting the terms of its proposal for non-core data, including the level of any fees.” 73 Fed. Reg. at 74,781. Under step two, if the exchange “was subject to significant competitive forces in setting the terms of [the] proposal,” the rule change must be upheld unless the party challenging the rule demonstrates “a substantial countervailing basis to find that the terms nevertheless fail to meet an applicable requirement of the Exchange Act or the rules thereunder.” *Id.* As an example of such a countervailing basis, the Commission pointed to an exchange’s use of a fee to forestall

competition by penalizing market participants for trading on other markets. *See id.* at 74,782. Alternatively, if the exchange was *not* subject to significant competitive forces, the exchange must provide “a substantial basis, other than competitive forces, in its proposed rule change demonstrating that the terms of the proposal are equitable, fair, reasonable, and not unreasonably discriminatory.” *Id.* at 74,781.

Applying this market-based approach, the Commission approved the original ArcaBook fee rule without considering the costs of producing market data, despite comments from SIFMA and others urging the Commission to apply a cost-based standard. 73 Fed. Reg. at 74,773.

The D.C. Circuit’s Decision in NetCoalition I. The D.C. Circuit upheld the Commission’s market-based approach in *NetCoalition v. SEC*, 615 F.3d 525 (D.C. Cir. 2010) (“*NetCoalition I*”). Rejecting SIFMA’s argument that the Exchange Act requires the Commission to treat exchanges “as public utilities,” the court emphasized that Congress intended the national market system to evolve through competitive forces—without unnecessary regulatory restraints—and held that the Commission’s market-based approach is consistent with its “statutorily-granted flexibility in evaluating market data fees.” *Id.* at 534-35. And while the D.C. Circuit did “not mean to say that a cost analysis is irrelevant,” *id.* at 537, it emphasized that the consideration of costs is not *required* by the Exchange Act when assessing market-data fees because “Congress knew how to tie a fee’s reasonableness to its underlying cost but declined to do so for non-core data fees.” *Id.* at 534 n.11.

In assessing the Commission’s application of its two-part test in the ArcaBook Order, the D.C. Circuit identified two types of competitive forces that may constrain exchanges’ pricing decisions. First, the court recognized that the indisputably “fierce” competition for order flow may restrict market-data fees. *NetCoalition I*, 615 F.3d at 539-42. Second, the court emphasized

that exchanges' behavior may be constrained by the existence of alternative products. *Id.* at 542-44. The court nevertheless held that there was insufficient record evidence to support the Commission's determination in the ArcaBook Order that the exchange was subject to significant competitive forces in setting the particular market-data fee at issue. *Id.*⁴

The ALJ Hearing. As instructed by the Commission, the Chief ALJ held a five-day hearing in April 2015 in which she evaluated the 2010 Nasdaq Rule Change and ArcaBook fee proposal against the standard articulated in the ArcaBook Order and *NetCoalition I*. The Chief ALJ considered hundreds of exhibits as well as testimony from eight witnesses, including Nasdaq's economics expert, NYU Professor Janusz Ordover, former Deputy Assistant Attorney General in the Department of Justice's Antitrust Division, Nasdaq Ex. 603, and the Head of Sales for Nasdaq Global Data Products, Oliver Albers, who testified at length about the considerations that inform Nasdaq's market-data pricing decisions using ordinary-course business records and data generated by Nasdaq. SIFMA, in contrast, did not call a single employee from any of its members to testify and did not produce any documents regarding its members' consumption of, or need for, market data.

Based on that factual record, the Chief ALJ issued an initial decision finding that the evidence submitted by Nasdaq and NYSE Arca ("the Exchanges") regarding their depth-of-book data rule changes "satisfies the *NetCoalition I* standard." Op. 41. The Exchanges, the Chief ALJ found, are "subject to significant competitive forces in setting fees for depth-of-book data,"

⁴ In *NetCoalition II*, the D.C. Circuit reaffirmed the market-based approach that it had upheld in *NetCoalition I*, but concluded that it lacked jurisdiction to review the Commission's non-suspension of the 2010 Nasdaq Rule Change and NYSE Arca's resubmission of its ArcaBook fee. See *NetCoalition v. SEC*, 715 F.3d 342, 354 (D.C. Cir. 2013). The court acknowledged the Commission's statement that "it will make the section 19(d) process available to parties seeking review of unreasonable fees charged for market data," but did not decide whether the denial-of-access procedure can in fact be used to challenge market-data fees. *Id.* at 353-54.

including “the availability of alternatives to the Exchanges’ depth-of-book products, and the Exchanges’ need to attract order flow from market participants.” *Id.* at 31, 33-41. Applying *NetCoalition I*, the Chief ALJ further explained that “[c]ost and profit margin data are not required” to assess whether significant competitive forces constrain depth-of-book data fees. *Id.* at 31-33. Finally, the Chief ALJ determined that “[t]here is no substantial countervailing basis to find” that the rule changes are inconsistent with the Exchange Act. *Id.* at 43-44. Every aspect of “SIFMA’s many arguments” to the contrary, the Chief ALJ concluded, was simply “unpersuasive.” *Id.* at 40.

STANDARD OF REVIEW

The Commission may affirm, reverse, modify, set aside, or remand for further proceedings an ALJ’s initial decision. *See* SEC Rule of Practice 411(a). In undertaking that review, the Commission gives great weight to the ALJ’s factual findings. *See In the Matter of Nasdaq Stock Market LLC*, Release No. 57741, 2008 WL 1902073, at *1 (Apr. 30, 2008) (“As the presiding officer at the hearing, the law judge is in the best position to make findings of fact, . . . and resolve any conflicts in the evidence.”); *In the Matter of Pagel, Inc.*, Release No. 22,280, 1985 WL 548387, at *5 (Aug. 1, 1985) (“The law judge, who [has] many years of experience in determining issues under the securities laws, clearly had the necessary expertise to determine from the evidence whether or not respondents had manipulated the market.”).

ARGUMENT

The factual record that was missing in *NetCoalition I* was fully developed by the Exchanges in this proceeding and provides substantial support for the Chief ALJ’s finding that Nasdaq is “subject to significant competitive forces in setting fees for depth-of-book data.” Op. 31. First, for the vast majority of market participants—who either do not need any depth-of-book data or require only a limited subset of the available data—price increases are constrained

by customers' ability to switch to alternative depth-of-book products offered by other exchanges, modify their intensity of use, or terminate their use of depth-of-book data altogether in response to increased prices. Second, the "simple relationship between market data and order flow" (Nasdaq Ex. 505, at 13) means that for the approximately 100 highly sophisticated trading firms whose high-speed trading strategies may require depth-of-book data from every exchange, price increases are deterred or minimized by the ability of these customers to re-route large volumes of order flow—the life blood of an exchange that Nasdaq pays hundreds of millions of dollars a year in rebates to attract and retain. As the testimony of Oliver Albers and other record evidence make clear, Nasdaq takes both of these constraints into account when pricing its market-data products and, as a result, has left its data prices largely unchanged for more than a decade. And with good reason: The record documents a highly competitive market characterized by frequent switching by market-data customers, the long-term diversion of order flow in response to price increases, low barriers to entry, and intense innovation and promotional activity.

This evidence of robust competition was un rebutted by SIFMA, which did not produce a single member to testify that it is unable to respond to price increases by switching to alternative products or shifting its order flow to another exchange. Nor did SIFMA identify a significant countervailing basis to disapprove these competitively constrained prices or a reason to adopt its long-sought-after cost-based approach that both the Commission and the D.C. Circuit have already squarely rejected.

The Commission should affirm the Chief ALJ's initial decision.

I. The Chief ALJ Correctly Found That The Nasdaq Rule Change Is Consistent With The Exchange Act Because The Market For Depth-Of-Book Data Is Subject To Significant Competitive Forces.

A. Alternative Depth-Of-Book Products Are A Significant Competitive Constraint.

Because the vast majority of traders do not need market data from every exchange (and many do not need any market data at all), Nasdaq's pricing decisions are substantially constrained by the ability of these traders to switch data products, reduce their use of particular products, or drop data purchases altogether.

1. Nasdaq's Depth-Of-Book Data Products Face Significant Competition To Attract The Overwhelming Majority Of Market Participants.

It was undisputed during the hearing that the vast majority of traders do not purchase depth-of-book data at all, do not need depth-of-book data from all exchanges even when they do use it, or trade in dark pools for which depth-of-book data are not even available. Tr. 385; Ordover Rep. (Nasdaq Ex. 601) ¶ 30. As an initial matter, the Commission has already explained that it "does not believe that broker-dealers are required to purchase depth-of-book order data . . . to meet their duty of best execution." ArcaBook Order, 73 Fed. Reg. at 74,779. Moreover, SIFMA's industry expert, Professor Bernard Donefer, conceded that depth-of-book data from all exchanges are necessary only for approximately 100 firms that pursue computer-based trading strategies. *See* Tr. 1013 ("[t]here are about 100 firms who admittedly fall into [the] category" of those requiring all depth-of-book data); *see also id.* at 410, 716-18, 996-98; Nasdaq Demo. 16. These 100 firms include some of the world's largest commercial banks and institutional investors, Tr. 1349—many of which are members of SIFMA—and collectively

house roughly 5,000 computerized “machine subscribers” that receive the data as a direct feed, process it, and then execute trading strategies, *id.* at 717-18.⁵

The fact that depth-of-book data from every exchange are not essential to most traders is confirmed by the large proportion of traders who do not purchase *any* depth-of-book data at all, let alone data from every exchange. *See, e.g.*, Tr. 349. Furthermore, most of those customers who do subscribe to some depth-of-book data purchase only a limited subset of the available data. For example, “over a 94-month period, Nasdaq depth-of-book subscribers also subscribed to ArcaBook and NYSE’s OpenBook about half the time, subscribed to either ArcaBook or OpenBook about a fifth of the time, and did not subscribe to ArcaBook or OpenBook a quarter of the time.” Op. 36; *see also* NYSE Arca Ex. 65, at 1572-73, 1587. Similarly, there are approximately [REDACTED] professional customers—such as broker-dealers—who subscribe to SIP (“core” or “top-of-book”) data or to Nasdaq’s proprietary, non-core market data. Nasdaq Demo. 16; Tr. 409. Of those [REDACTED] subscribers, only [REDACTED] purchase any depth-of-book data from Nasdaq, and approximately [REDACTED] of *that* subset purchase the Level 2 product only, which is not even full depth-of-book data. Nasdaq Demo. 16; *see also* Tr. 964, 992-93 (Professor Donefer stating that Level 2 is “barely” depth-of-book data); *id.* at 404, 707, 1163. Nasdaq’s full depth-of-book product for Nasdaq-listed securities—TotalView—has only [REDACTED] professional

⁵ While SIFMA asserts that Nasdaq has “now conceded” that “access to all depth-of-book products is essential for many market participants,” SIFMA Br. 19 n.15, Nasdaq has consistently maintained throughout these proceedings that market data from all exchanges are necessary for, at most, the 100 highly sophisticated trading firms identified by Professor Donefer, Nasdaq Post-Hearing Br. 12-14, which represent only a tiny fraction of the hundreds of thousands of traders and investors who execute transactions on U.S. markets every day. Moreover, even these trading firms can readily alter the volume of market data that they purchase from each exchange. *See, e.g.*, Tr. 513.

subscribers. Nasdaq Demo. 16.⁶ Given that [REDACTED] out of [REDACTED] professional traders do not even purchase all of *Nasdaq's* depth-of-book data, it is clear, as the Chief ALJ found, that “most customers do not require any sort of depth-of-book data” and that, of those who do, “many . . . find depth-of-book data from only some exchanges sufficient for their purposes.” Op. 36-37.

If depth-of-book data products were essential rather than substitute products, one would never see switching between them. But the evidence at the hearing established that traders can, and do, switch between different depth-of-book products and decrease or eliminate entirely their use of depth-of-book data. For example, Nasdaq's economic expert, Professor Janusz Ordover, readily identified more than 30 examples of firms that switched between ArcaBook and Nasdaq's depth-of-book products, including Lynx Capital Partners, Soros Fund Management, PHD Capital, MWD Energy, Standard Pacific Capital, Tradeking Group, and Berner Kantolnal Bank. Tr. 700-03; Ordover Rep. ¶ 28.⁷ Nasdaq's Head of Global Data Sales Products, Oliver Albers, provided additional specific examples of firms that switched from Nasdaq's TotalView product to ArcaBook, and testified that Nasdaq experiences customer turnover because customers “mov[e] back and forth between different products,” “scale back their usage” of data, expand or contract the number of downstream subscribers that receive data, and switch between full and partial depth-of-book data products. Tr. 413, 442-44, 465, 565.

⁶ Out of the [REDACTED] professional subscribers to TotalView, most take the data for display use only, Tr. 409-10, 463; Nasdaq Demo. 16, which means that they are not executing the high-speed, server-based trading strategies that, according to Professor Donefer, require access to all depth-of-book data.

⁷ Professor Ordover's calculations were not comprehensive because he could not identify switching of market-data products involving other exchanges, such as BATS. Tr. 702. SIFMA's own members had the information to do so, but SIFMA chose not to introduce that evidence. Professor Ordover also noted other factors that would have understated the calculated degree of switching. Ordover Rep. ¶ 28 & n.39.

The ability of Nasdaq's customers to modify their market-data purchasing patterns in response to price increases also extends to the 100 highly sophisticated firms that may require market data from all exchanges to pursue some of their trading strategies. For example, when Nasdaq introduced new tiers of pricing for direct access non-display use of its depth-of-book data, ██████████ "reduced [its] server consumption of Depth-of-Book information," and Nasdaq "lost about 50 percent of the non-display market data usage as well." Tr. 513.

Professor Aviv Nevo, one of NYSE Arca's two experts, also identified numerous Nasdaq depth-of-book subscribers who either never subscribed to ArcaBook or at some point dropped ArcaBook. NYSE Arca Ex. 65, at 1574-75. And James Brooks, NYSE Arca's Head of Proprietary Data, provided an example of a company that dropped ArcaBook in direct response to a price increase, as well as two companies that threatened to drop ArcaBook if prices kept increasing. Tr. 71-75.

In addition to these specific examples of customers who switched or threatened to switch between Nasdaq and NYSE Arca, Professor Ordover also performed a "churn analysis" that measured the number of market-data customers Nasdaq added and lost per year between 2008 and 2014. This analysis demonstrated that the number of customers added and lost per year comprised 23% to 41% of the total number of customers per year, and that a significant part of that fluctuation was attributable to large customers who exerted pressure on price by substantially reducing (or increasing) their number of Nasdaq depth-of-book data subscriptions. Ordover Rep. ¶¶ 26-27 & fig. 3; Tr. 696-97. These examples of customer switching and modified purchasing patterns provide powerful evidence of a competitive market. See *NetCoalition I*, 615 F.3d at 544 (considering whether "a trader interested in depth-of-book data

would substitute any of the four alternatives (or simply do without) instead of paying a supracompetitive price”).

The substitutability of depth-of-book data products is confirmed by the Department of Justice’s Antitrust Division, which has concluded on multiple occasions that exchanges compete with each other in the market for depth-of-book products. *See* NYSE Arca Ex. 8 ¶¶ 20-21 (concluding that NYSE Arca and Direct Edge were two of “four major competitors” who sold “competing proprietary market data products”); NYSE Arca Ex. 10; *see also* Tr. 290-91, 685 (Professors Nevo and Ordover testifying that each had reached the same conclusion as the Antitrust Division that vigorous competition exists among the exchanges and that their depth-of-book products are substitutable).

That conclusion is borne out by examining the concentration of securities on each exchange. In a study of 8,200 securities, only 10% were likely to be concentrated on any given exchange, and those 10% constituted just 3% of trading volume and market capitalization across all securities. NYSE Arca Ex. 65, at 1562-63, 1577. Because of this significant overlap among exchanges, depth-of-book data regarding share prices and quantities are heavily correlated across exchanges, which enables traders to substitute one exchange’s depth-of-book data for another exchange’s data without sacrificing utility. *Id.* at 1577-78; Tr. 174-80. This is precisely the type of analysis that *NetCoalition I* held could be used to establish that distinct depth-of-book data products are economic alternatives. *See* 615 F.3d at 543 (“Depth-of-book data from other exchanges could be an alternative for individual securities but that determination cannot be made without knowing how actively the security is traded on those exchanges.”).

Beyond evidence of switching and substitutability, another important indication of the robust competition in the depth-of-book data market is Nasdaq’s response to the threat of losing

market-data customers. The record is clear that Nasdaq carefully balances price against projected customer substitution and attrition before making any pricing decision. For example, the record shows that Nasdaq uses detailed models to predict depth-of-book customer attrition and the overall impact on revenues under “various scenarios of different [depth-of-book] price levels.” Tr. 415-16, 496-97; *see also* SIFMA Ex. 133, at 612. Similarly, a report prepared for Nasdaq’s executive management warned that “[h]istory has shown that data products that are not priced proportionately to the value they deliver, do not sell,” and that “countless . . . competitors stand at the ready . . . if NASDAQ makes any missteps with respect to pricing strategy.” Nasdaq Ex. 524, at 193.

These are not idle concerns on Nasdaq’s part. Several characteristics of the depth-of-book market underscore its highly competitive nature and demonstrate that the availability of substitutes does in fact constrain Nasdaq’s pricing decisions. Most tellingly, as the Chief ALJ found, “the Exchanges have largely not raised their depth-of-book prices since each initially imposing fees.” Op. 35. The record reveals long periods of time without any price increases—as well as price *decreases* taken in response to competitive pressure. For example, Nasdaq reduced professional subscriber fees for TotalView by more than 50% in 2003 and has not increased that fee since. *See* Tr. 453; *see also id.* at 679 (Professor Ordover testifying that Nasdaq experienced “an erosion in the prices that [it] is able to obtain in the marketplace”); *id.* at 526-28 (Oliver Albers testifying that [REDACTED]). In fact, taking into account inflation, the real price of market-data products has decreased over time. *Id.* at 706; *see also* Op. 35. And the price increases that Nasdaq has implemented have generally been modest and narrowly focused. The 2010 Nasdaq Rule Change that SIFMA challenges here, for instance,

increased prices for only a small minority of customers with high demand, while simultaneously decreasing prices for others. Tr. 455-72; SIFMA Ex. 379; Nasdaq Ex. 542.

Moreover, Nasdaq has made significant enhancements and improvements to its depth-of-book data products over the years—most of which were not accompanied by price increases. Tr. 483-90, 620-23, 706; Nasdaq Exs. 520, 522, 529. Nasdaq spends “about \$2 million a year in terms of funding R&D and enhancements to those services and new innovations,” Tr. 392, and likewise invests heavily in extensive marketing efforts to publicize its product features, which Oliver Albers described as “absolutely necessary” to the success of Nasdaq’s data business. *Id.* at 438. Nasdaq would not do any of this, of course, if it were not operating in a highly competitive market.

Another important indication of robust competition in the depth-of-book market is the lack of significant barriers to entry, which is evidenced in part by the emergence of new data products. *See, e.g., Cargill v. Monfort of Colo., Inc.*, 479 U.S. 104, 119-20 n.15 (1986) (“It is . . . important to examine the barriers to entry into the market, because without barriers to entry it would presumably be impossible to maintain supracompetitive prices for an extended time”) (internal quotation marks omitted). Professor Ordover emphasized that the “rapid rise of BATS and Direct Edge, and the substantial increase in over-the-counter trading (including dark pools), indicates that the business of trading equities is not characterized by substantial barriers to entry or expansion.” Ordover Rep. ¶ 8; *see also* Tr. 747-48. Although BATS and Direct Edge began as alternative trading platforms, they soon started to offer a range of depth-of-book data products. It is also possible that dark pools, which account for trading volume nearly equal to Nasdaq’s and NYSE Arca’s combined, could likewise choose to sell their data in competition with the exchanges. Tr. 747-48, 1020-21; NYSE Arca Ex. 65, at 1559. SIFMA did not dispute

any of this evidence, and its economic expert Dr. David Evans even conceded that Nasdaq “doesn’t have the power to exclude” any trading venue from selling depth-of-book data, something that would be required “to hold [prices] above competitive levels for a substantial period of time.” Tr. 1113-14.

In sum, the record amply supports the Chief ALJ’s findings that—for all traders other than approximately 100 highly sophisticated trading firms that pursue computerized trading strategies—depth-of-book products from different exchanges “function as substitutes for each other” and that “the threat of substitution from depth-of-book customers constrains [exchanges’] depth-of-book prices.” Op. 33.

2. SIFMA’s Arguments Do Not Undermine The Chief ALJ’s Findings.

SIFMA’s challenges to this abundant record evidence are uniformly unavailing.

a. SIFMA chose not to introduce any live or documentary evidence from its members during the hearing, and therefore cannot point to any real-world evidence that its members are unable to switch between alternative depth-of-book products in response to price increases. SIFMA instead falls back on abstract (and inapt) economic theory, arguing that the Chief ALJ should have given dispositive weight to its expert’s testimony that “demand for the Exchanges’ depth-of-book data products is highly inelastic.” SIFMA Br. 7.

SIFMA’s “high” inelasticity conclusion rests on two supposedly “unambiguous examples” (SIFMA Br. 7), neither of which can withstand scrutiny. One involves an increase from an introductory zero price for NYSE ArcaBook in 2009. *Id.* But it was “essentially undisputed”—even by SIFMA’s experts—“that the price of \$0 for ArcaBook was not a competitive price, so it is inappropriate to use that as a baseline from which subscriber attrition is measured.” Op. 35; *see also* Tr. 1150-51, 1213; *Mobil Pipe Line Co. v. FERC*, 676 F.3d 1098,

1103-04 (D.C. Cir. 2012) (“the possibility that the market rate might be higher than the [previous] regulated rate does not show that Pegasus possesses market power”).

The second example is Nasdaq’s 2012 non-display usage fee increase. But that price increase was limited to sophisticated traders who use depth-of-book data for computerized trading strategies, and simply adjusted the price for non-display usage to reflect the tremendous value that this small group of traders derives from their intense use of Nasdaq’s data. Tr. 463-64, 534-36, 669. In fact, the record is clear that Nasdaq instituted the 2012 non-display usage fee increase in response to a customer who commented that Nasdaq’s prices were too *low* in relation to the value of its data. *Id.* at 464; *see also id.* at 471-72. The evidence is thus consistent with Nasdaq’s *underpricing* its depth-of-book products—not pricing them at supracompetitive levels. *See Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 232 (1993) (“Only if . . . higher prices are a product of nonmarket forces has competition suffered. If prices rise in response to an excess of demand over supply . . . the market is functioning in a competitive manner.”).

As the Chief ALJ explained, it would be “unreasonable to expect a sizable reduction of subscribers or subscriber revenue as a result of a fee imposed on a tiny group of subscribers,” Op. 35—especially given that those subscribers separately constrain price through their control of order flow, which means that the exchanges carefully consider any price increase imposed on these customers to ensure that it is not set at an unreasonable level that will lead them to divert order flow, *see infra* Part I.B. In any event, Nasdaq did lose 17.7% of customers and 3.1% of revenue as a result of this price change. Op. 35. Indeed, Dr. Evans’s own calculations show substantial customer turnover as a result of this price increase: His analysis reports revenues associated with all lost customers and shows that the two-year total proportion of revenue from

customers lost in [REDACTED]. Evans Rep. (SIFMA Ex. 477) 4 Ex. 3. While evidence of customer attrition in direct response to a price increase is not essential to the market-power inquiry where other factors also support a finding of competitive forces, *United States v. Am. Express Co.*, _ F.3d _, 2016 WL 5349734, at *16 (2d Cir. Sept. 26, 2016), where attrition does take place, it further bolsters that conclusion. Tr. 1395-97.

Moreover, SIFMA's hypothesis about highly inelastic demand for depth-of-book products is contradicted by the evidence offered at the hearing. As discussed above, there was abundant evidence that the vast majority of customers of depth-of-book data can (and do) quickly switch from one depth-of-book data product to another, or simply drop depth-of-book data altogether, in response to a price increase. *See supra* at 13-15. Likewise, Nasdaq recognized in its internal ordinary-course documents that “[c]ountless other would-be competitors stand at the ready to capture market share . . . if NASDAQ makes any missteps with respect to pricing strategy.” Nasdaq Ex. 524, at 52. This is the very definition of a highly elastic demand for a product. In addition, the high degree of price elasticity that characterizes the great bulk of customers (or potential customers) for depth-of-book data is reflected in Nasdaq's pricing, as Nasdaq has maintained extremely low prices for most customers (such as \$14 per month for non-professional subscribers) and it has not raised its prices for most of its customers for many years. If demand for market-data products were truly highly inelastic, then sellers would have the opportunity to raise prices substantially. *See A.D. Bedell Wholesale Co. v. Philip Morris Inc.*, 263 F.3d 239, 246 n.21 (3d Cir. 2001). The exchanges have not done so and have instead kept market-data prices relatively constant. Op. 35. The absence of frequent price increases is strong evidence that, when making market-data pricing decisions, the exchanges take into account the effect of a separate but complementary product—order flow—which is subject

to indisputably elastic demand and, as discussed below, imposes a significant competitive constraint on their pricing of market data. Tr. 309-11; NYSE Arca Ex. 86; *see also* Tr. 805 (Professor Ordover agreeing that finding a product on the inelastic portion of the demand curve, but with pricing not “all the way to the elastic portion,” is “evidence of some kind of a platform pricing” whereby exchanges treat market data and order flow as joint products).⁸

In any event, even if it were established (contrary to the evidence) that the market is characterized by a degree of price inelasticity, that would not mean that the market is not functioning competitively. While SIFMA seeks to transform price elasticity into the “gold standard” for determining the existence of market power, Tr. 1395, it is well-settled that many additional factors must be consulted. *See, e.g., United States v. Microsoft Corp.*, 253 F.3d 34, 51 (D.C. Cir. 2001) (en banc) (looking to “circumstantial evidence” of market power). Here, the context—including the regularity with which customers switch between different depth-of-book products, reduce the intensity with which they use a product, or stop using depth-of-book data altogether—makes clear that Nasdaq and the other exchanges lack market power in pricing their depth-of-book data products.

Nor is differential pricing based on value to the customer evidence of market power, SIFMA Br. 13, especially where, as here, the total return that the exchanges are making from those customers who place the greatest value on market data is capped by the exchanges’ intense need to attract order flow from those same customers. Tr. 709-11. Indeed, SIFMA’s own expert

⁸ SIFMA’s reliance on a statement by Nasdaq’s CFO Lee Shavel that Nasdaq can raise prices without affecting demand is likewise not the concession of monopoly power that SIFMA tries to portray it to be. SIFMA Br. 8. Mr. Shavel also stated that there would not be any price increases at that time—which is consistent with Nasdaq’s long history of infrequent market-data price increases—and explained that where Nasdaq does raise prices, it is a function of “innovat[ion]” within the space and “develop[ing] new products,” not market power. SIFMA Ex. 298, at 8227.

observed that Nasdaq’s “value based pricing,” or practice of “charg[ing] different users significantly different prices for the product depending upon the use to which it’s being used,” “is something that you also see in markets that look pretty competitive.” *Id.* at 1181-82 (Dr. Evans). The “mere fact of price discrimination,” he explained, “is not an indicator . . . of market power.” *Id.*; *see also Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 45 (2006) (price discrimination “occurs in fully competitive markets”).

b. SIFMA’s remaining arguments regarding a supposed lack of substitutability in the depth-of-book data market also fail.

First, contrary to SIFMA’s position (at 11), disparities in depth-of-book data prices between exchanges are not inconsistent with their status as alternatives, but simply reflect the unremarkable fact that the products are not *identical*. Differences in various product features—including compression, latency, and other enhancements—explain the different prices within the market. *See, e.g.*, Nasdaq Ex. 504; Tr. 483-89, 1354-55. And, as Professor Ordover testified, it is not necessary that products be identical in order to be reasonable substitutes for each other. Tr. 685. Indeed, even SIFMA’s economic expert admitted that substantial price differences frequently exist within a competitive market, which is why, for example, a store-brand breakfast cereal may cost half of the name brand’s price, yet both remain competitive substitutes for each other. Tr. 1260-61. Further, the record shows that even when the exchanges do not match their competitors’ prices, they are still highly concerned about competitors’ pricing and take that information into account when setting their own prices. *See, e.g.*, Ordover Rep. ¶¶ 17, 23.

Second, there is no basis for SIFMA’s contention that the relatively limited number of subscribers for depth-of-book data shows that the exchanges are somehow restricting output. SIFMA Br. 13. SIFMA’s position ignores that the number of subscribers for depth-of-book data

has historically been small, even when the data were initially free. Tr. 209-10. As discussed above, the parties' experts agreed that trading strategies and business models drive the decision whether to purchase depth-of-book data, which is unnecessary for many investors. *See supra* at 11. There is no evidence that market data are a scarce resource that the exchanges can ration in a strategy to raise prices; to the contrary, the record is replete with evidence that Nasdaq strives to disseminate its market data as widely as possible in easily consumable formats (for example, to non-professionals over the internet for a mere \$14 a month). *See, e.g.*, Tr. 397-99, 476, 488-89; Nasdaq Exs. 540, 542-43, 545-47.

Third, SIFMA disputes that data are highly correlated across exchanges and argues that “[m]any traders . . . need real-time visibility into the order books of each of the major exchanges” because “data from the major exchanges differ markedly at a single point in time.” SIFMA Br. 15. But analyzing concentration at the split-second level as SIFMA urges—rather than on a monthly basis as Nasdaq and the Chief ALJ did—provides an unrealistic and incomplete view of trading. Tr. 298-99. Further, there is a nearly 100% overlap in securities traded on the various exchanges, and the small percentage of securities that do not overlap consists of very lightly traded securities when weighted by volume. Tr. 294. Indeed, the best indication that price and quantity information can be correlated between the exchanges—enabling market-data products from different exchanges to serve as meaningful substitutes—is the real-world evidence of traders who treat these products as substitutes. *See, e.g.*, Nasdaq Ex. 508.

SIFMA takes issue with one aspect of that evidence, Professor Ordovery's “churn analysis,” arguing that he failed to show whether customers who switched from Nasdaq's depth-of-book data began viewing it indirectly through a redistributor and whether they switched in

direct response to price. SIFMA Br. 17. The record is clear, however, that switching to a redistributor imposes additional costs in the form of a redistributor markup, as well as increased latency, which make this option a less attractive alternative than another exchange's depth-of-book data. Tr. 767-68. Moreover, even if Professor Ordover's analysis does not conclusively establish the full extent to which customers dropped or added Nasdaq data, it *does* demonstrate that a large percentage of customers shift in and out of Nasdaq's depth-of-book customer base each year, which means that they plainly have the ability to switch to an alternative product in the event of an unreasonable price increase. *Id.* at 453.⁹

Finally, the Chief ALJ did not downplay, as SIFMA contends, a history of frequent fee increases. SIFMA Br. 20. As an initial matter, SIFMA cites only NYSE Arca fee increases, not any Nasdaq fee increases. *Id.* As discussed above, Nasdaq's fees have largely remained steady—or even decreased—which provides compelling evidence that Nasdaq lacks power to set supracompetitive prices. *See supra* at 16; *see also, e.g.*, Tr. 451-58; Nasdaq Ex. 542 (showing decreases in distribution and direct access fees in 2005 and 2007, with no price increases thereafter). Likewise, NYSE Arca's fees have largely remained constant since it first began charging for depth-of-book data. Tr. 37-40; SIFMA Ex. 376, at 13,593. In any event, SIFMA is wrong to equate every price increase with evidence of market power: Prices increase for any number of reasons—including “for inflationary reasons, for changes in product configurations,” and to reflect increases in demand—particularly in markets where, as here, innovation is common. Tr. 704; *see also Brooke Grp. Ltd.*, 509 U.S. at 237 (“rising prices are equally

⁹ SIFMA also criticizes Professor Ordover's analysis for not evaluating revenue losses associated with customer turnover. SIFMA Br. 17-18. But revenue losses paint an incomplete picture in this context because a “churn analysis” only accounts for customers who completely cut off data services, not customers who simply scale back the amount of data services they purchase.

consistent with growing product demand” as with supracompetitive pricing). The record makes clear that Nasdaq and the other exchanges produce depth-of-book data products that market participants can and do meaningfully substitute for each other and that the exchanges’ business and pricing decisions reflect this reality.

B. Shifts And Threats Of Shifts In Order Flow Are A Significant Competitive Constraint.

For the vast majority of traders who do not require all depth-of-book data, Nasdaq’s pricing is significantly constrained by the availability of alternative products. For the approximately 100 highly sophisticated trading firms that pursue algorithmic trading strategies that may require all depth-of-book data from every exchange, Nasdaq’s pricing is still significantly constrained by the ability of these firms to re-route order flow in the event of price increases. As the Chief ALJ found, numerous real-world examples and extensive expert testimony demonstrate that “these firms use their control of order flow to constrain depth-of-book prices.” Op. 37. This is exactly the type of evidence that the D.C. Circuit identified in *NetCoalition I* as sufficient to establish a competitive market. 615 F.3d at 540-41 & n.14.

1. Intense Competition To Attract Order Flow From Large Traders Constrains Nasdaq’s Depth-Of-Book Pricing.

SIFMA itself recognizes that “competition for order flow is fierce.” SIFMA Br. 22, 28 (internal quotation marks omitted). A small group of purchasers with a computerized trading model account for a tremendous share of this highly sought-after order flow; they are responsible for up to 90% of trades executed on Nasdaq’s platform, with several of these large customers individually accounting for as much as 6% of order flow nationwide. Tr. 1014, 1034-35, 1042, 1068; *see also id.* at 450-51. For these traders, order flow is exceptionally “portable” across exchanges; large customers such as SIFMA members ██████████ and ██████████ can and do shift their order flow quickly, easily, and in great volumes. Tr. 469-70, 510-12, 519-20, 523; *see*

also id. at 1170 (SIFMA’s expert conceding that order flow is “obviously . . . portable”); *id.* at 514 (“we’ve had clients move order flow because our CEO didn’t say the right thing in the press” (Oliver Albers)). Nasdaq and other exchanges pay hundreds of millions of dollars per year in rebates to attract and retain this order flow, which is the “‘life blood’ of the Exchanges” (Op. 37) and indispensable to their ability to generate and distribute market data. Tr. 431-32, 735-36. As the D.C. Circuit recognized in *NetCoalition I*, “[a]n exchange’s ability to attract order flow determines whether it has market data to distribute.” 615 F.3d at 539; *see also* Tr. 719; SIFMA Ex. 377, at 13,695.

Because of the ease with which large traders can divert order flow, the Chief ALJ found that they “have strong leverage in negotiations” with the exchanges on depth-of-book pricing. Op. 37; *see also* Tr. 718 (because this small number of market participants “execute a huge share of trades on NASDAQ,” they have substantial negotiating leverage); *id.* at 541-43, 1038-42. In fact, the individuals negotiating depth-of-book data purchases on behalf of the largest traders often have decision-making authority over both data products *and* order-flow routing, facilitating traders’ ability to exert order-flow-based pressure on exchanges during market-data negotiations and to respond to unreasonable data prices by immediately diverting order flow to other exchanges. *Id.* at 542-43; *see also* Nasdaq Ex. 527, at 17.

This ever-present threat of re-routed order flow is front and center in Nasdaq’s data-pricing decisions. Ordinary-course Nasdaq documents—created near the time Nasdaq proposed the rule change at issue here—warned that “[b]roker/[d]ealers hav[e] the upper hand in price negotiations as we are dependent on their flow.” Nasdaq Ex. 526, at 231; Tr. 451, 541-43; *see also id.* at 416 (“if we are too aggressive on our pricing on the data side, customers can penalize us by routing order flow away from our market”). For that reason, as Oliver Albers explained,

every time Nasdaq considers changes in data pricing, it “do[es] a lot of internal analysis, modeling out what the different pricing changes would look like, [and] what we think the potential individual client impacts are.” *Id.* at 496-97. When Nasdaq considered implementing fees for non-display data usage, for example, it consulted with its customers and lowered the pricing tiers after customers indicated that they viewed the pricing as too high. *See id.* at 506-08; *see also id.* at 497 (“[W]e reach out to customers and walk them through what we’re looking to do and . . . get their feedback . . . on pricing decisions.”).

Where Nasdaq decides to proceed with a price increase, large traders can and do respond by diverting order flow to other exchanges, depriving Nasdaq not only of order-flow revenues but also of the very data it packages into its depth-of-book products. In 2012, for example, Nasdaq introduced new tiers of pricing for direct access non-display use of its depth-of-book data. Tr. 505-06; Nasdaq Ex. 505, at 16-17. In response, ██████ threatened Nasdaq:

You have the valuation today only because your clients (brokers, market makers, etc) are placing orders with NASDAQ. That valuation you speak of will dissipate quickly as we begin pulling orders away from NASDAQ to other exchanges that appreciate and work with their clients. This simple relationship between market data and order flow should resonate with all your clients.

Nasdaq Ex. 505, at 13-14. ██████ further threatened that, unless Nasdaq reevaluated its fee increases, it would “vote the only way [it] can—through [order] flow.” Nasdaq Ex. 507, at 21.¹⁰

¹⁰ SIFMA complains that Nasdaq supposedly “spr[ung]” this exhibit on it at the hearing. SIFMA Br. 26. But the need for evidence about ██████ order flow arose only because SIFMA’s expert, Dr. Evans, testified during the late stages of the hearing about a conversation that he had with a ██████ executive during a meeting that was not disclosed in Dr. Evans’s report and for which notes from Dr. Evans’s assistant were not produced. *See* Tr. 1192-93. Nasdaq introduced the exhibit regarding ██████ order flow in direct response to Dr. Evans’s testimony about his previously undisclosed, out-of-court meeting with the ██████ executive. In any event, Dr. Evans concededly could have sought this evidence from ██████ in advance of the hearing, but elected not to do so. *Id.* at 1195.

And so it did. After Nasdaq concluded that the non-display fee was fair and reasonable in light of the intensity of usage by non-display customers, *see* Tr. 463, ██████ re-routed both equity and options order flow to other exchanges. *Id.* at 510. Thus, as a direct result of the non-display usage fee, ██████ trading volume on Nasdaq went from 1.2 billion shares per month to 610 million shares per month—a decrease that continued for years. Nasdaq Ex. 619; *see also* Tr. 1198-201. Needless to say, this drastic decrease in order flow “hurt” Nasdaq’s business. *Id.* at 512; *see also* Nasdaq Ex. 506, at 18 (as one Nasdaq official summarized: “Ouch.”). This evidence—(1) that ██████ threatened to pull its order flow in response to Nasdaq’s depth-of-book data pricing, (2) that ██████ in fact pulled hundreds of millions of shares of monthly order flow for years as a result of the data pricing, and (3) that the shift in order flow significantly hurt Nasdaq—powerfully confirms that large customers can and do shift order flow in response to data pricing. Nasdaq Exs. 505-06, 619; Tr. 512.

Other major traders have also threatened to shift order flow in response to price changes. Jump Trading, one of Nasdaq’s largest depth-of-book clients, responded to a price increase for a related, non-data-product service by warning Nasdaq that “[i]ncreased fees . . . always affect the trading volume in a negative way.” Nasdaq Ex. 606; SIFMA Ex. 125, at 627; *see also* Tr. 537-39. Hudson River Trading, another large client, made a similar threat in response to TotalView fees, and compelled Nasdaq to institute a fee cap that reduced non-display data pricing in order to preserve its business. *Id.* at 529-37; *see also* Nasdaq Ex. 501. Similarly, both Pico Trading and Lime Brokerage threatened to shift order flow away from NYSE Arca in response to price changes. Tr. 73-75. As the record demonstrates, these customer threats were not isolated incidents—rather, as Oliver Albers testified based on his firsthand experience setting prices for Nasdaq’s market-data products, they “happe[n] all the time.” *Id.* at 539.

The link between depth-of-book data pricing and order flow runs in the other direction as well. An exchange can seek to *attract* order flow by offering *lower* data prices. For example, in an attempt to attract additional order flow from ██████████, Nasdaq offered all customers a substantially discounted fee cap on depth-of-book data, which was successful in drawing additional order flow from ██████████ for a few months. *See* Tr. 520 (“A large portion of [the reason ██████████ sent additional order flow] is because we reduced their market data spend.”); Nasdaq Exs. 502, 503. The record also includes evidence that Nasdaq was able to increase its trading volume in NYSE-listed issues by giving away market data. Tr. 430, 432-33.

In addition, the Exchanges introduced statistical evidence to support the link between order-flow competition and market-data fees. A regression analysis established that NYSE Arca’s market share of trading volume materially declined—by 11.7% relative to the rest of the market, and by 9.8% relative to the other traditional exchanges—in the six months following its initial introduction of an ArcaBook fee in 2009. NYSE Arca Ex. 65, at 1566-67, 1586; Tr. 280-81.¹¹

Thus, as the Chief ALJ concluded, the “Exchanges have presented persuasive evidence establishing that their ability to price their depth-of-book products is constantly under pressure from their biggest customers, and those customers’ ability to control order flow.” Op. 42. This abundant and un rebutted evidence is exactly the type of showing that the D.C. Circuit identified in *NetCoalition I* as sufficient to establish that depth-of-book data pricing is constrained by competition for order flow. The D.C. Circuit explained that competition for order flow could

¹¹ SIFMA takes issue with the regression analysis on the ground that it does not prove that the fee increase “caused” NYSE Arca’s decline in trading volume. SIFMA Br. 25 n.18. But the analysis certainly is consistent with that conclusion and adds to the large quantum of evidence supporting the Chief ALJ’s findings.

limit the price of depth-of-book data if, for example, “a minority of professional traders is interested in . . . depth-of-book data but those few execute an outsized share of the total trading volume so that unreasonable fees would cause them to place their orders elsewhere and ultimately affect order flow.” 615 F.3d at 541 n.14. As SIFMA’s expert conceded at the hearing, “we have exactly in this record what the . . . circuit court said was missing previously,” which is “[e]vidence of a small number of market participants to whom Depth-of-Book data is essential, but who exercise a tremendous influence . . . over order flow.” Tr. 1034.

2. SIFMA’s Challenges To The Chief ALJ’s Factual Findings About Order-Flow Competition Are Unavailing.

SIFMA did not present a single witness who testified that its members are unable to shift order flow in response to exchanges’ market-data pricing. Nasdaq’s real-world evidence—based on the testimony of the Nasdaq executive responsible for setting prices and ordinary-course business documents produced when setting those prices—therefore stands unrebutted. None of SIFMA’s counterarguments is sufficient to displace the force of this overwhelming record evidence.

First, SIFMA argues that the Exchanges’ ordinary-course documents and the testimony of their decision-makers demonstrating the concerns that drive their real-world pricing decisions should be given “no weight.” SIFMA Br. 20. Likewise, SIFMA argues that the Chief ALJ erred by considering examples of the real-world market behavior of the Exchanges and their customers, which SIFMA attempts to brush aside as “anecdotes.” SIFMA Br. 21-22. But SIFMA has it precisely backwards. When attempting to understand the competitive forces at work in a market, evidence from ordinary-course documents, real-life examples of marketplace behavior, and testimony from decision-makers regarding the competitive factors that drive real-world business decisions is highly probative of the competitive forces affecting market behavior.

Indeed, the Federal Trade Commission and the Department of Justice emphasize the importance of examining the type of evidence considered by the Chief ALJ when attempting to understand the competitive forces in markets. *See, e.g.*, DOJ & FTC Horizontal Merger Guidelines 4-5 (2010) (explaining that the information typically considered by the agencies includes “documents, testimony, or data, and can consist of descriptions of competitively relevant conditions or reflect actual business conduct and decisions,” and emphasizing the probative value of “[d]ocuments created in the normal course” and testimony of “individuals whose responsibilities, expertise, and experience relating to the issues in question provide particular indicia of reliability”).

That is precisely the type of evidence the Exchanges introduced. In particular, the record “contains evidence of traders threatening to shift order flow elsewhere if depth-of-book prices go too high.” Op. 42. “It contains evidence of a trader shifting substantial order flow in order to punish an exchange for raising depth-of-book prices.” *Id.* “And finally, it contains evidence that these threats occur frequently, and that they were treated seriously by the Exchanges.” *Id.* None of that evidence was prepared in anticipation of litigation; it instead reflects the real-world pricing pressures with which Nasdaq must grapple on a daily basis.

SIFMA also protests that the Exchanges’ evidence is “self-serving.” SIFMA Br. 22. It should come as no surprise, however, that the Exchanges introduced evidence *that supported their position*. SIFMA was free to respond in kind by presenting testimony and exhibits from its members in an attempt to rebut the Exchanges’ presentation, but it elected not to do so. The evidence introduced by the Exchanges is thus entirely unrebutted.

SIFMA next argues that the Chief ALJ gave too much weight to [REDACTED] decision to re-route order flow in response to an increase in Nasdaq’s market-data prices. SIFMA Br. 24-25.

But the Chief ALJ did not rest her order-flow analysis on the [REDACTED] evidence alone. Far from it. The Chief ALJ explained that [REDACTED] decision to re-route order flow was “persuasive when [taken] *together* with evidence that the Exchanges are constrained in their pricing by the threat of pulling order flow.” Op. 40 (emphasis added). The Chief ALJ reasoned that “[t]he one example of a customer pulling order flow, the many customer threats, and Albers’ testimony that threats occur ‘all the time,’ are persuasive evidence that certain depth-of-book customers recognize the leverage gained by their control over order flow, and have attempted to use it to drive down or stabilize depth-of-book prices.” *Id.*; see also Nasdaq Ex. 505, at 13. In any event, even standing alone, the [REDACTED] example is extraordinarily powerful evidence because this real-world example of a customer shifting order flow for a multiyear period in response to a market-data price increase obliterates SIFMA’s theory of the case, which is grounded on the proposition that such shifting of order flow is “‘not sustainable.’” SIFMA Br. 23.

While SIFMA asserts that Oliver Albers admitted that no customers other than [REDACTED] diverted order flow in response to data fees, SIFMA Br. 25, Mr. Albers in fact testified that he was “not sure” or “not certain” about certain specific firms and lacked evidence as to several others. Tr. 653. And he was clear that threats to pull order flow are common, which is the reason that Nasdaq consults with large providers of order flow, such as [REDACTED], before deciding whether to increase its market-data fees and often adjusts or abandons proposed fee increases when customers object—thereby obviating the need for customers to act upon their threats. See *id.* at 514 (“[W]e knew [the threats] were credible, and customers have a history of moving order flow. . . . We escalated to senior management.”); see also *id.* at 386, 496-97, 531-34. Indeed, given the infrequency with which Nasdaq increases depth-of-book prices—and the fact that the inflation-adjusted price for its market-data products has actually *decreased* over time

despite significant product enhancements, Tr. 706—Nasdaq’s customers rarely have reason to follow through on their threats to shift order flow.

SIFMA also suggests that [REDACTED] reduction in order-flow volume “does not necessarily represent orders [REDACTED] ‘diverted’ based on fees.” SIFMA Br. 27. But even if order-flow volume is subject to a degree of ordinary fluctuation, this was a 50% drop that *directly followed* [REDACTED] threat to pull order flow. Tr. 513; Nasdaq Ex. 505, at 13; Nasdaq Ex. 507, at 21. If [REDACTED] pulled its order flow for reasons unrelated to Nasdaq’s market-data price increase, SIFMA was free to call a [REDACTED] witness to offer testimony to that effect. It chose not to do so.

SIFMA further contends that the [REDACTED] example is irrelevant because Nasdaq did not actually lower fees when [REDACTED] re-routed its order flow. SIFMA Br. 22. But undisputed record evidence shows that Nasdaq did seriously consider [REDACTED] threats and its decision to divert order flow. Tr. 510-14; Nasdaq Ex. 506. Nasdaq reviewed the pricing change to which [REDACTED] objected and “came back with some proposals” that [REDACTED] rejected. Tr. 644-45. The fact that, in this circumstance, Nasdaq concluded that its fee increase was reasonable in light of demand and decided not to change course in response to [REDACTED] decision to divert its order flow does not undermine the extensive record evidence that such threats to pull order flow “happ[e]n all the time,” *id.* at 539, that “the Exchanges take these threats seriously,” Op. 40, and that these threats have led Nasdaq to consult with large suppliers of order flow before increasing market-data fees in order to avert customer opposition and the possible diversion of order flow, *see* Tr. 506-08.

SIFMA’s attacks on Nasdaq’s other real-world evidence of the link between order flow and market-data fees are equally misplaced. SIFMA argues that the [REDACTED] fee cap was

short-lived and replaced by higher fees. SIFMA Br. 32. But Nasdaq crafted the fee cap to induce increased order flow from [REDACTED]. See Tr. 519-20; Nasdaq Exs. 502, 503. When the promised order flow did not materialize, and [REDACTED] increased its data usage to take advantage of the fee cap anyway, Nasdaq adjusted the cap. Tr. 636-37. And the \$16,000 non-display fee cap on BX depth-of-book data that was negotiated with Hudson River Trading is still in place today, contrary to SIFMA's claim that the fee cap was "short-lived and . . . [q]uickly replaced by significantly higher fees." SIFMA Br. 32; see also Tr. 531-34; *Price List – U.S. Equities*, NasdaqTrader.com, <http://www.nasdaqtrader.com/Trader.aspx?id=DPUSdata#bx> (last visited Nov. 7, 2016).

In addition, SIFMA argues that traders' ability to shift order flow is severely constrained by best execution or Regulation NMS obligations. SIFMA Br. 23. But that contention is directly at odds with SIFMA's concession that exchanges engage in intense competition to attract order flow, *id.* at 22, which would not be possible if, in response to that competition, traders were unable to shift order flow due to best execution obligations. Moreover, the record demonstrates that [REDACTED] *did* shift order flow in response to an increase in depth-of-book data fees and that it could do so "*without* impacting [its] best execution obligations." Nasdaq Ex. 505, at 14 (emphasis added); see also Nasdaq Ex. 506. The fact that [REDACTED] has pulled order flow from Nasdaq for more than four years confirms that traders can shift flow without violating those obligations. Nasdaq Ex. 619. Indeed, SIFMA's expert admitted that traders can route their orders through wholesalers, instead of securities exchanges, and that those wholesalers will guarantee that all best execution standards are met. Tr. 936-38; SIFMA Ex. 369.¹²

¹² SIFMA invokes FINRA Notice 15-46 to support its position that best execution "limits traders' ability to shift order flow in response to market-data fee increases." SIFMA Br. 24
(*Cont'd on next page*)

Finally, SIFMA makes the counterintuitive argument that order-flow competition has led to *higher* depth-of-book data fees. SIFMA Br. 28-32. In fact, market-data fees have *decreased* over the past decade. Tr. 706. SIFMA relies on a single example of a non-display fee that Nasdaq implemented in 2012, and a corresponding increase in the non-display fee cap. But the increase in the non-display fee was the first such increase in user fees for Nasdaq’s depth-of-book data since it was first made available more than a decade earlier and was warranted by the exponential increase in intensity of usage by non-display users, who were paying disproportionately less than other users while demanding greater data utilization. Tr. 452-53, 463-66, 534-36, 603, 669-70; Nasdaq Exs. 510, 609. That SIFMA can only identify *one* Nasdaq fee increase in the decade after TotalView was introduced hardly supports the inference that order-flow competition is leading to continually increasing market-data fees; if anything, it supports the opposite conclusion.

* * *

The evidence at the hearing clearly and unambiguously demonstrates that the small group of highly sophisticated trading firms who have adopted a business model that may require depth-of-book data from all exchanges controls an enormous share of order flow; that these users regularly leverage the threat to pull order flow as a negotiating tactic regarding the exchanges’ depth-of-book data pricing; and that this competitive pressure has in fact constrained Nasdaq’s

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(emphasis omitted). As the Chief ALJ explained, however, the FINRA Notice “merely states that a broker-dealer that subscribes to depth-of-book data fee[d]s would be expected to use those fee[d]s to determine best execution for customer orders” and that “routing decisions should not be *unduly* influenced by fees.” Op. 41 n.45 (citing FINRA Notice 3 n.12). The Notice does not require broker-dealers to subscribe to depth-of-book data or prohibit them from considering depth-of-book data fees in making routing decisions.

pricing decisions. SIFMA failed to counter that evidence during the hearing and fails to rebut it here.

C. Cost And Profit Margin Data Are Not Required.

Despite the voluminous evidence of the competitive constraints facing Nasdaq when it sets its market-data prices, SIFMA argues that the Chief ALJ erred by failing to take into account evidence of Nasdaq's marginal costs and profit margins. SIFMA Br. 32-37. Both the Commission and the D.C. Circuit, however, have already concluded that such evidence is not necessary in order to conclude that market-data prices are constrained by competition.

The Commission has squarely rejected SIFMA's demand for cost-based pricing. As the Commission has explained, such pricing is "extraordinarily intrusive on competitive forces, as well as quite costly and difficult to apply in practice." ArcaBook Order, 73 Fed. Reg. at 74,794. That is no doubt why the Commission has approved Nasdaq's prior proposed fees for depth-of-book products *without* analyzing costs. See Order Approving Proposed Rule Change, Release No. 46,843, 2002 WL 31554080 (Nov. 18, 2002).

The D.C. Circuit upheld this market-based approach in *NetCoalition I*. 615 F.3d at 535. The court "agree[d]" with the Commission that a "market-based approach is fully consistent with the Exchange Act," and rejected SIFMA's "belie[f] that . . . Congress intended 'fair and reasonable' to be determined using a cost-based approach." 615 F.3d at 534-35. The D.C. Circuit further emphasized that this conclusion was consistent with the Commission's determination in Regulation NMS that "'market forces, rather than regulatory requirements' [should] play a role in determining the market data . . . to be made available to investors and at what cost." *Id.* at 537. Thus, "alternative indicator[s] of competitiveness," other than marginal-cost analysis, can show that market-data prices are consistent with the Exchange Act. *Id.* at 539.

And while “cost analysis” is not necessarily “irrelevant,” the court explained that it is by no means *necessary* in every market. *Id.* at 537.

SIFMA misreads *NetCoalition I* when it asserts that the decision actually held that marginal costs are relevant to evaluating competition in the depth-of-book market. SIFMA Br. 37. Although the D.C. Circuit stated that in a theoretical market, “the price of a product is supposed to approach its marginal cost,” 615 F.3d at 537, all of the experts agreed during the hearing that *NetCoalition I*’s reference to prices approaching marginal cost described a “textbook” model of pricing in an idealized market. Tr. 728, 1092. SIFMA’s own expert, Dr. Evans, explained that pricing in competitive markets routinely deviates from this “textbook” model, which is “just . . . a convenient way to talk about things”; outside the academic context, “virtually all firms charge prices in excess of marginal cost even though they operate in industries that seem quite competitive.” *Id.* at 1092, 1145-46. Firms could not “survive” if they did otherwise. *Id.* at 1146. Dr. Evans thus concluded that, as a general matter, one should “not put much weight on the price cost margin,” and that he would “object to . . . taking a price cost margin . . . and concluding that that is an indicator of a monopoly power.” *Id.* at 1132-34; *see also* Ordovery Rep. ¶¶ 55-56.

The conclusion of the Commission and the D.C. Circuit that cost and profit margin data are not required to evaluate the existence of a competitive market for data products is also consistent with decades of precedent, most commonly in the antitrust context, in which courts have recognized that “direct proof [of market power] is only rarely available” and that “courts more typically examine market structure in search of circumstantial evidence.” *Microsoft*, 253 F.3d at 51; *see also, e.g., Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995)

(“The more common type of proof [of market power] is circumstantial evidence pertaining to the structure of the market.”).

Nor would it make economic sense to consider cost and profit margin data in the market-data setting. Even if a cost analysis can be relevant in other markets, costs and profit margins for depth-of-book data have little probative value because they fail to account for the massive fixed costs of developing the data in the first place. *See United States v. Eastman Kodak Co.*, 63 F.3d 95, 109 (2d Cir. 1995) (“Certain deviations between marginal cost and price, such as those resulting from high fixed costs, are not evidence of market power.”). The price of a hardcover book, for example, far exceeds the marginal cost of printing and distributing the book to each incremental consumer. But it would be an “obvious economic fallacy” to conclude that the book publisher does not face competition merely because the publisher (and the retailer) must recoup the higher fixed costs of producing the book’s content. Ordover Rep. ¶ 53.

Nasdaq likewise has high fixed, joint, and common costs related to its market data because its trading services are a necessary prerequisite to its data-supply business. Without trading volume, Nasdaq would not have any market data to distribute. *NetCoalition I*, 615 F.3d at 539. But even though the costs of the trading platform and attracting trading volume are necessary for Nasdaq to sell market data, *none* of these costs is allocated to market-data production in Nasdaq’s internal accounting methodologies. Tr. 1337-38. This is the case because Nasdaq has maintained consistent reporting of its costs dating back to the period *before* it had a proprietary data business, and it makes sense “from a management standpoint . . . to make certain that the business unit that has direct control over those expenses is where those expenses are allocated.” *Id.*; *see also* Ordover Rep. ¶ 55. Even though Nasdaq’s longstanding cost-allocation approach is sound for accounting and business-management purposes, it

ultimately yields accounting data that are “meaningless” for purposes of making economic determinations about data pricing in comparison to the costs of generating and distributing the data. Tr. 733-34; *see also* Ordover Rep. ¶¶ 55-57.

In fact, Nasdaq pays \$700 to \$800 million in displayable-order rebates to attract order flow, which it then uses as the basis for generating and distributing its market data. Tr. 432, 732-36, 1029-31; *see also id.* at 735 (“[T]he exchanges have to expend huge amounts of money to get the order flow”; “if there is no order flow, there’s no data.”). As the Chief ALJ explained, “[i]f even a small portion of those rebate costs were allocated to depth-of-book data, the high profit margins of Nasdaq’s depth-of-book data sales”—which total only ██████████ across all three depth-of-book data products—“would be severely diminished.” Op. 31; *see also* Tr. 723-26, 734-38, 1031-32. Thus, as the Chief ALJ concluded, “[t]he low costs and high profit margins for Nasdaq’s depth-of-book data are largely due to Nasdaq’s own accounting practices and are misleading in terms of the true cost of producing the product.” Op. 31.

Moreover, even if SIFMA could establish that market-data prices exceed any meaningful definition of marginal cost, that showing would not indicate an absence of significant competitive forces. *See* Tr. 1146. The trading business, for example, is highly competitive, even though Nasdaq’s accounting operating margins in that market are 50 to 60%. *Id.* at 1086-88, 1339-40. As Dr. Evans testified, as a result of the “fixed and common costs of running the trading platform,” superficially high accounting margins do not undermine the conclusion that the “market is very competitive.” *Id.* at 1087-88.

Numerous courts have recognized that such undisputed joint costs make it impossible to draw conclusions about the competitiveness of the market based on the product’s marginal cost. *See, e.g., Morgan v. Ponder*, 892 F.2d 1355, 1362 n.17 (8th Cir. 1989); *Kaiser Found. v. Abbott*

Labs., No. CV 02-2443-JFW, 2009 WL 3877513, at *9 (C.D. Cal. Oct. 8, 2009). These difficulties in making cost-allocation decisions are precisely why courts are loath to act as ratemakers. *See, e.g., Nat'l Rural Telecomm. Ass'n v. FCC*, 988 F.2d 174, 178 (D.C. Cir. 1993) (explaining that cost-based regulation “is costly to administer, as it requires the agency endlessly to calculate and allocate the firm’s costs”).

In fact, SIFMA was unable during the hearing to articulate a plausible, administrable standard to determine whether market-data fees are reasonable. Dr. Evans, for example, admitted that he “didn’t see [his] task . . . as really saying in any kind of precise way what I was recommending that the SEC do in the event that there’s an issue concerning how to go about calculating the appropriate prices.” Tr. 1173. He acknowledged that he did not know what the competitive prices of the products at issue here should be, *id.* at 1175, and testified that regulation in the rate-setting space “often has unanticipated costs and rarely, if ever, has unanticipated benefits,” and therefore is appropriate only for natural monopoly businesses (which he conceded Nasdaq is not). *Id.* at 1077-85, 1277. Professor Donefer offered similar testimony: He had no opinion regarding the appropriate pricing of non-core data, including “whether those prices are fair or unfair.” *Id.* at 990, 1016.

Given the inherent difficulties of cost-based ratemaking—which the Commission would be required to undertake in each of the more than 150 pending rule challenges filed by SIFMA—the Commission should reaffirm the market-based approach it adopted in the ArcaBook Order, which yields the clear and unambiguous conclusion that Nasdaq’s depth-of-book fees are consistent with the Exchange Act.

II. The Chief ALJ Correctly Found That The Nasdaq Rule Change Furthers The Purposes Of The Exchange Act.

The overwhelming record evidence establishes that Nasdaq's pricing of its market-data products is subject to significant competitive constraints imposed by the availability of substitutes and the intense competition for order flow. Because SIFMA failed to establish a substantial countervailing basis for disapproving Nasdaq's 2010 Rule Change, the Chief ALJ correctly upheld that pricing decision.

A. There Is No Substantial Countervailing Basis To Reject The Rule Change.

In the ArcaBook Order, the Commission explained that, even in a competitive market, a market-data fee can be disapproved where there is "a substantial countervailing basis to find that the terms nevertheless fail to meet an applicable requirement of the Exchange Act or the rules thereunder." 73 Fed. Reg. at 74,781. As an example, the Commission pointed to a rule change that "seeks to penalize market participants for trading in markets other than the proposing exchange." *Id.* at 74,782. SIFMA does not even suggest that there is evidence that Nasdaq's 2010 Rule Change penalizes market participants for trading in other markets. In fact, the Chief ALJ found that "depth-of-book data is available to anyone on a fair and reasonable non-discriminatory basis and the proposed fees apply to all similarly situated subscribers." Op. 43 (citing Tr. 384-85, 617-18). SIFMA attempts to manufacture other "substantial countervailing bases" for disapproving the Rule Change, but none of them withstands scrutiny.

First, SIFMA argues that high fees account for the decision of retail brokers not to purchase all available depth-of-book data for non-professional use and that retail brokers "ration" the data they *do* purchase. SIFMA Br. 38. This argument fails on both counts. Although lowering fees may result in a modest increase in the dissemination of depth-of-book data, there is no evidence that cost is the driving force behind retailer brokers' decisions whether to subscribe

to market data. Indeed, even when ArcaBook was *free*, not all traders used that data. Tr. 210. One reason for this, as demonstrated during the hearing, is that the price of data is only a small portion of the overall cost of consuming depth-of-book data; this is why lower prices—or even free distribution—do not necessarily result in market participants’ taking and using that data. *See* Tr. 447-48 (explaining that 95% of total data-related costs are fees to network, software, and hardware providers, as well as other costs related to obtaining and maintaining necessary infrastructure). And with respect to SIFMA’s theory that retail brokers “ration” depth-of-book data by purchasing only one product, or no products at all, for non-professional use (despite purchasing many for professional use), SIFMA produced *no* evidence of a broker that actually engages in such “rationing”—even though SIFMA could easily have introduced such evidence from its members if this were a legitimate concern.

Moreover, as the Chief ALJ found, “nearly every trade executes at NBBO, so that in almost all circumstances, retail investors do not need depth-of-book data, much less depth-of-book data from every exchange.” Op. 43. Although depth-of-book data may sometimes be helpful when making trading decisions, SIFMA Br. 39, the record is clear that many market participants simply do not consider depth-of-book data to be necessary to their trading strategies. *See* Nasdaq Exs. 511, 517; NYSE Arca Ex. 55.

Second, the Chief ALJ’s statement that it is “plausible” that the prices professional users pay for depth-of-book data “ultimately affect costs for investors,” Op. 44, is not sufficient to disapprove the 2010 Nasdaq Rule Change. SIFMA Br. 39-40. As the Chief ALJ explained, SIFMA’s argument was based on “speculat[ion],” rather than concrete evidence that its members actually pass along their data costs to consumers. Op. 44. If such evidence exists in the business records of SIFMA’s members, SIFMA chose not to introduce it.

Finally, there is no evidence that any person has been denied access to Nasdaq's market data by the prices of those products. Most retail investors can access Nasdaq's TotalView data for free from online brokers, or can obtain it directly from Nasdaq's website for \$14 a month. Tr. 384-85. Professional traders can obtain the same data for only \$70 a month. *Id.* at 452. SIFMA did not present any evidence that the large financial institutions that comprise its membership lack the financial resources to pay this, or any other, market-data fee.

B. There Is A Substantial Alternate Basis To Approve The Rule Change.

Even if there were not significant competitive constraints on Nasdaq's market-data prices, there is "a substantial basis, other than competitive forces, . . . demonstrating that the terms of the proposal are equitable, fair, reasonable, and not unreasonably discriminatory." ArcaBook Order, 73 Fed. Reg. at 74,781.

Specifically, the 2010 Nasdaq Rule Change benefits market participants by keeping trading prices low, encouraging investment and innovation in market-data products, enhancing trading platform efficiency, and promoting consumer welfare. Ordover Rep. ¶¶ 47-48. The price reduction sought by SIFMA would inevitably reduce the revenues that Nasdaq and other exchanges earn from selling depth-of-book data, which would likely force them to increase net trading fees and/or reduce investment in platform businesses, including the production and dissemination of new and innovative market-data products. This, in turn, would make financial markets less efficient and hurt the very market participants who rely on the exchanges. *Id.* ¶ 47. Increased trading fees and reduced investment by registered exchanges, for example, could drive order flow away from the exchanges toward dark pools and other trading platforms in which traders' identities and the prices at which they trade are unknown. *Id.* ¶ 74. SIFMA's members—who operate the dark pools that compete with the exchanges for order flow—might benefit from this reduction in transparency, but even Dr. Evans recognized that it is antithetical

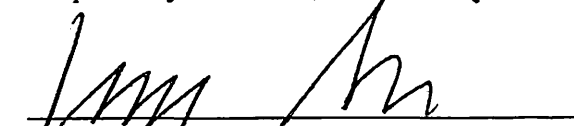
to the Exchange Act's goals to advantage some participants at the expense of others, especially where the open flow of trading information is sacrificed as well. *See* Evans Rep. 6-7 (“[T]he Exchange Act seeks to ensure that data are widely disseminated to increase market efficiency and transparency.”).

Thus, far from benefitting ordinary investors, the only entities that stand to benefit from a decision disapproving Nasdaq's market-data fees are the sophisticated, highly profitable financial institutions that SIFMA represents, which seek to use the Section 19(d) mechanism to eviscerate the competitive forces that govern the depth-of-book market.

CONCLUSION

The Commission should affirm the Chief ALJ's decision and approve the 2010 Nasdaq Rule Change.

Respectfully submitted,



Daniel G. Swanson

Eugene Scalia

Joshua Lipton

Amir C. Tayrani

Gibson, Dunn & Crutcher LLP

1050 Connecticut Avenue, N.W.

Washington, D.C. 20036

(202) 955-8500

escalia@gibsondunn.com

Stephen D. Susman

Jacob W. Buchdahl

Susman Godfrey LLP

560 Lexington Ave, 15th Floor

New York, NY 10022

(212) 336-8330

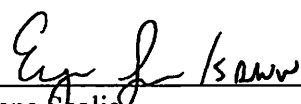
ssusman@susmangodfrey.com

Jeffrey S. Davis
John Yetter
NASDAQ OMX
805 King Farm Boulevard
Rockville, MD 20850

Dated: November 7, 2016

CERTIFICATE OF COMPLIANCE

Pursuant to SEC Rule of Practice 450(d), I certify that this Response Brief of the Nasdaq Stock Market LLC complies with the length limitation set forth in Rule 450(c). Exclusive of the portions exempted by Rule 450(c), this brief contains 13,960 words. This certificate was prepared in reliance on the word-count function of the word-processing system used to prepare this brief.



Eugene Scalia

Dated: November 7, 2016

CERTIFICATE OF SERVICE

I hereby certify that on November 7, 2016, I caused a copy of the foregoing Response Brief of the Nasdaq Stock Market LLC to be served on the parties listed below via First Class Mail. Service was accomplished on SIFMA and NYSE Arca via First Class Mail because of the large service list.

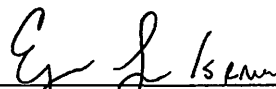
Brent J. Fields
Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549
(via hand delivery)

Douglas W. Henkin
Seth T. Taube
Baker Botts LLP
30 Rockefeller Plaza
New York, NY 10112

Thomas J. Dillickrath
The Warner
1299 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Michael D. Warden
Eric D. McArthur
Benjamin Beaton
Kevin P. Garvey
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005

W. Hardy Callcott
Sidley Austin LLP
555 California Street, Suite 2000
San Francisco, CA 94104



Eugene Scalia

Dated: November 7, 2016