SECURITIES AND EXCHANGE COMMISSION
Washington, D.C.

SECURITIES EXCHANGE ACT OF 1934
Release No. 84432 / October 16, 2018

Admin. Proc. File No. 3-15350

In the Matter of the Application of

SECURITIES INDUSTRY AND FINANCIAL
MARKETS ASSOCIATION

For Review of Action taken by

NYSE Arca, Inc., and Nasdaq Stock Market LLC

OPINION OF THE COMMISSION

NATIONAL SECURITIES EXCHANGES—PROHIBITION OR LIMITATION OF ACCESS TO SERVICES

Industry trade group challenged exchange non-core data fees as improper limitations of access to services. Held, exchanges failed to meet their burden of establishing that imposing the challenged fees was consistent with the purposes of the Exchange Act.

APPEARANCES:

Michael D. Warden and *Kevin P. Garvey*, of Sidley Austin LLP, and *Benjamin Beaton,* of Squire Patton Boggs (US) LLP, for Securities Industry and Financial Markets Association.

Douglas W. Henkin and *Seth T. Taube*, of *Baker Botts LLP*, for NYSE Arca, Inc.

Daniel G. Swanson, *Eugene Scalia*, *Joshua Lipton*, and *Amir C. Tayrani*, of Gibson, Dunn & Crutcher LLP, and *Stephen D. Susman* and *Jacob W. Buchdahl*, of Susman Godfrey LLP, for the Nasdaq Stock Market LLC.

Appeal filed: July 20, 2016
Last brief received: August 2, 2018

TABLE OF CONTENTS

Applicant Securities Industry and Financial Markets Association ("SIFMA") challenges fees imposed by two national securities exchanges for market data, appealing from an administrative law judge's initial decision rejecting its challenges.[1] We review SIFMA's claims under Section 19(f) of the Securities Exchange Act of 1934 ("Exchange Act"), which requires exchanges NYSE Arca, Inc. ("NYSE Arca"), and Nasdaq Stock Market LLC ("Nasdaq") to show that their fees are "consistent with the purposes of" that act. The Exchange Act requires that the fees be "fair and reasonable" and "not unreasonably discriminatory." The exchanges must show that the fees satisfy this standard by a preponderance of the evidence. We conclude that the exchanges failed to meet their burden with respect to the fees at issue and accordingly set aside those fees prospectively (i.e., as of the date of this order).

I. Summary

SIFMA challenges fees for depth-of-book market data specified in NYSE Arca and Nasdaq rules. Depth-of-book data includes the best bids and offers available on an exchange, as well as limit order information in an exchange's order book at inferior prices. Among other uses, this data provides pricing information that can inform traders how best to place trades that are larger than the quantities available at the best bid and offer.

To defeat SIFMA's challenges, the exchanges must show by a preponderance of the evidence that the fees are fair and reasonable and not unreasonably discriminatory.

The fairness and reasonableness of fees of the type at issue has been examined by the Commission and the D.C. Circuit over the past decade. We discussed these requirements in a 2008 order addressing a challenge to a previous NYSE Arca depth-of-book fee rule (the "2008 ArcaBook Approval Order"). In that order, we said that the Commission would consider the effect of market forces when determining whether the challenged fees are consistent with these requirements. We explained that if competitive forces are operative (i.e., effectively imposing price discipline), the self-interest of the exchanges themselves will work powerfully to constrain unreasonable or unfair pricing behavior. Because we found that "significant competitive forces" limited NYSE Arca's ability to unfairly or unreasonably price its depth-of-book data, we rejected the challenge to that fee rule.

SIFMA and another industry group appealed our finding. In *NetCoalition v. SEC*, 615 F.3d 525 (D.C. Cir. 2010) ("*NetCoalition I*"), the D.C. Circuit found that our focus on market forces was an acceptable basis for assessing the fairness and reasonableness of the fees. Nonetheless, the court held that the record did not factually support our conclusion that significant competitive forces limited NYSE Arca's ability to unfairly or unreasonably price its depth-of-book data.

---

[1]   *Sec. Indus. & Fin. Mkts. Ass'n*, Initial Decision Release No. 1015, 2016 WL 4035551 (June 1, 2016) (Public Redacted Version); *see also* Exchange Act Release No. 3951 (June 28, 2016), *available at* https://www.sec.gov/alj/aljorders/2016/ap-3951.pdf (Order on Motions for Redactions and Manifest Errors of Fact).

Subsequently, NYSE Arca filed with the Commission a new rule that imposed the same fees vacated in *NetCoalition I* (the "2010 ArcaBook Fee Rule"). NYSE Arca designated its rule filing as effective immediately pursuant, as discussed below, to a change in the law made by the 2010 Dodd-Frank Act. Another appeal to the D.C. Circuit followed. In *NetCoalition v. SEC*, 715 F.3d 342 (D.C. Cir. 2013) ("*NetCoalition II*"), the D.C. Circuit held that it lacked jurisdiction to consider challenges to rules that had become effective upon filing. But the court held that fees first challenged before the Commission as a denial of access to services under Section 19(d) of the Exchange Act would be reviewable under Exchange Act Section 25(a) by a court of appeals in an appeal from any resulting Commission order.

SIFMA subsequently brought a challenge to the 2010 ArcaBook Fee Rule under Exchange Act Section 19(d) to the Commission. It also brought another challenge under Section 19(d) to fees Nasdaq imposed for depth-of-book market data (the "2010 Level 2 Fee Rule"). The Commission consolidated the proceedings after finding they shared common legal and factual issues concerning depth-of-book data fees.

In this consolidated proceeding, the exchanges argue that they have addressed the concerns the D.C. Circuit voiced in *NetCoalition I*. They argue that the two competitive forces we identified in the 2008 ArcaBook Approval Order—competition for order flow and the availability of alternatives—prevent the exchanges from pricing their depth-of-book data at unreasonable or unfair levels. These forces, the exchanges argue, therefore constrain their pricing of the data products at issue here and adequately demonstrate that the challenged fees are fair and reasonable.

We find that the record does not support the position of the exchanges. Because we find that the exchanges fail to meet their burden to demonstrate that the fees are fair and reasonable and not unreasonably discriminatory, we set aside the challenged fees.[2] We do not, by our findings here, conclude that the fees are not fair and reasonable. Rather, the factual record submitted and the theories based on that record put forward by the exchanges are insufficient to support a finding that the fees at issue meet the statutory test.

---

[2]   We deny the parties' request for oral argument under Rule of Practice 451. 17 C.F.R. § 201.451. In our comments to the 1995 promulgation of this rule, we explained that "in appeals from self-regulatory organizations, the Commission has determined that, in general, its decision[-]making process would not be significantly aided by oral argument." Rules of Practice, Exchange Act Release No. 35833 (June 9, 1995), 60 Fed. Reg. 32,738, 32,779 (June 23, 1995). This case is an appeal from action by self-regulatory organizations, and we do not find that "the presentation of facts and legal arguments in the briefs and record and the decisional process would be significantly aided by oral argument." 17 C.F.R. § 201.451(a).

II. Background

Before addressing the merits of SIFMA's challenges, we provide some relevant background. First, we discuss market data generally. Second, we discuss the relevant prior litigation challenging market data fees. Third, we discuss the history of the instant proceedings.

A. Market data

SIFMA's challenges to fees charged for depth-of-book products grow out of the Commission's efforts following the Securities Acts Amendments of 1975 to establish and regulate a national market system for securities trading.[3] Through those amendments, Congress directed the Commission to facilitate the establishment of a national market system to link together the multiple individual markets that trade securities.[4] The national market system is premised on promoting fair competition among individual markets while assuring that all of these markets are linked together in a unified system that promotes interaction among the buyers and sellers in a particular NMS stock.[5] Under the national market system, multiple trading centers including exchanges, alternative trading systems, and broker-dealers trade securities

---

[3] *See* Securities Acts Amendments of 1975, Pub. L. 94-29, 89 Stat. 97 (1975) (adding Section 11A, titled "National Market System for Securities" to the Exchange Act).

[4] Regulation NMS, Exchange Act Release No. 51808 (June 9, 2005), 70 Fed. Reg. 37,496, 37,497 (June 29, 2005), *available at* https://www.gpo.gov/fdsys/pkg/FR-2005-06-29/pdf/05-11802.pdf; *see also* Exchange Act Section 11A, 15 U.S.C. § 78k-1(a) (providing that "the Commission is directed . . . to use its authority under this chapter to facilitate the establishment of a national market system for securities"); *Bradford Nat'l Clearing Corp. v. SEC*, 590 F.2d 1085, 1094 (D.C. Cir. 1978) (listing a "major accomplishment of the 1975 Amendments" as "the granting of responsibility to the SEC to facilitate the establishment of a '(n)ational market system for securities'"). The D.C. Circuit has explained that Exchange Act "[S]ection 11A sets out 'to facilitate the establishment of a national market system for securities,' Securities Acts Amendments of 1975, Pub. L. 94–29 § 7(a)(2), 89 Stat. 97, 112 (codified at 15 U.S.C. § 78k–1(a)(2) (2006)), and, inter alia, 'to link securities markets nation-wide in order to distribute market data economically and equally and to promote fair competition among all market participants.' *NetCoalition I*, 615 F.3d at 528." *NetCoalition II*, 715 F.3d at 345.

[5] Regulation NMS, 70 Fed. Reg. at 37,498; *see also* Exchange Act Section 11A(a)(1)(c)(ii) & (D), 15 U.S.C. § 78k-1(a)(1)(C)(ii) & (D).

without reference to the exchange on which the security is listed.[6] Under this structure, exchanges and other market centers compete to attract order flow from market participants.

NYSE Arca and Nasdaq operate trading platforms that are registered with the Commission as national securities exchanges under Exchange Act Section 6.[7] When a market participant submits an order to an exchange (or cancels or modifies one), or when an exchange executes an order, that action creates data that is valuable to other market participants because of the information it provides about the price and quantity of executed transactions and the investor trading interest in particular securities.[8] Because that data is valuable (individually and in combination with other order and execution data), the exchanges sell that data to market participants. Exchanges have packaged and monetized the provision of market data in several ways, including monetizing within the following two categories of data: core and non-core data.

1.   Core data

Best execution requirements require brokers to have access to the best quotations at all trading centers so that they can achieve best execution of their customers' orders.[9] In recognition of this dynamic, the Commission requires the national securities exchanges and FINRA to provide certain data relating to quotations and transactions to central data processors for consolidation and distribution pursuant to joint industry plans.[10] This consolidated "core data" is

---

[6]   Regulation NMS, 70 Fed. Reg. at 37,499; *see also* Order Setting Aside Action by Delegated Authority and Approving Proposed Rule Change Relating to NYSE Arca Data, Exchange Act Release No. 59039 (Dec. 2, 2008), 73 Fed. Reg. 74,770, 74,781 (Dec. 9, 2008), *available at* https://www.gpo.gov/fdsys/pkg/FR-2008-12-09/pdf/E8-28908.pdf ("2008 ArcaBook Approval Order") ("Competition among multiple markets and market participants trading the same products is the hallmark of the national market system."); Concept Release on Equity Market Structure ("2010 Concept Release"), Exchange Act Release No. 61358 (Jan. 14, 2010), 75 Fed. Reg. 3594, 3594, 3597-98 (Jan. 21, 2010), *available at* https://www.gpo.gov/fdsys/pkg/FR-2010-01-21/pdf/2010-1045.pdf (stating that "trading volume is dispersed among many highly automated trading centers that compete for order flow in the same stocks," and identifying registered exchanges, electronic communication networks, dark pools, and broker-dealer internalization as trading centers).

[7]   15 U.S.C. § 78f; *see also* https://www.sec.gov/rules/sro.shtml (listing the SEC-registered national securities exchanges).

[8]   *See* 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,791.

[9]   *See* Regulation NMS, 70 Fed. Reg. at 37,539; *see also infra* note 164.

[10]   *Sec. Indus. & Fin. Mkts. Ass'n*, Exchange Act Release No. 72182, 2014 WL 1998525, at *1 & n.6 (May 16, 2014) (citing Rule 603(b) of Regulation NMS, 17 C.F.R. § 242.603(b)); *see also* 17 C.F.R. § 242.600(b)(32) (defining "[j]oint self-regulatory organization plan" as "a plan as to which two or more self-regulatory organizations, acting jointly, are sponsors").

processed and distributed by securities information processors ("SIPs") that operate pursuant to joint industry plans run by exchanges and FINRA.[11]

Core data for each NMS security consists of three components:[12] (1) last sale reports, which include the price at which the latest sale of the security occurred, the size of the sale, and the exchange where the execution took place; (2) the current highest bid and lowest offer for the security, along with the number of shares available at those prices, at each exchange; and (3) the "national best bid and offer," or NBBO, which is the highest bid and lowest offer currently available on a U.S. exchange and the exchange(s) where those prices are available.[13]

The Commission has characterized the three processors of market information that provide core data as "monopolistic" providers.[14] With respect to core data, therefore, the Commission has recognized there is little opportunity for market forces to determine the overall level of fees.[15] Instead, the Commission has said that fees for core data "need to be tied to some type of cost-based standard in order to preclude excessive profits if fees are too high."[16]

---

[11] *See* Regulation NMS, 70 Fed. Reg. at 37,503 n.40 (identifying the three joint-industry plans for equities as "(1) the CTA Plan, which is operated by the Consolidated Tape Association and disseminates transaction information for exchange-listed securities [other than those listed on Nasdaq], (2) the CQ Plan, which disseminates consolidated quotation information for exchange-listed securities [governed by the CTA Plan], and (3) the Nasdaq UTP Plan, which disseminates consolidated transaction and quotation information for Nasdaq-listed securities"); *see also* Regulation of Market Information Fees and Revenues, Exchange Act Release No. 42208 (Dec. 9, 1999), 64 Fed. Reg. 70,613, 70,614 (Dec. 17, 1999) ("1999 Concept Release"), *available at* https://www.gpo.gov/fdsys/pkg/FR-1999-12-17/pdf/99-32471.pdf ("This consolidated, real-time stream of market information . . . is the principal tool . . . for facilitating the best execution of customers' orders by their broker-dealers.").

[12] In addition to these three things, the SIPs also distribute other important information (e.g., Limit Up – Limit Down price bands and auction imbalance information).

[13] *NetCoalition I*, 615 F.3d at 529 (defining core data); *accord* 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,780 & n.181 (citing Rule 608(b)(1) of Regulation NMS, 17 C.F.R. § 242.608(b)(1) for core data requirements).

[14] 1999 Concept Release, 64 Fed. Reg. at 70,627.

[15] Regulation NMS, 70 Fed. Reg. at 37,504; *see also* 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,779 ("[T]he mandatory nature of the core data disclosure regime leaves little room for competitive forces to determine products and fees.").

[16] 1999 Concept Release, 64 Fed. Reg. at 70,627; *accord NetCoalition I*, 615 F.3d at 529 n.2. "To date, however, the [Commission] has instead approved fees [for core data] based on agreement among market participants." *Id.* (citing Concept Release Concerning Self-Regulation, Exchange Act Release No. 50700 (Nov. 18, 2004), 69 Fed. Reg. 71,256, 71,272 (Dec. 8, 2004)).

2. Non-core data

All other market data provided by exchanges is considered "non-core" data.[17] Exchanges are not currently required to make non-core data available to central data processors for consolidation pursuant to joint industry plans;[18] rather, exchanges are permitted to sell non-core data directly to industry participants, including broker-dealers, traders, and redistributors.

Non-core data includes, among other things, the depth-of-book data at issue in this proceeding.[19] Depth-of-book data supplements the core data on an exchange-specific basis. In addition to the best bids and offers available on an exchange, depth-of-book data includes the outstanding limit orders to buy stocks at prices lower, or to sell stocks at prices higher, than the best prices on each exchange.[20] In other words, and using a potential purchase as an example, depth-of-book data provides a trader who may want to buy a number of shares that exceeds the number of shares available at the best price with the number of displayed shares available at prices that are higher than the best price.[21] This information allows the trader to determine the degree to which the total purchase price for her larger purchase would be expected to differ from what the broker would pay if the trade were smaller in size and could be executed in full at the prevailing best price.[22] If a larger purchase could be executed at or close to the prevailing best price, the market is said to have "depth"—specifically, depth on the ask side (e.g., willing sellers at or just above the prevailing best price).

---

[17] *NetCoalition I*, 615 F.3d at 529; *cf.* 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,779 ("Core data is the best-priced quotations and comprehensive last sale reports of all markets that the Commission, pursuant to Rule 603(b) [of Regulation NMS], requires a central processor to consolidate and distribute to the public pursuant to joint-SRO plans. In contrast, individual exchanges and other market participants distribute non-core data voluntarily.").

[18] 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,780-81 (explaining that in adopting Regulation NMS, the Commission rejected a regulatory approach that "effectively would have treated an individual market's depth-of-book order data as consolidated core data"); *see also Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *1 & n.9 (citing 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,779 ("[I]ndividual exchanges and other market participants distribute non-core data voluntarily.")); *NetCoalition I*, 615 F.3d at 530 ("Because depth-of-book data is non-core data, the SEC does not require that it be included in the consolidated data stream or made available to an investor at the time of trade execution.").

[19] *NetCoalition I*, 615 F.3d at 529.

[20] *Id.* at 529-30. Depth-of-book data includes odd-lot orders available on an exchange, and these odd-lot orders may be priced better than the NBBO distributed by the SIPs.

[21] *Id.* at 530.

[22] *Id.*

Depth-of-book data provides market participants with other valuable supplemental information. For example, depth-of-book-data can provide a trader with the ability to calculate market imbalance information at various price levels. This information allows the trader to gain a fuller picture of the balance of supply and demand within a market across multiple price levels, which could potentially provide a directional market signal. Turning back to the example of a broker seeking to execute a large purchase, if there is depth on the ask side of the market (those willing to sell) so that the larger purchase can be made at or slightly above the prevailing market price but there is little depth on the bid side of the market (those willing to buy), that imbalance may provide a bearish signal.

Before 2001, as a general matter, significant depth accumulated at the NBBO price on both the bid and ask sides because the difference between the best price and the next inferior price was 1/16th, or 6.25 cents.[23] The initiation of decimalized trading in 2001, pursuant to which prices were quoted in one-cent increments, "substantially decreased the depth at the best prices and substantially increased the depth at the various one-cent price points inferior to the best prices."[24] As a result, after 2001 the value to market participants of non-core data, and particularly depth-of-book order data, increased.[25]

Each exchange is the sole source of its own depth-of-book data, and they each sell products that contain information about their own order books. Because depth-of-book data is non-core data, it is not required to be included in a consolidated data stream or made available to an investor at the time of trade execution.[26] As a result, depth-of-book data does not have to be transmitted to and aggregated by a central processor. Exchanges also offer direct access to their proprietary data through high-speed access methods.[27] For these reasons, traders can obtain the proprietary top-of-book and depth-of-book data before they receive contemporaneous market-

---

[23]   *Id.* at 530 n.7. Before 1997, for most securities, the difference between the best price and the next inferior price was 1/8th, or 12.5 cents. *See* Report to Congress on Decimalization (July 2012), *available at* https://www.sec.gov/files/decimalization-072012.pdf ("In 1992, the Commission approved an American Stock Exchange (AMEX) rule that lowered its tick size for stocks priced between $0.25 and $5 to 1/16th of a dollar. A subsequent rule in 1997 applied this tick size to all AMEX stocks trading at or above $0.25. Also in 1997, the New York Stock Exchange (NYSE) and NASDAQ promulgated rules to use 1/16th as tick sizes.") (internal citations omitted).

[24]   *NetCoalition I*, 615 F.3d at 530 n.7.

[25]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,780.

[26]   *NetCoalition I*, 615 F.3d at 530.

[27]   *See, e.g.*, 2010 Concept Release, 75 Fed. Reg. at 3598 ("To further reduce latency in transmitting market data and order messages, many exchanges also offer co-location services that enable exchange customers to place their servers in close proximity to the exchange's matching engine.").

wide top-of-book data from the SIP (core data).[28] These time and information differences may offer valuable trading opportunities.[29]

3. The depth-of-book data products at issue here

The 2010 ArcaBook Fee Rule at issue here assessed fees for NYSE Arca's ArcaBook depth-of-book product.[30] ArcaBook contains a compilation of all limit orders resident in the NYSE Arca limit order book, available on a real-time basis.[31] The 2010 ArcaBook Fee Rule assessed a $750 monthly access fee for access to the data feed through which NYSE Arca makes ArcaBook available.[32] It also assessed total monthly device fees of $30 for professional

---

[28]   *Id.* at 3601 ("The fact that trading center data feeds do not need to go through the extra step of consolidation at a plan processor, however, means that such data feeds can reach end-users faster than the consolidated data feeds."); *see also id.* at 3611 ("The extent of the latency [of core data] depends, among other things, . . . on the distances between the trading centers, the plan processors, and the recipients.").

[29]   Shengwei Ding, John Hanna & Terrence Hendershott, *How Slow Is the NBBO? A Comparison with Direct Exchange Feeds*, 49 The Financial Review 313, 315 (2014) ("The potential of deriving the NBBO more quickly opens opportunities for companies to directly subscribe to different exchanges, allowing them to calculate a faster NBBO compared to the SIP NBBO."); 2010 Concept Release, 75 Fed. Reg. at 3608 (stating that "by obtaining the fastest delivery of market data through co-location arrangements and individual trading center data feeds . . . , proprietary firms theoretically could profit by identifying market participants who are offering executions at stale prices"); Regulation NMS, 70 Fed. Reg. at 37,567 (providing that exchanges, alternative trading systems, and broker-dealers are prohibited from "transmitting data to a vendor or user any sooner than it transmits the data to a Network processor"). As noted above, the extent of the latency for core data depends, among other things, on the speed of the systems used by the plan processors to transmit and process consolidated data and on the distances between the trading centers, the plan processors, and the recipients. *See* 2010 Concept Release, 75 Fed. Reg. at 3611. While the latency associated with geographic dispersion continues to exist, the plan processors have implemented technology upgrades in recent years that reduced the latency associated with data processing and consolidation.

[30]   Notice of Filing and Immediate Effectiveness of Proposed Rule Change by NYSE Arca, Inc., Relating to Fees for NYSE Arca Depth-of-Book Data, Exchange Act Release No. 63291 (Nov. 9, 2010), 75 Fed. Reg. 70,311 (Nov. 17, 2010) ("2010 ArcaBook Fee Rule Filing"), *available at* https://www.gpo.gov/fdsys/pkg/FR-2010-11-17/pdf/2010-28893.pdf.

[31]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *1 & n.5 (quoting Notice of Filing of Proposed Rule Change Relating to Approval of Market Data Fees for NYSE Arca Data, Exchange Act Release No. 53592 (June 7, 2006), 71 Fed. Reg. 33,496, 33,497 (June 9, 2006)).

[32]   Schedule of NYSE Arca Market Data Fees, Ex. 5 to Form 19b-4, File No. SR-NYSEArca-2010-97 (Nov. 1, 2010), *available at* https://www.sec.gov/rules/sro/nysearca/2010/34-63291-ex5.pdf.

subscribers and $10 for nonprofessional subscribers for display of ArcaBook.[33] The rule capped at $20,000 the maximum monthly device fee payments applicable to broker-dealers in respect of nonprofessional subscribers that maintain brokerage accounts with the broker-dealer.[34] Nonprofessional subscribers do not obtain depth-of-book data directly from NYSE Arca, but generally obtain it from their broker-dealers if the broker-dealers make it available to them.[35]

The Nasdaq 2010 Level 2 Fee Rule also at issue here assessed fees for a Nasdaq depth-of-book product.[36] At the time, Nasdaq offered three forms of depth-of-book data: TotalView, which provided depth-of-book data for Nasdaq-listed securities; Level 2, which provided a subset of the TotalView data consisting of the best bid and offer for each market participant; and OpenView, which provided depth-of-book data for non-Nasdaq-listed securities.[37] Just as ArcaBook offers data for only those orders residing in the NYSE Arca limit order book, each of Nasdaq's depth-of-book products offers data solely from its order book and does not include orders residing in the limit order books of other exchanges. The 2010 Level 2 Fee Rule extended distributor and direct access fees that Nasdaq already charged for TotalView to Level 2.

---

[33] *Id*. (establishing two separate monthly device fees for "ArcaBook information relating to Exchange-Traded Funds and CTA Plan Securities" and "ArcaBook information relating to UTP Plan Securities (other than Exchange-Traded Funds)," each of $15 per month for professional subscribers ($30 total) and $5 per month ($10 total) for nonprofessional subscribers).

[34] *Id*.

[35] A nonprofessional subscriber is a natural person who is not (a) registered with the Commission or other relevant federal or state agency or self-regulatory organization, (b) engaged as an investment adviser, or (c) employed by a bank or other organization exempt from registration to perform functions that he would otherwise be required to be registered to perform.

[36] Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Modify Rule 7019, Exchange Act Release No. 62907, 75 Fed. Reg. 57,314 (Sept. 20, 2010), *available at* https://www.gpo.gov/fdsys/pkg/FR-2010-09-20/pdf/2010-23385.pdf ("2010 Level 2 Fee Rule").

[37] In 2017, Nasdaq merged OpenView into TotalView. Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Merge the OpenView Depth-of-Book Product into TotalView, Exchange Act Release No. 80891 (June 8, 2017), 82 Fed. Reg. 27,318 (June 14, 2017), *available at* https://www.gpo.gov/fdsys/pkg/FR-2017-06-14/pdf/2017-12267.pdf.

B.   Previous challenges to ArcaBook fees

1.   In *NetCoalition I*, the D.C. Circuit set aside the 2008 ArcaBook Approval Order.

In 2006, NYSE Arca requested that the Commission approve a proposed rule change to institute fees for ArcaBook, which it previously provided to customers without charge.[38] Under the rule filing and approval process then applicable to self-regulatory organizations ("SROs"), NYSE Arca's rule establishing ArcaBook fees could not take effect without Commission approval under Exchange Act Section 19(b).[39] In 2008, the Commission issued the 2008 ArcaBook Approval Order approving the rule, and NYSE Arca began to assess ArcaBook fees in January 2009.[40]

In the 2008 ArcaBook Approval Order, the Commission stated that because "[n]on-core data products and their fees are, by contrast [to core data], much more sensitive to competitive forces," the Commission "is able to use competitive forces in its determination of whether an exchange's proposal to distribute non-core data" is fair and reasonable under the Exchange Act.[41] The Commission determined that "[a]t least two broad types of significant competitive forces applied to NYSE Arca in setting the terms of its Proposal to distribute the ArcaBook data: (1) NYSE Arca's compelling need to attract order flow from market participants; and (2) the availability to market participants of alternatives to purchasing the ArcaBook data."[42]

In *NetCoalition I*, the D.C. Circuit addressed a challenge by NetCoalition to the 2008 ArcaBook Approval Order.[43] The court found that it was permissible for the Commission to apply a market-based approach, rather than a cost-based approach, to assess the consistency of non-core data fees with the Exchange Act.[44] The court also found that "the risk that NYSE Arca could exercise market power appears to be elevated in the pricing of its proprietary non-core data," and cited the Commission's statement in the 2008 ArcaBook Approval Order that if an

---

[38]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *1 & n.4; *see also* Form 19b-4, SR-NYSEArca-2006-21, filed May 23, 2006, *available at* https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/rule-filings/filings/2006/NYSEArca-2006-21.pdf (explaining that NYSE Arca "proposes to establish market data fees for the receipt and use of market data that the Exchange makes available").

[39]   15 U.S.C. § 78s(b) (2006).

[40]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,779.

[41]   *Id*. at 74,779.

[42]   *Id*. at 74,782.

[43]   NetCoalition represented "leading global Internet and technology companies"; it has since ceased operations. *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *1 n.3.

[44]   *NetCoalition I*, 615 F.3d at 535.

"exchange could, in fact, exert monopoly power over its pricing of non-core data, it obviously would be inappropriate for the Commission to rely on non-existent competitive forces as a basis for approving an exchange proposal."[45]

The D.C. Circuit determined that, on the record before it, it was unable to affirm the Commission's "determination that NYSE Arca's ArcaBook fees are 'fair and reasonable' and otherwise compliant with the Exchange Act."[46] The court also found that the Commission "failed to 'disclose a reasoned basis,' for concluding that NYSE Arca is subject to significant competitive forces in pricing ArcaBook."[47] On this basis, the court vacated the 2008 ArcaBook Approval Order and remanded to the Commission for further proceedings.

2. In *NetCoalition II*, the D.C. Circuit held that it lacked jurisdiction to consider a challenge to the 2010 ArcaBook Fee Rule.

In 2010, Congress enacted the Dodd-Frank Act,[48] which provided exchanges with an option to designate fee rules as immediately effective upon filing with the Commission.[49] The Act provided that the Commission could suspend such an immediately effective rule within 60 days of its filing and institute proceedings to determine whether to approve or disapprove the rule; otherwise, the rule remained effective.[50] On November 9, 2010, the Commission issued a release giving notice that NYSE Arca had filed an immediately effective rule change enabling it to continue to assess the same fees it had charged for ArcaBook since January 2009.[51] The Commission did not suspend the rule change within the statutory period to do so, and SIFMA and NetCoalition petitioned the D.C. Circuit to review the Commission's inaction.[52]

In *NetCoalition II*, the D.C. Circuit dismissed SIFMA's and NetCoalition's challenges to the Commission's failure to suspend certain SRO fee rules, including the 2010 ArcaBook Fee

---

[45]   *Id*. at 538 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,787).

[46]   *Id*. at 544.

[47]   *Id*. (internal citation omitted).

[48]   *Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010*, Pub. L. 111–203, 124 Stat. 1376 (July 21, 2010).

[49]   *See* Exchange Act Section 19(b)(3)(A), 15 U.S.C. § 78s(b)(3)(A) (permitting SROs to designate as immediately effective rule changes "establishing or changing a due, fee, or other charge imposed by the self-regulatory organization *on any person, whether or not the person is a member of the self-regulatory organization*") (emphasis added).

[50]   *See* Exchange Act Section 19(b)(3)(C), 15 U.S.C. § 78s(b)(3)(C).

[51]   2010 ArcaBook Fee Rule Filing, 75 Fed. Reg. at 70,312 ("This filing will enable the Exchange to continue to assess the Market Data Fee Schedule . . . for the receipt and use of NYSE Arca Data.").

[52]   *See NetCoalition II*, 715 F.3d at 344.

Rule.[53] The court held that it lacked jurisdiction to consider challenges alleging that the Commission should have suspended immediately effective rule filings.[54] Rather, the court stated that, if the fees were first challenged before the Commission as a prohibition or limitation on access to services offered by the exchanges under Section 19(d) of the Exchange Act, any Commission order resolving that challenge would be reviewable by a court of appeals under Exchange Act Section 25(a).[55]

C.   The Instant Proceedings

After *NetCoalition II*, SIFMA filed an application for review challenging the 2010 ArcaBook Fee Rule under Exchange Act Section 19(d).[56] At the same time, SIFMA filed an additional application that challenged, among other things, Nasdaq's 2010 Level 2 Fee Rule.[57] SIFMA has filed other applications challenging additional data and market access fees.[58]

1.   We consolidated the challenges to the 2010 ArcaBook Fee Rule and the 2010 Level 2 Fee Rule and assigned the matter to an administrative law judge.

On May 16, 2014, the Commission issued an order addressing SIFMA's applications. The Commission consolidated SIFMA's challenge to Nasdaq's 2010 Level 2 Fee Rule with its challenge to the 2010 ArcaBook Fee Rule since the two challenges shared common legal and

---

[53]   *Id*. at 354.

[54]   *Id*.

[55]   *Id*.

[56]   Application for an Order Setting Aside Rule Change of NYSE Arca, Inc., Limiting Access to Its Services, Admin. Proc. File No. 3-15350 (filed May 31, 2013).

[57]   Application for an Order Setting Aside Rule Changes of Certain Self-Regulatory Organizations Limiting Access to Their Services, Admin. Proc. File No. 3-15351 (filed May 31, 2013).

[58]   *See, e.g.*, Application for an Order Setting Aside Rule Changes of Certain Self-Regulatory-Organizations Limiting Access to Their Services, Admin. Proc. File No. 3-16330 (filed Jan. 9, 2015) (challenging, among other things, Nasdaq rule increasing fees for ports used to access exchange data services); Application for an Order Setting Aside Rule Changes of Certain Self-Regulatory-Organizations Limiting Access to Their Services, Admin. Proc. File No. 3-17040 (filed Jan. 8, 2016) (challenging, among other things, NYSE MKT rule change removing bid/ask information from NYSE MKT Trades feed without adjustment of associated fee); Application for an Order Setting Aside Rule Changes of Certain Self-Regulatory-Organizations Limiting Access to Their Services, Admin. Proc. File No. 3-17105 (Filed Feb. 5, 2016) (challenging, among other things, amendment of fees for NYSE MKT Integrated Feed).

factual issues concerning fees for depth-of-book services offered by competing exchanges.[59] The Commission also found that Exchange Act Section 19(d) permits associational standing in challenges to SRO fee rules.[60] Applying a three-part test,[61] we further found that SIFMA sought to protect interests that were germane to its purpose, and that neither the claim that SIFMA asserted nor the relief it sought required participation of its individual members in this proceeding.[62] We also found that the record did not present sufficient evidence for us to determine if SIFMA members would otherwise have standing to challenge the fee rules at issue.[63] We directed SIFMA to "present, at a minimum, member declarations, or other comparable evidence, establishing that" it had standing, which we determined an administrative law judge should receive in the first instance to make a determination of jurisdiction before holding a hearing on the merits.[64]

We then assigned the consolidated action to an administrative law judge for a determination of jurisdiction, a hearing, and preparation of an initial decision.[65] This assignment was a permitted (but not required) procedure; under the Exchange Act, our review may consist solely of our consideration of the record before the relevant SRO (in this case the relevant exchanges) and additional briefing before us.[66] But we decided that, given the procedural posture of the matter following the *NetCoalition* decisions, we would exercise our discretion to permit expansion of the record beyond that before the SRO.[67] The adoption of this procedure in

---

[59]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *12. We also determined it "appropriate to withhold issuance of an order governing further proceedings," in other rule challenges "until after the resolution" of this proceeding. *Id.* at *13 & n.118; *see also id.* at *6 & n.59 (recognizing that SIFMA challenges included challenges to core data fees).

[60]   *Id.* at *6.

[61]   *Id.* at *7 (stating that "'an association has standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.'" (quoting *Hunt v. Wash. State Apple Adver. Comm'n*, 432 U.S. 333, 343 (1977))).

[62]   *Id.*

[63]   *Id.* at *8.

[64]   *Id.*

[65]   *Id.* at *11-12.

[66]   Exchange Act Section 19(f), 15 U.S.C. § 78s(f).

[67]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *11; *see also* Rule of Practice 100(c), 17 C.F.R. § 201.100(c) ("The Commission, upon its determination that to do so would serve the interests of justice and not result in prejudice to the parties to the proceeding, may by order direct, in a particular proceeding, that an alternative procedure shall apply or that compliance with an otherwise applicable rule is unnecessary.").

the instant matter should not be viewed as altering the way we review actions taken by SROs. We continue to expect SROs to develop the record in proceedings consistent with the procedural fairness requirements of the Exchange Act applicable to prohibitions or limitations of access to exchange services,[68] and to explain their conclusions, based on that record, in a written decision that is sufficient to enable us to perform our review.[69]

We also directed the administrative law judge to determine whether the challenged rules "should be vacated under the statutory standard set forth in Exchange Act Section 19(f)—as informed by [the market-based] test set out in our 2008 ArcaBook Approval Order, the D.C. Circuit's decision in *NetCoalition I*, and appropriate briefing from the parties."[70] The market-based test considers "'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,'" but also

---

[68]   *See* Exchange Act Section 6(b)(7), 15 U.S.C. § 78f(b)(7) (providing that the rules of an exchange generally must "provide a fair procedure for . . . the prohibition or limitation by the exchange of any person with respect to access to services offered by the exchange"); Exchange Act Section 6(d)(2), 15 U.S.C. § 78f(d)(2) (requiring that "[i]n any proceeding by a national securities exchange to determine whether a person shall be . . . prohibited or limited with respect to access to services offered by the exchange . . . , the exchange shall notify such person of, and give him an opportunity to be heard upon, the specific grounds for . . . prohibition or limitation under consideration and keep a record"); *see also Int'l Power Grp., Ltd. ("IPWG")*, Exchange Act Release No. 66611, 2012 WL 892229, at *8 (Mar. 15, 2012) (remanding "for development of the record . . . and for further consideration, pursuant to procedures that accord with the fairness requirements of [applicable provision] of the Exchange Act," and stating that clearing agency "should adopt procedures that accord with th[os]e fairness requirements"); *Atlantis Internet Grp. Corp.*, Exchange Act Release No. 75168, 2015 WL 3643461, at *6 n.21 (June 12, 2015) ("[W]e reiterate our statement in *IPWG* that 'we believe that DTC should adopt procedures that accord with the fairness requirements of [the Exchange Act], which may be applied uniformly in any future such issuer cases.'" (quoting *IPWG*, 2012 WL 892229, at *8)).

[69]   *See* Exchange Act Section 6(d)(2), 15 U.S.C. § 78f(d)(2) ("A determination by the exchange to . . . prohibit or limit a person with respect to access to services offered by the exchange . . . shall be supported by a statement setting forth the specific grounds on which the . . . prohibition or limitation is based."); *Richard T. Sullivan*, Exchange Act Release No. 40671, 1998 WL 786943, at *6 (Nov. 12, 1998) ("It is important that a self-regulatory organization clearly explain the basis for its conclusions. If it fails to do so, an applicant is impaired in his or her ability to urge a contrary position to us, and we cannot discharge our review function."); *cf. Christopher A. Parris*, Exchange Act Release No. 78669, 2016 WL 4446331, at *5 (Aug. 24, 2016) (assessing FINRA's decision to bar applicant based on the "specific grounds" identified in relevant notice to applicant and declining to consider "a basis not articulated" therein that FINRA "provided . . . for the first time in its brief on appeal" to the Commission).

[70]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *12.

contemplates that sufficient evidence may be presented for the Commission to sustain or strike the fee on other grounds.[71]

2. The administrative law judge found SIFMA had standing to challenge the fees at issue and later issued an initial decision rejecting SIFMA's challenges.

On October 20, 2014, the administrative law judge issued an order finding that "SIFMA ha[d] provided a reasonable and persuasive response to what the Commission required it to show to establish associational standing in order to challenge the rules on behalf of its members."[72] Subsequently, a five-day hearing was held at which the parties introduced documentary evidence and presented testimony. After considering the parties' briefing, the administrative law judge issued an initial decision on June 1, 2016, rejecting SIFMA's fee rule challenges.[73]

The initial decision found that the exchanges had "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," and thus had "carried their burden of showing that their depth-of-book prices are constrained by order flow competition."[74] The administrative law judge also concluded that the "record showed that depth-of-book products from different exchanges function as substitutes for each other," and that "[a]lternative depth-of-book products from other exchanges are a significant competitive force."[75] The administrative law judge concluded that "the Exchanges provided a 'substantial basis' demonstrating that the fees are equitable, fair, reasonable, and not unreasonably discriminatory,"[76] and that there was no substantial countervailing basis to otherwise find the exchanges' fee rules unenforceable.[77]

3. SIFMA appealed from the initial decision.

SIFMA sought Commission review of the initial decision, and the parties briefed the merits of SIFMA's challenge. On November 30, 2017, we remanded this proceeding to the administrative law judge for reconsideration of her previous actions following our ratification of

---

[71]   *NetCoalition I*, 615 F.3d at 532 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,781).

[72]   *Sec. Indus. & Fin. Mkts. Ass'n*, Admin. Proc. Ruling Release No. 1921, at 9 (Oct. 20, 2014), *available at* https://www.sec.gov/alj/aljorders/2014/ap-1921.pdf.

[73]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2016 WL 4035551, at *42.

[74]   *Id*. at *39.

[75]   *Id*. at *31.

[76]   *Id*. at *40.

[77]   *Id*. at *41-42.

the agency's prior appointment of our administrative law judges.[78] The parties chose not to submit any new evidence relevant to the administrative law judge's reexamination of the record,[79] they presented no further argument to her,[80] and on December 21, 2017, she ratified all of her "prior rulings and determinations in this proceeding."[81] When provided in February 2018 with an additional opportunity to file with the Commission briefs "addressing any further matters they deem pertinent," the parties again declined to submit additional materials or challenges.[82] In particular, the parties raised no challenges to the administrative law judge's appointment, the Commission's ratification of it, or the reconsideration process before the administrative law judge. The parties were provided with another opportunity to raise additional issues on July 19, 2018.[83] The parties declined to do so, and the exchanges noted on August 2, 2018, that no challenge to the administrative law judge's appointment had been raised.

---

[78]   *In re: Pending Administrative Proceedings*, Exchange Act Release No. 82178, 2017 WL 5969234, at *1 (Nov. 30, 2017).

[79]   *See id.* at *2 (directing the administrative law judge to "[i]ssue an order granting parties until January 5, 2018 to submit any new evidence the parties deem relevant to the administrative law judge's reexamination of the record"); *see also Sec. Indus. & Fin. Mkts. Ass'n*, Administrative Proceedings Rulings Release No. 5385 (Dec. 14, 2017), *available at* https://www.sec.gov/alj/aljorders/2017/ap-5385.pdf (Order Regarding the Securities and Exchange Commission's Order on Pending Administrative Proceedings).

[80]   *Id.* (providing the opportunity to "submit a brief explaining the relevance of its new evidence and *identifying any challenged rulings, findings, or conclusions*") (emphasis added).

[81]   *Sec. Indus. & Fin. Mkts. Ass'n*, Administrative Proceedings Rulings Release No. 5414 (Dec. 21, 2017), *available at* https://www.sec.gov/alj/aljorders/2017/ap-5414.pdf (Order Ratifying Prior Actions).

[82]   *See Sec. Indus. & Fin. Mkts. Ass'n*, Exchange Act Release No. 82696, 2018 WL 833752, at *1 (Feb. 12, 2018) (Supplemental Briefing Order).

[83]   *See Sec. Indus. & Fin. Mkts. Ass'n*, Exchange Act Release No. 83671 (July 19, 2018) (Order), *available at* https://sec.gov/litigation/opinions/2018/34-83671.pdf.

III.   Analysis

A.   We apply a de novo standard of review to the initial decision.

We review this appeal of the administrative law judge's initial decision under a de novo standard.[84] The exchanges argue, however, that we should apply a more deferential standard than de novo review to SIFMA's appeal from the initial decision.

The exchanges' arguments for a departure from a de novo standard of review are unpersuasive. Nasdaq contends that we must give "great weight to the ALJ's factual findings." As support, Nasdaq cites *Nasdaq Stock Market, LLC*, an order in which we remanded a matter to an administrative law judge to prepare an initial decision after he failed to do so following a hearing.[85] Given the lack of any initial decision, the *Nasdaq Stock Market* order did not address the standard of review for administrative law judge factual findings, but rather identified the benefit of allowing the administrative law judge to make "credibility determinations" because we "ha[d] not observed the parties and witnesses who appeared and testified."[86] Nasdaq does not request that we defer to any credibility determinations by the administrative law judge.

Nasdaq also offers support for its argument that we must give great weight to the administrative law judge's factual findings by citing *Pagel, Inc.*[87] In that case, we were "unable to conclude that the law judge abused his discretion in excluding the [expert] testimony offered by respondents," given that the administrative law judge was "highly sophisticated in securities matters," and "clearly had the necessary expertise to determine from the evidence whether or not

---

[84]   *Anthony Fields, CPA*, Exchange Act Release No. 74344, 2015 WL 728005, at *20 (Feb. 20, 2015); *see also AutoChina Int'l Ltd.*, Exchange Act Release No. 77502, 2016 WL 5571626, at *4 n.21 (Sept. 30, 2016) (recognizing that de novo review applies in proceeding under Exchange Act Section 19(f) for review of SRO denial of access).

[85]   *Nasdaq Stock Mkt., LLC*, Exchange Act Release No. 57741, 2008 WL 1902073, at *2 (Apr. 30, 2008).

[86]   *Id.* at *1. Our practice of giving weight under some circumstances to demeanor-based credibility determinations, which are not at issue in this case, is not inconsistent with de novo review. *See, e.g.*, *Kay v. FCC*, 396 F.3d 1184, 1189 (D.C. Cir. 2005) (stating that the "law is settled that an agency is not required to accept the credibility determinations of an administrative law judge" but "may give much weight to an ALJ's credibility determinations"); *Consolidated Coal Co. v. NLRB*, 669 F.2d 482, 488 (7th Cir. 1982) (differentiating between credibility determinations based on demeanor, which are entitled to weight, and credibility determinations based on an analysis of the evidence, which are entitled to no deference).

[87]   Exchange Act Release No. 22280, 1985 WL 548387, at *5 (Aug. 1, 1985).

respondents had manipulated the market."[88] *Pagel* is inapposite because no party argues that any expert testimony was improperly excluded in the matter before us.

NYSE Arca suggests that, under Commission Rule of Practice 411(b)(2)(ii), we must find that the administrative law judge's factual findings are "clearly erroneous" to reject them.[89] But Rule of Practice 411(b)(2)(ii) states only that, in "determining whether to grant review" of an initial decision, the Commission shall consider whether the petition for review shows that the initial decision contains a "finding or conclusion of material fact that is clearly erroneous."[90] And as a matter of practice, the Commission grants virtually all petitions for review of an administrative law judge's initial decision.[91] Absent a petition for review, the Commission may also choose to review a decision on its own initiative.[92] In any case, Rule 411(b)(2) does not address the Commission's standard of review once it has granted a petition for review; once it has granted review the Commission has held repeatedly that its "review of the findings and conclusions of an initial decision is conducted de novo."[93]

---

[88] *Id.* In subsequent decisions, we have clarified that evidentiary issues (such as challenges to expert testimony) are subject to our de novo and plenary review. *See, e.g.*, *optionsXpress, Inc.*, Exchange Act Release No. 78621, 2016 WL 4413227, at *48 (Aug. 18, 2016); *Michael Lee Mendenhall*, Exchange Act Release No. 74532, 2015 WL 1247374, at *1 (Mar. 19, 2015).

[89] 17 C.F.R. § 201.411(b)(2)(ii).

[90] *Id.*

[91] *optionsXpress*, 2016 WL 4413227, at *48 (citing *Rules of Practice*, Exchange Act Release No. 35833, 1995 WL 368865, at *80-81 (June 9, 1995)); *see also Rules of Practice*, Exchange Act Release No. 48832, 2003 WL 22827684, at *13 (Nov. 23, 2003) (eliminating the procedure for filing oppositions to petitions for review "given that the Commission has long had a policy of granting petitions for review, believing that there is a benefit to Commission review when a party takes exception to a decision").

[92] *optionsXpress*, 2016 WL 4413227, at *48 & n.201 (citing 17 C.F.R. § 201.411(c)).

[93] *Theodore W. Urban*, Exchange Act Release No. 63456, 2010 WL 5092728, at *2 (Dec. 7, 2010) (citing *Gary M. Kornman*, Exchange Act Release No. 59403, 2009 WL 367635, at *9 n.44 (Feb. 13, 2009), *petition denied*, 592 F.3d 173 (D.C. Cir. 2010)).

B.   **We apply the framework established by Exchange Act Section 19(f) to SIFMA's challenges, as informed by the D.C. Circuit's decision in *NetCoalition I*.**

1.   **The depth-of-book fees at issue are reviewable in this proceeding as prohibitions or limitations of access to exchange services.**

Under Exchange Act Section 19(d),[94] we have jurisdiction to consider SIFMA's argument that the fee rules at issue should be vacated because they are improper prohibitions or limitations of access to exchange services.[95] We find that the administrative law judge properly applied the analysis set forth in our May 2014 order to find that the Commission has jurisdiction over SIFMA's fee rule challenges and that SIFMA has standing to bring them.[96] The fees that SIFMA challenges are limitations of access to exchange services.

Neither of the exchanges argues to the contrary in its brief. However, NYSE Arca and Nasdaq both appear to attempt to preserve earlier challenges to jurisdiction or standing or to incorporate them by reference in their briefs. NYSE Arca generally asserts that it has "incorporated and preserved for further review all arguments and objections [it] made (i) at trial, (ii) in the briefing that preceded [a number of Commission and administrative law judge orders], and (iii) insofar as necessary to preserve exceptions to" those orders. Nasdaq also purports to incorporate by reference arguments that we rejected in our May 2014 order.

The exchanges' attempts to preserve these arguments are insufficient. Our Rules of Practice provide that exceptions to the findings or conclusions being reviewed shall be supported by citation to the relevant portions of the record and by argument that includes citation of relevant legal authorities.[97] By failing to include any relevant arguments in their appellate briefs about standing or jurisdiction, the exchanges fail to meet their obligation to show that the

---

[94]   15 U.S.C. § 78s(d) (authorizing review of self-regulatory organization action that "prohibits or limits any person in respect to access to services offered by such organization," "upon [timely] application by any person aggrieved thereby"); *see also* Exchange Act Section 19(f), 15 U.S.C. § 78s(f) (requiring consideration of whether such "prohibition or limitation is in accordance with the rules of the self-regulatory organization, and [whether] such rules are . . . consistent with the purposes" of the Exchange Act).

[95]   *See generally Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *6-11 (specifying standing and jurisdictional analysis and identifying need for supplementation of the record).

[96]   *See id.* at *8 n.74 (identifying precedent for treating a fee as a prohibition or limitation of access to services that is reviewable under Section 19(d) and Section 19(f) of the Exchange Act).

[97]   Rule of Practice 450(b), 17 C.F.R. § 201.450(b); *see also* Rules of Practice, 60 Fed. Reg. at 32,778 (emphasizing that the "obligation to support claims . . . lies with the person submitting the brief"); *cf. Greenlaw v. United States*, 554 U.S. 237, 244 (2008) ("[O]ur adversary system is designed around the premise that the parties know what is best for them, and are responsible for advancing the facts and arguments entitling them to relief.") (quotation marks omitted).

administrative law judge's determination on these points was erroneous.[98] And the exchanges may not attempt to do so by incorporating argument presented previously where, as here, to do so would circumvent our rules regarding the length of briefs.[99] Indeed, we have held previously that the "practice of incorporating pleadings submitted before the law judge . . . contravenes" our rules where it would result in "briefs that greatly exceeded the page limits set forth in" those rules.[100] In addition, the parties recently declined the opportunity to submit additional briefing to the Commission after the administrative law judge ratified her initial decision, failing once again to properly raise and preserve any additional arguments for consideration.

2. The depth-of-book fees at issue here must comply with the Exchange Act.

Section 19(f) provides that to sustain an SRO fee constituting a prohibition or limitation of access, we must find, among other things, that the SRO rule imposing the fee is consistent with the purposes of the Exchange Act.[101] The Exchange Act places the burden of showing that the fee is consistent with the Exchange Act on the SRO (in this matter, the exchanges).[102] We

---

[98]   *Davis v. Pension Ben. Guar. Corp.*, 734 F.3d 1161, 1167 (D.C. Cir. 2013).

[99]   *Id.* ("The Pilots may not attempt to [make their case] by incorporating argument presented in the district court, . . . as this would circumvent the court's rules, . . . regarding the length of briefs, where they fail, as here, to persuade the court that they could not have presented their challenge within the word limits for their briefs."); *see also* Rule of Practice 450(c), 17 C.F.R. § 201.450(c) (2006) (providing that, in calculating compliance with length limitations, "[t]he number of words shall include pleadings incorporated by reference").

[100]   *Wheat, First Sec., Inc.*, Exchange Act Release No. 48378, 2003 WL 21990950, at *18 n.87 (Aug. 20, 2003).

[101]   15 U.S.C. § 78s(f); *see also* Exchange Act Section 19(g)(1), 15 U.S.C. § 78s(g)(1) (providing that every SRO "shall comply with the provisions of [the Exchange Act], the rules and regulations thereunder, and its own rules"); Exchange Act Section 19(b)(3)(C), 15 U.S.C. § 78s(b)(3)(C) (providing that an SRO's immediately effective rules "may be enforced by such organization to the extent it is not inconsistent with the provisions of this chapter, the rules and regulations thereunder, and applicable Federal and State law").

[102]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *9 n.88 ("Exchange Act Section 19(f) places the burden on an SRO to establish, among other things, that its challenged rule is 'consistent with the purposes of' the Exchange Act. 15 U.S.C. § 78s(f)."); *cf.* Rule of Practice 700, 17 C.F.R. § 201.700 (in SRO rule disapproval proceedings, "[t]he burden to demonstrate that a proposed rule change is consistent with the Exchange Act and the rules and regulations issued thereunder that are applicable to the self-regulatory organization is on the self-regulatory organization that proposed the rule change").

apply a preponderance of the evidence standard in determining whether the SRO (i.e., each exchange) has met its burden.[103]

An SRO rule that does not comply with each applicable provision of the Exchange Act is not consistent with the Act's purposes. Under Exchange Act Section 6,[104] in order to be registered as a national securities exchange, an exchange's rules must provide for the "equitable allocation of reasonable dues, fees, and other charges among its members and issuers and other persons using its facilities,"[105] not "permit unfair discrimination between customers, issuers, brokers, or dealers,"[106] and "not impose any burden on competition not necessary or appropriate in furtherance of the purposes of" the Exchange Act.[107] Where, as here, an exchange functions as an "exclusive processor" of its own data,[108] it must distribute that data on "fair and reasonable" and "not unreasonably discriminatory" terms.[109]

3. In *NetCoalition I*, the D.C. Circuit approved a market-based test for assessing the consistency of non-core data fees with the Exchange Act but found our application of that test in the 2008 ArcaBook Approval Order unreasonable.

In *NetCoalition I*, the D.C. Circuit found permissible our use of a market-based test for determining if a challenged fee for non-core data is consistent with the Exchange Act. The court rejected the petitioner's argument that we "violated the Exchange Act by failing to engage in cost-based ratemaking" and concluded that "a market-based approach to evaluating whether

---

[103]   *See AutoChina Int'l Ltd.*, Exchange Act Release No. 77502, 2016 WL 1272875, at *3 (Apr. 1, 2016) (applying preponderance of the evidence standard to review of denial of access to SRO services under Exchange Act Section 19(f)).

[104]   15 U.S.C. § 78f.

[105]   *Id.* § 78f(b)(4).

[106]   *Id.* § 78f(b)(5).

[107]   *Id.* § 78f(b)(8).

[108]   Exchange Act Section 3(a)(22)(B), 15 U.S.C. § 78c(a)(22)(B).

[109]   Exchange Act Section 11A(c)(1)(C) & (D), 15 U.S.C. § 78k-1(c)(1)(C) & (D); *see also* Rule 603(a) of Regulation NMS, 17 C.F.R. § 242.603(a) (same). Exchange Act Section 6(b)(7) also requires the exchanges to "provide a 'fair procedure' for prohibiting or limiting any person's access to services." *MFS Sec. Corp.*, Exchange Act Release No. 47626, 2003 WL 1751581, at *5 (Apr. 3, 2003) (quoting 15 U.S.C. § 78f(b)(7)); *see also supra* note 68 and accompanying text. The parties have not briefed any issue with respect to the exchanges' compliance with Exchange Act Section 6(b)(7) or with respect to administrative exhaustion of SRO proceedings. *Cf. IPWG*, 2012 WL 892229, at *8 (remanding to SRO for additional proceedings "pursuant to procedures that accord with the [relevant Exchange Act] fairness requirements"). Because the exchanges fail to demonstrate that the fees at issue here are "fair and reasonable," we need not address whether the exchanges have complied with Section 6(b)(7).

NYSE Arca's non-core data fees are 'fair and reasonable' . . . is a permissible one" under the Exchange Act.[110] The court found that the Commission's market-based approach to non-core data fees was consistent with the legislative history of the 1975 amendments to the Exchange Act[111] and did not impermissibly elevate "competition" over other statutory objectives also specified in Exchange Act Section 11A.[112] The court recognized that the Commission had taken "a more traditional 'regulatory approach,' to core data . . . and a 'market-based approach,' with a greater reliance on competition, to non-core data."[113] Finally, the court concluded that the "'market-based' approach does not arbitrarily depart from prior practice."[114]

In our 2008 ArcaBook Approval Order, we applied a market-based test to approve NYSE Arca's introduction of fees for ArcaBook. Under that test, we consider "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."[115] If an exchange meets this burden, we will find that its fee rule is consistent with the Exchange Act unless "there is a substantial countervailing basis to find that the terms" of the rule violate the Exchange Act or the rules thereunder.[116] If an exchange cannot demonstrate that it was subject to significant competitive forces, it must "provide a substantial basis, other than competitive forces, . . . demonstrating that the terms of the [fee] proposal are equitable, fair, reasonable, and not unreasonably discriminatory."[117]

We approved NYSE Arca's institution of fees for ArcaBook based on (1) its compelling need to attract order flow from market participants (and, therefore, compete for that order flow in pricing its non-core data products) and (2) the availability to market participants of alternatives to purchasing the ArcaBook data.[118] But in *NetCoalition I*, the D.C. Circuit determined that we

---

[110]   *NetCoalition I*, 615 F.3d at 533-35.

[111]   *See supra* note 3 and accompanying text.

[112]   *NetCoalition I*, 615 F.3d at 535 (citing Exchange Act Section 11A(a)(1)(C), 15 U.S.C. § 78k-1(a)(1)(C); *see also id.* (explaining that the Commission "responded to the congressional desire that it rely 'on competition, whenever possible, in meeting its regulatory responsibilities for overseeing the SROs and the national market system'" (quoting 2008 ArcaBook Approval Order at 73 Fed. Reg. 74,781 and citing 2008 ArcaBook Approval Order at 73 Fed. Reg. 74,771)).

[113]   *Id.* at 535 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,780-81).

[114]   *Id.* at 537.

[115]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,781.

[116]   *Id.*

[117]   *Id.*

[118]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,782.

"ha[d] failed to 'disclose a reasoned basis,' . . . for concluding that NYSE Arca is subject to significant competitive forces in pricing ArcaBook."[119]

a.   Order flow competition

i.   Connection between order flow and data

The D.C. Circuit first found that it was undisputed that "competition for order flow is 'fierce,'"[120] and that "'[a]n exchange's ability to attract order flow determines whether it has market data to distribute.'"[121] The court quoted our conclusions that "'[i]n the U.S. national market system, buyers and sellers of securities, and the broker-dealers that act as their order-routing agents, have a wide range of choices of where to route orders for execution'; 'no exchange can afford to take its market share percentages for granted' because 'no exchange possesses a monopoly, regulatory or otherwise, in the execution of order flow from broker dealers'; and therefore 'NYSE Arca must compete vigorously for order flow to maintain its share of trading volume.'"[122]

But the court disagreed with our further conclusion that modestly priced market data necessarily drives increased order flow.[123] The court found that conclusion "not objectionable in theory," but determined that the Commission lacked support in the record to draw that conclusion in the 2008 ArcaBook Approval Order.[124] The court questioned why widely distributing depth-of-book data would be necessary to attract order flow if, as we suggested in the 2008 ArcaBook Approval Order, many market participants do not need that data.[125]

Although the court found it possible that the few traders interested in NYSE Arca's depth-of-book data could "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," the court found the evidence in the record did not support this theory.[126] Indeed, the court

---

[119]   *NetCoalition I*, 615 F.3d at 544 (quoting *Am. Equity Inv. Life Ins. Co. v. SEC*, 613 F.3d 166, 177 (D.C. Cir. 2010)).

[120]   *Id*. at 539 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,782).

[121]   *Id*. at 539 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,783).

[122]   *Id*. at 539 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,782-83).

[123]   *Id*. at 539-41.

[124]   *Id*. at 539-540 (citing 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,783).

[125]   *Id*. at 540.

[126]   *Id*. at 541 n.14.

found that it could not sustain the 2008 ArcaBook Approval Order in light of the "lack of support in the record" for our conclusion that order flow competition "constrains market data prices."[127]

The court dismissed the statements from NYSE Arca and other exchanges that the Commission used to support its conclusion as the "self-serving views of the regulated entities" that "provide little support to establish that significant competitive forces affect their pricing decisions."[128] And the court concluded that the remaining evidence did not sufficiently support our conclusion that competition for order flow constrained exchange data pricing. The court noted that we relied on a 2001 Advisory Committee Report's statement that "'a market's inability to widely disseminate its prices undoubtedly will adversely impact its ability to attract limit orders and, ultimately, all order flow.'"[129] The court observed that this statement "was a conclusion, not evidence," and concluded that because it was "made in the context of 'whether basic market information should continue to be required to be provided in a consolidated format to market participants,'" it merely supported "the unremarkable proposition that failure to disseminate core data could adversely affect order flow."[130]

The court also found that two examples we relied upon to show the importance of depth-of-book data were mere "anecdotes" that "sa[id] nothing about whether an exchange like NYSE Arca is constrained to price its depth-of-book data competitively."[131] In one example, Island ECN stopped displaying its order book to the public in three exchange-traded funds and promptly lost 50% of its substantial market share in the three funds.[132] In the other example, BATS ECN and International Stock Exchange provided their depth-of-book data to customers without charge presumably as a way to generate order flow.[133] The court found that the

---

[127]   *Id.* at 541.

[128]   *Id.* (citing 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,784); *see also Susquehanna Int'l Grp., LLP v. SEC*, 866 F.3d 442, 447 (D.C. Cir. 2017) ("'[In *NetCoalition I*], we faulted the SEC for reaching a conclusion despite a 'lack of support in the record.' The SEC had tried to rely on statements by the self-regulatory organization, but we saw 'little' supporting value in the 'self-serving views of the regulated entit[y].'" (quoting *NetCoalition I*)).

[129]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,783 n. 216 (quoting Report of the Advisory Committee On Market Information: A Blueprint For Responsible Change Advisory Committee Report, § B.1 (Sept. 14, 2001), https://www.sec.gov/divisions/marketreg/marketinfo/finalreport.htm).

[130]   *NetCoalition I*, 615 F.3d at 541 (quoting Advisory Committee Report § B.1); *see also id.* at 541 n.15 (observing that "the Advisory Committee disagreed over whether competitive forces would ensure that market data fees remain 'fair and reasonable'").

[131]   *Id.* at 541.

[132]   *Id.* (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,784).

[133]   *Id.*

evidentiary value of these examples was limited to showing "that depth-of-book market data is apparently important enough to at least some traders that it must be made available."[134]

ii.   Platform theory

Finally, the court found on procedural grounds that the Commission could not rely on the "total platform" theory whereby market data and trade executions are "'joint products' with 'joint costs' at each trading 'platform,' or exchange."[135] Under this theory, "[a]lthough an exchange may price its trade execution fees higher and its market data fees lower (or vice versa), because of 'platform' competition the exchange nonetheless receives the same return from the two 'joint products' in the aggregate."[136] The court concluded that because this was "not the theory of competition [that we] relied on below," we could not "press it for the first time on appeal."[137]

b.   Alternatives to depth-of-book data

The D.C. Circuit also considered our conclusion that "an exchange must consider the extent to which institutional and other 'sophisticated traders would choose one or more alternatives instead of purchasing the exchange's data.'"[138] The court recognized that we identified four possible alternatives: (1) core data, (2) depth-of-book data from other exchanges, (3) "pinging" orders, and (4) independent distribution of depth-of-book data by data vendors or securities firms acting in concert.[139] The court held that we "had insufficient evidence" to conclude that 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."[140]

First, the D.C. Circuit concluded that because core data "reveals only the best prices available," it "is not a 'substitute' for depth-of-book data, which measures the number of shares available at prices *inferior* to the best prices."[141] Second, "[d]epth-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."[142] Third, a "pinging"

---

134   *Id.*

135   *Id.* at 542 n.16 (citing 2008 ArcaBook Order, 73 Fed. Reg. at 74,779).

136   *Id.*

137   *Id.* (citing *SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947)).

138   *Id.* at 542 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,784).

139   *Id.* at 542 (quoting 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,784-85).

140   *Id.* at 544.

141   *Id.* at 543 (emphasis in original).

142   *Id.* (citing 2008 ArcaBook Order, 73 Fed. Reg. at 74,785).

order, which involves placing a limit order for a number of shares larger than that included in the core data, "is not an obvious alternative" because it "also executes a trade for both displayed and undisplayed orders at (and superior to) the 'pinging' price."[143] Fourth, even assuming that the independent distribution of order data by securities firms and data vendors is not "unduly speculative,"[144] the court found that our "duty is to ensure that fees are 'fair and reasonable'— not to predict that, with the entry of a competitor, they might someday get there."[145]

The court also explained that "the existence of a substitute does not necessarily preclude market power."[146] Whether a market is competitive notwithstanding potential alternatives depends, the court said, on factors such as the number of buyers who consider other products interchangeable and at what prices.[147] The court faulted the Commission for not revealing the number of potential users of the data or how they might react to a change in price.[148] Although the record indicated that some depth-of-book products were purchased by few traders, the court explained that "the fact that there are few buyers does not by itself demonstrate a lack of market power."[149] The court found evidence that few people buy the data irrelevant to whether the data "is 'critically important' to those traders who do."[150] The court found that without additional evidence of trader behavior the Commission had not "adequately supported its determination that the alternatives it identifies in fact constrain NYSE Arca's depth-of-book fees."[151]

The D.C. Circuit further explained that the inquiry into whether a market for a product is competitive focuses on the product's "'elasticity of demand.'"[152] "'Elasticity' . . . refers to the rate at which customers will turn away from the firm's product in response to a price increase or toward it in response to a price decrease."[153] Price elasticity of demand is calculated by dividing the proportionate change in quantity demanded by the proportionate change in price.[154] "This relationship is best conceived as a fraction, in which the percentage change in quantity is the

---

[143]   *Id.* (quoting 2008 ArcaBook Order, 73 Fed. Reg. at 74,792).

[144]   *Id.* (quoting 2008 ArcaBook Order, 73 Fed. Reg. at 74,785).

[145]   *Id.* (citing *United States v. Microsoft Corp.*, 253 F.3d 34, 53-54 (D.C. Cir. 2001)).

[146]   *Id.* at 542 (citing 2B Phillip E. Areeda, Herbert Hovenkamp & John L. Solow, Antitrust Law § 506(a) (3d ed. 2007)).

[147]   *Id.* (citing Areeda § 506c).

[148]   *Id.* at 542.

[149]   *Id.* at 543 (quoting Areeda § 501).

[150]   *Id.*

[151]   *Id.*

[152]   *Id.* at 542.

[153]   Areeda § 503 (quoted by *NetCoalition I*, 615 F.3d at 542).

[154]   Areeda § 507a.

numerator and the percentage change in price is the denominator."[155] "For example, the price elasticity of demand is 0.5 if a 5% demand decrease results from a 10% price increase," i.e., 5% divided by 10%.[156] Demand is inelastic when a decrease in quantity demanded is proportionately smaller than a price increase[157]—i.e., when elasticity is less than one. In other words, the percentage decrease in quantity demanded is less than the percentage increase in price. Demand is said to be perfectly inelastic if elasticity is equal to zero; in that extreme case there is no change in quantity demanded in response to a price increase. As elasticity declines, i.e., moves closer to zero, demand is said to become more inelastic.

In contrast, elastic demand occurs when a decrease in quantity demanded is proportionally larger than an increase in price.[158] In this situation, elasticity is greater than one, and the percentage decrease in quantity demanded is greater than the percentage increase in price. For example, demand would be elastic if a 10% demand decrease resulted from a 5% price increase, i.e., 10% divided by 5% equals 2. Demand is said to be perfectly elastic if its value approaches infinity, i.e., even a small change in price causes a very large change in quantity demanded. "The more elastic the demand a firm faces, the less market power it has."[159]

The D.C. Circuit did not specify any particular methodology for examining elasticity. Rather, the court explained that in antitrust cases, it evaluated market competitiveness "by asking whether there exists a 'reasonably interchangeable' substitute in the same market, which 'depends not only on the ease and speed with which customers can substitute it and the desirability of doing so, . . . but also on the cost of substitution, which depends most sensitively on the price of the products.'"[160] The court also referenced the "small but significant non-transitory increase in price," or "SSNIP," technique developed by the Department of Justice and Federal Trade Commission to analyze reasonable substitutability.[161]

---

[155]   *Id*.

[156]   *Id*.

[157]   Areeda § 507b.

[158]   *Id*.

[159]   *Id*.

[160]   *NetCoalition I*, 615 F.3d at 542 (quoting *FTC v. Whole Foods Mkt., Inc.*, 548 F.3d 1028, 1037 (D.C. Cir. 2008)).

[161]   *Id.* (citing *FTC v. Whole Foods Mkt., Inc.*, 548 F.3d at 1037-38). "In the SSNIP method, one asks whether a hypothetical monopolist controlling all suppliers in the proposed market could profit from a small price increase." *FTC v. Whole Foods*, 548 F.3d at 1038 (citing 1992 Horizontal Merger Guidelines § 1.11, 57 Fed. Reg. 41,552, 41,560-61 (Sept. 10, 1992), *available at* http://cdn.loc.gov/service/ll/fedreg/fr057/fr057176/fr057176.pdf).

C.   **The exchanges do not meet their burden to demonstrate that the challenged fees are fair and reasonable.**

We now turn to whether the exchanges have demonstrated by a preponderance of the evidence that the challenged fees are fair and reasonable. The exchanges argue that we should sustain their rule filings because their pricing decisions are constrained by (1) the need for the exchanges to attract order flow, and (2) the availability of alternatives to their depth-of-book products. Informed by the D.C. Circuit's analysis in *NetCoalition I*, and applying our market-based test to the record here, we conclude that NYSE Arca has failed to meet its burden to demonstrate that the ArcaBook fees challenged here are consistent with the Exchange Act and that Nasdaq also has failed to meet its corresponding burden with respect to its 2010 Level 2 Fee Rule.

As previously mentioned, the D.C. Circuit explained that the inquiry into whether a market for a product is competitive focuses on the product's "'elasticity of demand.'"[162] The exchanges argue that consumers will react to increases in the price of their products either by moving order flow to other exchanges or by switching to other depth-of-book products. These arguments relate to the cross-price elasticity of demand between the exchanges' depth-of-book products and their trade-execution products (in the case of the order flow argument) or other exchanges' depth-of-book products (in the case of the substitution argument).

As described below, however, the exchanges have not demonstrated that an increase in the price of the exchanges' depth-of-book products at issue here would cause a loss of order flow or that an increase in the cost of the depth-of-book products would cause customers to substitute other depth-of-book products for that exchange's product. Neither does the record support a finding that platform competition constrains the exchanges' fees for the depth-of-book products at issue here. In other words, the exchanges have not established that their theories of competition reflect market realities and satisfy the market-based test with respect to the challenged fees.

We recognize the possibility that the products at issue may be subject to a competitive market (for example, because demand is actually elastic or because of platform competition). Nonetheless, the statistical evidence presented in this proceeding does not allow us to draw such a conclusion. Moreover, the exchanges' nonstatistical evidence also does not establish that competition constrains the exchanges' pricing decisions.

Because we conclude that the exchanges have failed to meet their respective burdens to show that their fees are fair and reasonable, we need not address whether those fees are unreasonably discriminatory or meet the other requirements identified above.[163]

---

162   *Id*. at 542.

163   *See supra* notes 104-109 and accompanying text.

1.   **The exchanges have failed to establish that their need to attract order flow constrains their pricing of the depth-of-book products at issue.**

As NYSE Arca recognizes, "*NetCoalition I* held that there must be evidence that competition will in fact constrain pricing for market data before the Commission approves a fee for market data premised on a competitive pricing model." The exchanges fail to carry this burden. First, providing evidence that a small group of firms controls an outsized portion of exchange trading does not in itself establish that those firms can constrain the price of depth-of-book data to competitive levels. Second, the exchanges' statistical evidence fails to establish that raising depth-of-book prices causes them to lose order flow and thus constrains the price of their data. Third, the exchanges' evidence of actual order flow diversion by a single firm over a multi-year period and unrealized threats to move order flow fails to demonstrate that competition for order flow constrains depth-of-book prices. Fourth, NYSE Arca's argument based on the platform theory likewise fails to demonstrate that competition constrains prices for depth-of-book data.

a.   **The exchanges do not meet their burden simply by arguing that a group of approximately 100 firms dominates trading.**

The exchanges argue that the record now provides evidence that competition will constrain pricing for market data because the record shows that "[a] small group of purchasers with a computerized trading model account for a tremendous share of . . . 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." In particular, Nasdaq asserts that 100 firms "house roughly 5,000 computerized 'machine subscribers' that receive the [exchanges' market] data as a direct feed, process it, and then execute trading strategies." Nasdaq argues that "[f]or 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." NYSE Arca makes a similar argument. In turn, SIFMA does not contest that some group of firms accounts for an outsized share of trading on traditional exchanges, although it argues that "[t]raders' limited ability to shift order flow does not significantly constrain depth-of-book data pricing."

We find that the exchanges fail to demonstrate that the concentration of trading activity in a small group of firms that may require all depth-of-book data to pursue their trading strategies forces the exchanges to price the products at issue here at competitive levels. Although the exchanges may rely on a relatively small group of firms to provide a large portion of order flow, these firms are dependent on the exchanges' depth-of-book data to execute their trading strategies. Indeed, the exchanges have increased prices for depth-of-book data on those customers that rely on it and that the exchanges believe derive the most benefit from it. For example, NYSE Arca states in its brief that it "began charging additional fees for non-display uses of ArcaBook in recognition of the value such uses provide to market participants who use ArcaBook data in their computer systems or algorithms." Oliver Albers, the head of sales in Nasdaq's data department, also testified that Nasdaq attempted to charge market participants a price reflecting the value of the data to the participants.

In theory, a firm might be able to move some portion of its order flow, subject to regulatory constraints (e.g., the Order Protection Rule and best execution obligations), to punish an exchange for excessive pricing of its data.[164] However, the exchanges have not provided substantial evidence that, in practice, the firms would behave in this manner, including evidence addressing the costs associated with moving order flow, such as the loss of valuable trading opportunities (which hampers the ability to compete for orders) and reduced execution quality (which also hampers the ability to compete for orders).[165] We find that there is a lack of such evidence in the record.

> **b.   The exchanges' limited statistical analyses fail to establish that competition for order flow constrains depth-of-book data prices.**

Nasdaq contends that the two analyses submitted into the record by Terrence Hendershott and Aviv Nevo show that NYSE Arca's introduction of fees for ArcaBook caused NYSE Arca to lose market share of trade executions. These analyses contain flaws that limit their persuasiveness with respect to Nasdaq's assertion.

First, Hendershott and Nevo compared NYSE Arca's percentage share of trading six months before it introduced ArcaBook fees in January 2009 with its share of trading six months after January 2009. They also compared NYSE Arca's percentage share of trading three months before January 2009 with its share of trading three months after January 2009. According to Hendershott and Nevo, these comparisons suggest that over the longer one-year period, NYSE Arca's percentage share of trading volume decreased by 11.7% relative to all trading venues and by 9.8% relative to traditional exchanges (all trading venues except alternative trading systems such as dark pools). Hendershott and Nevo state that the results also suggest that over the shorter six-month period NYSE Arca's share of trading declined approximately 7.2% relative to all trading venues and by 6.3% relative to traditional exchanges.

---

[164]   The Order Protection Rule (Rule 611 of Regulation NMS) "establishes intermarket protection against trade-throughs for all NMS stocks." Regulation NMS, 70 Fed. Reg. at 37,501. "A trade-through occurs when one trading center executes an order at a price that is inferior to the price of a protected quotation, often representing an investor limit order, displayed by another trading center." *Id.* Best execution obligations stem from the antifraud provisions of the federal securities laws and SRO rules. Broker-dealers "have a legal duty to seek to obtain best execution of customer orders, which requires broker-dealers to seek to execute customers' trades at the most favorable terms reasonably available under the circumstances." Regulation Best Interest, Exchange Act Release No. 83062 (Apr. 18, 2018), 83 Fed. Reg. 21,574, 21,615 n.284 (May 9, 2018), *available at* https://www.gpo.gov/fdsys/pkg/FR-2018-05-09/pdf/2018-08582.pdf. These requirements currently limit the ability of firms to move order flow in response to exchange pricing decisions.

[165]   Indeed, at the hearing, Nasdaq personnel agreed that one firm's decision to move order flow away from Nasdaq was "shooting [it]sel[f] in the foot."

These comparisons show that NYSE Arca's relative market shares fell over the defined periods. But correlation is not causation.[166] SIFMA's expert, David Evans, observes that Nasdaq, which established TotalView fees in 2002, "had an even larger decline in share than NYSE Arca" over the same one-year period centering around January 2009. As a result, evidence of market share declines does not, on its own, establish that NYSE Arca's introduction of ArcaBook fees caused those declines.

Hendershott and Nevo's failure to conduct apples-to-apples comparisons of trading on traditional exchanges also significantly undermines the persuasive value of their analysis. Their comparisons of market share on traditional exchanges fail to account for a significant event: BATS converted to a national securities exchange during the period of comparison. NYSE Arca's analysis compares its initial market share in a set of traditional exchanges that *excluded* BATS with NYSE Arca's subsequent market share in a set of traditional exchanges that *included* BATS. BATS initially operated as an alternative trading system, and then commenced operations as a national securities exchange on October 24, 2008.[167] NYSE Arca's one-year window compared market shares in July 2008 to July 2009, and its shorter six-month window compared market shares in October 2008 to March 2009. In both comparisons, the initial volume of trading on traditional exchanges that Hendershott and Nevo used thus excluded all or most of BATS's trading volume, but the subsequent measure included all of it. Hendershott and Nevo did not examine (or attempt to adjust for) the extent to which their calculation of a decrease of NYSE Arca's market share on traditional exchanges could be attributed to BATS's conversion to a traditional exchange.

Evans, SIFMA's expert, showed that the treatment of BATS in these comparisons matters. Evans found that when he excluded BATS from the subsequent trading volume (so that its volume was not included in either the initial or subsequent measures), NYSE Arca's share of trading relative to all exchanges (except for BATS) increased over the one-year period. As Evans stated, this "is the opposite of [Hendershott and Nevo's] claim that trading decreased." Evans conducted a regression study of this data and found "the impact of the price change having a positive and statistically significant effect."

Second, Hendershott and Nevo conducted several regression studies that they contend "demonstrate that an actual increase in the price of ArcaBook reduced trading volume" on NYSE Arca. However, because NYSE Arca's regression studies fail to take into account relevant

---

[166]   *In re Navy Chaplaincy*, 738 F.3d 425, 429 (D.C. Cir. 2013) (quoting *Tagatz v. Marquette Univ.*, 861 F.2d 1040, 1044 (7th Cir. 1988)).

[167]   *See* Notice of Filing and Immediate Effectiveness of Proposed Rule Change Implementing Fees for Use of BATS Exchange, Exchange Act Release No. 58871 (Oct. 28, 2008), 73 Fed. Reg. 65,428 (Nov. 3, 2008), *available at* https://www.gpo.gov/fdsys/pkg/FR-2008-11-03/pdf/E8-26110.pdf.

factors, we find the studies do not establish that NYSE Arca lost order flow as a result of instituting depth-of-book fees.[168]

Although regression analyses can evidence a causal relationship between two variables,[169] the "choice of proper explanatory variables determines the validity of [a] regression analysis."[170] Here, Hendershott and Nevo's regression analysis considered only NYSE Arca's percentage share of trading volume and whether the share was measured before or after it started charging ArcaBook fees. In their report, Hendershott and Nevo assert that they "isolate the impact of the January 2009 event on NYSE Arca's trading volume from confounding events . . . by using 'control' groups that were subject to the same market events," i.e., traditional exchanges and all trading venues. In separate regressions, they considered the effect of the January 2009 price increase on NYSE Arca's share of trading on traditional exchanges and all trading venues.

This approach did not account for any factors that affect firms within the control groups unequally. One such factor that Hendershott and Nevo failed to examine was that alternative trading systems were taking market share from traditional exchanges.[171] Another important factor that Hendershott and Nevo did not incorporate was that NYSE Arca's share of total trading volume had begun to fall before January 2009. Because the regression analysis failed to examine and account for these important factors by including them as variables in their analysis, it does not provide the support Hendershott and Nevo claim it does for showing that NYSE Arca's introduction of ArcaBook fees in January 2009 caused it to lose market share.[172]

Finally, the regression analysis also did not take into account that BATS began to operate as a national securities exchange on October 24, 2008. Hendershott and Nevo's failure to

---

[168] Nasdaq did not present any statistical analysis to show that it lost order flow as a result of any price increase for its depth-of-book data.

[169] *Sergeants Benevolent Ass'n Health and Welfare Fund v. Louisiana*, 806 F.3d 71, 95-96 (2d Cir. 2015) (quoting Andrew Dick & Peter Boberg, Regression Analysis, Antitrust 89 (Fall 2005)).

[170] *Segar v. Smith*, 738 F.2d 1249, 1261 (D.C. Cir. 1984); *see also Garcia v. Johanns*, 444 F.3d 625, 635 (D.C. Cir. 2006) (noting appellants' statistical analysis was "analytically flawed" because it "did not incorporate key relevant variables connecting disparate impact to [the employer's] decisionmaking criteria").

[171] *See, e.g.*, 2010 ArcaBook Fee Rule Filing, 75 Fed. Reg. at 70,316 (containing NYSE Arca's statement that "NYSE, NYSE Arca, and Nasdaq's shares of trading have fallen, while the TRFs [i.e., trading report facilities] and BATS have taken a larger share of trading").

[172] Indeed, David Evans, SIFMA's expert, submitted a study he performed showing that running NYSE Arca's regression analysis on Nasdaq data showed that Nasdaq's share of trading volume declined even more than NYSE Arca's over the same period despite the fact that Nasdaq's fees did not change.

consider these significant confounding events as variables in their regression studies further undercuts the persuasive value of their analysis.

c. The exchanges' nonstatistical evidence of order flow diversion is unconvincing.

The other evidence that the exchanges offer to support their argument that competition for order flow constrains depth-of-book prices is insufficient, in isolation and when considered with other offered evidence. We recognize that examples of how firms have reacted to changes in the price of market data should be considered in determining whether the market for that data is competitive. But the examples provided do not establish that competition constrains the prices for that data at least with respect to the products at issue here.

i. The single example of order flow movement on one exchange.

NYSE Arca and Nasdaq submit a single example of a firm that moved order flow in response to a price increase for depth-of-book data. The example concerns a 2012 Nasdaq price increase not at issue here.[173] In response to that price increase, one firm threatened to "vote with our order flow without impacting our best execution obligations," in light of the "simple relationship between market data and order flow."[174] By email, a firm executive told Nasdaq:

> In my opinion, you are placing false valuation to NASDAQ's depth of book. 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.

---

[173] Notice of Filing and Immediate Effectiveness of Proposed Rule Change To Modify the Fees Applicable to Non-Display Usage of Certain NASDAQ Depth-of-Book Market Data, Exchange Act Release No. 66724 (Apr. 3, 2012), 77 Fed. Reg. 21,125 (Apr. 9, 2012), *available at* https://www.gpo.gov/fdsys/pkg/FR-2012-04-09/pdf/2012-8462.pdf ("2012 Nasdaq Rule Filing"), *challenged by SIFMA in* Admin. Proc. File No. 3-15351.

[174] The Commission has determined that broker-dealers are not required to purchase non-core data to satisfy their duty of best execution. *Sec. Indus. & Fin. Mkts. Ass'n*, 2014 WL 1998525, at *1 & n.10 (citing 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,779); *see also* 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,788; *accord NetCoalition I*, 615 F.3d at 530 n.6. *See generally* FINRA Regulatory Notice 15-46 (providing that "a firm that regularly accesses proprietary data feeds . . . would be expected to also be using these data feeds to determine the best market under prevailing market conditions when handling customer orders to meet its best execution obligations"), *available at* http://finra.complinet.com/en/display/display_main.html?rbid=2403 & element_id=12144.

Nasdaq submitted evidence showing that the average monthly volume that the firm traded on Nasdaq decreased from 1.2 billion shares (between January and May 2012) to 600 million shares (between June 2012 and March 2015). This single example of one firm's diversion of order flow does not support a finding that the exchanges' depth-of-book data pricing for the products at issue here is constrained by competition for order flow.[175]

ii. Various unrealized threats to move order flow.

The exchanges point to several instances where firms threatened to move order flow in response to market data price increases, but we find them to be even less persuasive. James Brooks, NYSE's Senior Director, Head of Proprietary Market Data, testified at the hearing that two redistributors of NYSE Arca's depth-of-book information informed NYSE Arca around January 2015 that if its data became too expensive, their customers would stop purchasing it and send their order flow to another exchange. But NYSE Arca offers no evidence that the redistributors' customers moved order flow, that they controlled a substantial enough portion of order flow to affect its pricing decisions, or that NYSE Arca's pricing decisions were affected by the redistributors' comments. The exchanges also say that they frequently receive verbal threats relating to depth-of-book pricing, but they fail to identify the firms making such threats, any instances where firms carried through on these threats, or any action that they took to respond to any such threat by reducing prices or withdrawing a planned price increase.

Nasdaq also offered evidence that a high-frequency-trading algorithm firm responded to a price increase for co-location services (not depth-of-book data) by warning that "[i]ncreased fees . . . always affect the trading volume in a negative way." Nasdaq does not contend that this firm moved order flow or that Nasdaq reduced the co-location fee at issue. In summary, none of the evidence of threats to move order flow in response to a price increase for market data shows that competition for order flow constrains depth-of-book prices.

iii. Fee caps not at issue here.

Nasdaq argues that fee caps not at issue here support its argument that competition for order flow constrains prices. Nasdaq points to discussions with a high-frequency-trading firm that Nasdaq contends resulted in a fee cap of $16,000 per month for certain uses of depth-of-book data from the Nasdaq OMX BX exchange (formerly the Boston Stock Exchange).[176]

---

[175] *See NetCoalition I*, 615 F.3d at 541 (dismissing examples provided in 2008 ArcaBook Approval Order as "two anecdotes" that "say nothing about whether an exchange like NYSE Arca is constrained to price its depth-of-book data competitively").

[176] Order Approving Proposed Rule Change To Establish New Fee for TotalView Service Available to Non-Professionals and to Establish an Optional Non-Display Usage Cap for Internal Distributors of TotalView, Exchange Act Release No. 62258 (June 10, 2010), 75 Fed. Reg. 34,490 (June 17, 2010), *available at* https://www.gpo.gov/fdsys/pkg/FR-2010-06-17/pdf/2010-14600.pdf.

Although SIFMA does not dispute this correlation, it observes that Nasdaq OMX BX has a much smaller trading volume than Nasdaq or other major exchanges. Indeed, Nasdaq reported in 2010 that the Nasdaq OMX BX exchange had a matched market share of cash equity trading of 3.3%, while Nasdaq had a 18.8% share (over five times higher).[177] Because Nasdaq OMX BX's market share is less than that of Nasdaq, it would not be surprising if there were less demand for OMX BX market data.[178] Accordingly, the Nasdaq OMX BX fee cap, which is not at issue in this proceeding, does not tell us whether purchasers of NYSE Arca or Nasdaq depth-of-book data have sufficient leverage to counter price increases for those exchanges' depth-of-book data.

Nasdaq also discusses a 2010 Nasdaq fee cap of $30,000 per month for certain uses of depth-of-book data. Nasdaq attributes this fee cap in part to the aforementioned high-frequency-trading firm, but that does not show that purchasers of Nasdaq's depth-of-book data had any power to constrain its pricing; indeed, this fee cap limitation was short lived.[179] In 2012, Nasdaq more than doubled the top tier of the cap to $75,000 per month, which the evidence shows the high-frequency-trading firm paid.[180]

No more persuasive is Nasdaq's reliance on another short-lived fee cap not at issue here that it aimed at a single firm. The record shows that, after the fee cap failed to attract order flow from that firm, Nasdaq raised it from $325,000 to $500,000 per month.[181] This example, like the other fee caps discussed above, shows at most that Nasdaq was willing to negotiate with individual firms in marginal cases; it does not show that the threat of moving order flow is a significant competitive force that constrained the exchanges' pricing of the depth-of-book data at issue here.

---

[177]   Nasdaq, Form 10-K for the year ended December 31, 2010, at 54 (filed Feb. 24, 2011), *available at* https://www.sec.gov/Archives/edgar/data/1120193/000119312511045348/d10k.htm.

[178]   *See generally NetCoalition I*, 615 F.3d at 543 n.17 ("We also know that as of July 2008, about 15% of [International Stock Exchange] members—20 of 140—subscribe to its depth-of-book product even though it is free. . . . Given that ISE's share volume in U.S. listed stocks is significantly smaller than that of NYSE Arca (.9% compared to 16.5% during June 2008), it is no surprise that its market data is less in demand."); 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,784 (stating that depth-of-book data provided by trading venues with greater trading volume "will be proportionally more important in assessing market depth").

[179]   Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Establish an Optional Non-Display Usage Cap for Internal Distributors of TotalView and OpenView, Exchange Act Release No. 61700 (Mar. 12, 2010), 75 Fed. Reg. 13,172 (Mar. 18, 2010), *available at* https://www.gpo.gov/fdsys/pkg/FR-2010-03-18/pdf/2010-5918.pdf.

[180]   *See generally* 2012 Nasdaq Rule Filing, 77 Fed. Reg. 21,125.

[181]   *See* Notice of Filing and Immediate Effectiveness of Proposed Rule Change To Revise an Optional Depth Data Enterprise License Fee for Broker-Dealer Distribution of Depth-of-Book Data, Exchange Act Release No. 63892 (Feb. 11, 2011), 76 Fed. Reg. 9391 (Feb. 17, 2011), *available at* https://www.gpo.gov/fdsys/pkg/FR-2011-02-17/pdf/2011-3583.pdf.

d. NYSE Arca offers insufficient evidence to support the platform theory.

Finally, NYSE Arca argues that "the existence of vigorous competition" among trading platforms prevents it from "setting supracompetitive prices on ArcaBook because another platform could meet NYSE Arca's pricing on other dimensions" in which trading platforms compete, e.g., trade execution services and listing services and "undercut its ArcaBook prices." NYSE Arca relies on its experts' assertion that "because exchanges must compete by keeping the overall cost of trading low, economic theory predicts that vigorous platform competition should discipline depth-of-book data pricing." NYSE Arca asserts that it maximizes its returns from two related products: trade execution, in which competition is fierce, and data services, where each exchange is the exclusive source of its own product. It argues that these two products make up its trading "platform," which competes with other platforms in a competitive market. Under this "platform theory,"[182] NYSE Arca posits that traders will flee its exchange if the overall "platform" price of trading is excessive, and it will thus lose revenues.[183] NYSE Arca argues that because the *total cost* of trading on platforms is constrained by competition, economic theory establishes that *data prices* are also constrained by competition.

We find that the record before us does not establish that platform competition constrains the exchanges' fees for the depth-of-book products at issue here. NYSE Arca does not substantiate its assertions that traders base their decisions regarding where to execute trades based on the combined cost of execution and data services. For example, NYSE Arca does not address the extent to which traders select trading venues on an order-by-order basis after considering other factors such as the price and quantity of available limit orders or applicable regulatory obligations, including factors that may be valuable to market participants if they have access to non-core data.[184] As a result, NYSE Arca's contentions that (1) the platform theory applies in practice and (2) therefore, platform-by-platform competition constrains market data prices at each platform suffer from the same flaw the D.C. Circuit identified in *NetCoalition I*: the "lack of support in the record" for those conclusions.[185]

---

[182]   *See* 2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,779 (discussing comment that "identified market data and trade execution services as an example of 'joint products' with 'joint costs' that determine a trading platform's total return," but not adopting such theory as basis of the approval order); *see also NetCoalition I*, 615 F.3d at 542 n.16 (explaining that the Commission did not rely on the platform theory in approving ArcaBook fee rule).

[183]   As discussed above, *see supra* note 164, we think NYSE Arca overstates the case by claiming that traders can "flee" an exchange. Firms must be cognizant of the Order Protection Rule and best execution obligations. To the extent firms have the ability to move order flow in response to data pricing decisions, they would have to do so consistent with these and other regulatory requirements.

[184]   *See supra* notes 19-29 and accompanying text.

[185]   615 F.3d at 541.

Accordingly, for the reasons set forth above, the exchanges have failed to establish that their pricing of the depth-of-book products at issue here is constrained by competition for order flow.

> **2. The exchanges have failed to establish that the availability of alternatives constrains their pricing of the depth-of-book products at issue.**

In *NetCoalition I*, the D.C. Circuit held that the record did not demonstrate that the existence of alternatives to depth-of-book data was a significant competitive force that constrained NYSE Arca's pricing of depth-of-book data. The court explained that the mere existence of an alternative does not establish that a market is competitive. In the court's view, the inquiry into whether a market is competitive should focus on demand elasticity.

The exchanges argue that, at least for some traders, there are sufficient alternatives to an exchange's depth-of-book products to constrain the price that an exchange may charge for it. But Nasdaq acknowledges that the "100 highly sophisticated trading firms that pursue algorithmic trading strategies" "may require all depth-of-book data from every exchange." And its CFO testified that depth-of-book data is "crucial" for a category of large and sophisticated market professionals, such as banks, market makers, and algorithmic traders. An analysis that NYSE Arca submitted shows that 54% of Nasdaq's professional customers—a larger group than the 100 highly sophisticated trading firms—who purchased depth-of-book data also purchased ArcaBook and OpenBook (NYSE's separate depth-of-book product). And Nasdaq submitted evidence that, on an annual basis, approximately 80% of Nasdaq's depth-of-book customers purchase ArcaBook.

We examine below the exchanges' arguments that the existence of alternatives constrains their pricing of depth-of-book data and find those arguments insufficiently persuasive.

> **a. The exchanges fail to present evidence of demand elasticity that establishes their prices are constrained by competition.**

In *NetCoalition I*, the D.C. Circuit stated that "[t]he inquiry into whether a market for a product is competitive . . . focuses on the customer and, in particular, his price sensitivity—in economic terms, the product's 'elasticity of demand.'"[186] SIFMA argues that the impact of two price increases on subscriber numbers shows that demand for depth-of-book data is inelastic and that the exchanges have market power. The first price increase involves NYSE Arca's 2009 introduction of ArcaBook fees. The second price increase involves a 2012 Nasdaq fee increase not at issue in this proceeding. The exchanges deny that these examples prove they have market power.

---

[186]   *Id.* at 542.

i.　2009 NYSE ArcaBook fee increase

NYSE Arca argues that we should not give much weight to evidence showing that NYSE Arca lost less than 2% of professional subscribers after it began to charge ArcaBook fees in January 2009. NYSE Arca argues that it is "not appropriate" to analyze the effect of this price increase on its subscriber numbers because it previously gave away depth-of-book data rather than charge a competitive price for it. But in *NetCoalition I*, the D.C. Circuit knew that ArcaBook had been provided at no cost before NYSE Arca began to charge for it, and the court nevertheless urged the Commission to consider the elasticity of demand as it related to the January 2009 price increase.[187]

NYSE Arca also asserts that because it filed its initial rule change imposing ArcaBook fees in 2006, consumers knew well before it became effective in January 2009 that NYSE Arca would impose fees for ArcaBook, and considered this when they chose whether to incur the infrastructure costs necessary to take the product during the time that it was provided at no cost. NYSE Arca hypothesizes that it did not lose many of these informed customers when it started charging for ArcaBook because they were prepared for the price increase. However, NYSE Arca has not provided any evidence substantiating its claim that infrastructure costs coupled with the possibility of a price increase for data deterred consumers from obtaining ArcaBook when it was provided at no cost.

NYSE Arca also urges us to consider that the number of accounts taking the data feed directly from NYSE Arca (rather than through a redistributor) "declined by approximately 23%" following the 2009 ArcaBook fee increase. As discussed above, however, correlation is not causation. NYSE Arca does not offer an event study or other statistical evidence purporting to link any change in the number of direct feed accounts to any earlier announcement regarding its introduction of ArcaBook fees. Without such evidence, or other evidence proving a causal link, NYSE Arca cannot establish that the introduction of ArcaBook fees caused the decline in accounts taking the ArcaBook data feed. Indeed, the decline in the number of direct access accounts could be attributable to firms going out of business during the 2009 financial crisis, industry consolidation, or other factors.

NYSE Arca also concedes that the 2009 ArcaBook fee increase was on the inelastic portion of the demand curve yet argues that it still lacked market power. NYSE Arca argues that when demand is inelastic, a profit-maximizing firm with market power will continue to increase prices, and thus increase its revenue, until demand becomes elastic, and further price increases cause it to lose revenue. Accordingly, NYSE Arca argues that because its prices are still in the inelastic portion of the demand curve it lacks the market power that would allow it to increase

---

[187]　*See id.* at 542-43.

prices up to the elastic portion of the curve.[188] There is not enough evidence in the record to support NYSE Arca's argument that the fact that demand was inelastic when it instituted the 2009 ArcaBook fee increase actually shows that it lacks market power.

The record shows that NYSE Arca instituted fees for depth-of-book data and thereby increased its data revenues. This tells us that the initial price of ArcaBook ($0) was on the inelastic portion of the demand curve, but it does not tell us if demand was elastic or inelastic at the point on the demand curve corresponding to the fee increase. Despite the availability of data regarding subsequent price increases, and having been provided the opportunity to supplement the record, NYSE Arca did not present an analysis showing how purchasers would respond to a price increase from that level (i.e., the price level challenged in this proceeding). Accordingly, NYSE Arca has not offered sufficient evidence to establish its argument that it is unable to increase its prices to the elastic portion of the demand curve due to significant competitive forces.

ii.   2012 Nasdaq fee increase

SIFMA also argues that Nasdaq has market power based on the effect of a 2012 Nasdaq rule change not at issue in this proceeding. That rule change imposed a $300 a month fee for non-display use of depth-of-book data and increased the cap on non-display use from $30,000 to $75,000. Using information contained in the report (and associated work papers) of Nasdaq's expert, Janusz A. Ordover, SIFMA calculates that Nasdaq lost at most 3.1% of the prior year's depth-of-book revenues from customers who dropped its depth-of-book product in 2012, and 0.2% of its depth-of-book revenue from customers who switched to NYSE Arca, which did not charge separately for internal non-display use at the time. SIFMA argues that Nasdaq thus lost at most 3.1% of its depth-of-book revenue as a result of its price increase. SIFMA argues that the lack of a significant decrease in revenue as a result of the price increase for Nasdaq's depth-of-book data shows that demand for that product is highly inelastic.

Nasdaq disagrees that the 2012 Nasdaq fee increase shows it has market power. First, it contends that the calculations of David Evans, SIFMA's expert, establish that there was "substantial customer turnover as a result of this price increase" because "the two-year total proportion of revenue from customers lost" exceeds SIFMA's 3.1% calculation. But Nasdaq does not explain why we should attribute all depth-of-book data revenue lost over this period to the 2012 price increase, and it does not include in its calculations revenue gained from new

---

[188]   As discussed above, the demand curve represents the quantity demanded of a product at each possible price. The inelastic portion of the demand curve refers to the portion of the demand curve where a firm could increase its revenue from a product by increasing its price. NYSE Arca relies on what it characterizes as "the fundamental economic principle that a company with market power would never price in the inelastic portion of the demand curve."

customers during 2012 and 2013.[189] Ordover conceded that "[i]n general, it is not possible to determine from the available data why a customer started or stopped purchasing NASDAQ depth-of-book data." Moreover, some of the customers at issue were lost before Nasdaq's 2012 fee increase, which makes it even harder to attribute their loss to a fee increase. And an internal Nasdaq presentation from July 2012 stated that, although the "[o]utcome" of "introduc[ing] new non-display usage fees[s] in April 2012" was "still to be determined," "revenue [was] up roughly $10 [million] per year."

Second, Nasdaq argues that its 2012 non-display price increase is irrelevant because it "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." Nasdaq attributes the price increase to an unnamed "customer who commented that Nasdaq's prices were too low in relation to the value of its data," which it argues shows that "[t]he evidence is thus consistent with Nasdaq's *underpricing* its depth-of-book product" (emphasis in original). In other words, Nasdaq argues that a small group of traders needed its product enough that it could raise its prices for that product to a level that accounts for the value that the traders derived from it. This contradicts Nasdaq's arguments that this same group of traders is able to control the price of depth-of-book data by threatening to move order flow.

Third, Nasdaq argues that an internal presentation prepared no later than 2007 stating that "[c]ountless other would-be competitors stand at the ready to capture market share and mind share if NASDAQ makes any missteps with respect to pricing strategy" establishes "the very definition of highly elastic demand for a product." But these conclusory statements are opinions and do not substantiate the existence of competition. That the presentation also predates the Nasdaq fee increase at issue by several years further undermines their persuasiveness.

Nasdaq's expert also testified that as a result of the price increase put into effect through the 2012 Nasdaq Rule Filing Nasdaq "had some losses, but not losses that were very large." Ordover suggested that Nasdaq was thus in "the inelastic portion of [its] demand" curve and "had some flexibility of going up and down without so much losing volume and profits as to make it unprofitable."

It is Nasdaq's burden to establish that its expansion of certain fees to its Level 2 product is consistent with the Exchange Act. For the reasons explained above, Nasdaq's arguments

---

[189] In our view, it is also likely that SIFMA's 3.1% figure overstates the revenue Nasdaq lost. The 3.1% figure attributes all lost depth-of-book revenues in 2012 to the fee increase even though some lost revenue may have been attributable to firm closings or business decisions. Ordover's underlying analysis also characterized any subscribers who switched from buying depth-of-book data directly from Nasdaq to purchasing it through a distributor, such as Bloomberg, as lost customers even though they would continue to pay depth-of-book fees. The 3.1% figure also does not offset lost depth-of-book revenue against depth-of-book revenue gained from new customers.

regarding the effect of its 2012 price increase do not meet this burden. Nasdaq concedes that it increased the data fees charged to the large customers that it contends have sufficient market power to constrain its depth-of-book pricing. Nasdaq also does not ask us to draw any conclusions as to market power based on the effect of the fee change at issue here: its 2010 extension of certain fees to its Level 2 depth-of-book product. Nor does Nasdaq argue that expanding certain fees to its Level 2 product had any particular effect on customer or revenue numbers. Accordingly, Nasdaq fails to offer evidence of the elasticity of demand sufficient to justify the 2010 Level 2 Fee Rule.

b. The exchanges' other arguments regarding alternatives also are unpersuasive.

The exchanges argue that alternatives constrain their pricing of depth-of-book data for a number of other reasons. We discuss these additional arguments below.[190]

i. The need for depth-of-book data

The exchanges argue that most customers do not need depth-of-book data and that, as a result, the ability of these customers to switch to alternative depth-of-book products offered by other exchanges constrains prices for depth-of-book data. But this argument ignores the fact that some customers do need depth-of-book data.[191] Indeed, the D.C. Circuit has already held that the "fact that there are few buyers does not by itself demonstrate a lack of market power" for the seller.[192]

The largest market participants, typically market makers and large institutional brokers, compete in a market where: (1) competition is largely based upon speed, and the slower SIP NBBO is generally inadequate for current trading strategies and not competitive with the faster

---

[190] The exchanges do not argue that pinging orders are adequate substitutes for depth-of-book data. *See NetCoalition I*, 615 F.3d at 543 (characterizing pinging as "not an obvious alternative" to depth-of-book data).

[191] *See supra* Section III.C.1.a. (discussing the high concentration of trading volume from a small group of firms that may require all depth-of-book data from every exchange).

[192] *NetCoalition I*, 615 F.3d at 543 (quoting Areeda § 501).

NBBO derived directly from exchanges' market data;[193] (2) post-decimalization, depth-of-book data from an exchange is necessary to understand the liquidity in various exchanges' order books at multiple price levels in connection with trading a large order;[194] and (3) depth-of-book data provides a trader with the ability to calculate market imbalance information at multiple price levels in order to gain a fuller picture of the balance of supply and demand within a market across multiple price levels, which could potentially provide a directional market signal.[195] Moreover, for alternative trading systems ("ATS") to provide adequate execution quality, they may need to use the faster data directly from exchanges to protect their customers from latency

---

[193]   Ding, 49 The Financial Review at 314-15 ("[A]ctive traders are at a substantial disadvantage if they use the public data. . . . The NBBO from the NASDAQ SIP may not be the fastest NBBO investors can obtain from the market. The delay is significant to the extent that investors cannot get the optimal price if they have a large amount to be traded."); *see also id.* at 316 ("Traders with access to more recent prices can also devise various strategies to profit from slower investors. These strategies can range from picking off stale orders in public markets to taking advantage of any stale prices utilized by dark pools."). SIFMA's expert, Bernard Donefer, characterized competition as "a race." He explained that "to win that race" you need information "and the ability to get your order placed in the market in the front of the queue at the best price."

[194]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,784 ("Institutional investors that need to trade in large size typically seek to assess market depth beyond the best prices.").

[195]   *See supra* paragraph in the body following note 22 and subsequent text. We recognize that recent petitions for Commission rulemaking regarding market data discuss market participants' need to purchase exchange market data to execute certain investment strategies, remain competitive, or fulfill regulatory obligations. *See* letters to Brent J. Fields, Commission, from Ben Brown, Patomak Global Partners, dated December 6, 2017 (noting that in today's high-speed electronic markets, many market participants have concluded that they must purchase exchange proprietary market data in order to remain commercially competitive, and that broker-dealers' customers are increasingly "demanding that routing decisions and order execution be driven by combining the top-of-book feeds directly from each exchange instead of from the SIP"); Tyler Gellasch, Executive Director, Healthy Markets, dated January 17, 2018 (noting that market participants rely on both core and exchange proprietary market data to stay competitive and fulfill their regulatory obligations); and Richard H. Baker, President and CEO, Managed Funds Association and Jiří Król, Deputy CEO, Global Head of Government Affairs, Alternative Investment Management Association, dated August 22, 2018 (noting that market participants purchase exchange proprietary market data for a variety of reasons, including strategy implementation, risk analysis, and to fulfill certain regulatory obligations, and that certain market participants feel obligated to obtain a comprehensive view of market liquidity using exchange proprietary market data in order to execute their investment strategy).

arbitrage and adverse selection of customer orders.[196] The exchanges fail to demonstrate that there are alternatives to the depth-of-book products at issue here for these market participants.

The exchanges assert that many of the market participants who purchase depth-of-book data do not buy it from each exchange that offers it; they theorize that depth-of-book data from one exchange thus may be substitutable for depth-of-book data from another exchange. But NYSE Arca submitted data showing that 75% of the traders that purchased a Nasdaq depth-of-book product purchased two or more depth-of-book products. Indeed, NYSE Arca's experts found that 54% of the traders that purchased a Nasdaq depth-of-book product also purchased both ArcaBook and OpenBook and 21% purchased either ArcaBook or OpenBook. Nasdaq's expert also found that, on an annual basis, approximately 80% of Nasdaq's depth-of-book customers purchase ArcaBook. These figures suggest that other depth-of-book products are useful to customers in addition to, rather than as an alternative to, NYSE Arca's and Nasdaq's data.

ii.   The substitutability of depth-of-book data from other exchanges

The exchanges also argue, relying on the expert report Hendershott and Nevo submitted, that "depth-of-book data from one exchange can substitute for data from another exchange" because most securities trade on multiple exchanges. We recognize that products need not be

---

[196]   *See supra* notes 27-29 and accompanying text; *see also* Regulation of NMS Stock Alternative Trading Systems, Exchange Act Release No. 83663 (July 18, 2018), 83 Fed. Reg. 38,768, 38,860 (Aug. 7, 2018), *available at* https://www.gpo.gov/fdsys/pkg/FR-2018-08-07/pdf/2018-15896.pdf ("Market data is a critical component to understanding the operations of an NMS Stock ATS. For instance, the market data received by an NMS Stock ATS might affect the price at which orders and trading interest is prioritized and executed in the ATS, including orders that are pegged to an outside reference price. The source of an NMS Stock ATS's market data could impact the execution price received by a subscriber . . . The information [regarding the source of an NMS Stock ATS's market data] could be important to market participants because they could be concerned, for example, about price impacts on their trading interest if the NMS Stock ATS compiles the NBBO slower than other trading venues, or that they would trade on stale prices, as well as the potential for information leakage."); FINRA Regulatory Notice 15-46 (Nov. 2015), *available at*
https://www.finra.org/sites/default/files/notice_doc_file_ref/Notice_Regulatory_15-46.pdf ("The exercise of reasonable diligence to ascertain the best market under prevailing market conditions can be affected by the market data, including specific data feeds, used by a firm. For example, a firm that regularly accesses proprietary data feeds, in addition to the consolidated SIP feed, for its proprietary trading, would be expected to also be using these data feeds to determine the best market under prevailing market conditions when handling customer orders to meet its best execution obligations.").

identical to be substitutable.[197]   For various reasons, however, including those discussed below, the exchanges' argument that other depth-of-book products may substitute for the depth-of-book products at issue here is not sufficiently supported in the record.

First, NYSE Arca asserts that, because there is an overlap in trading between exchanges, "it is only logical for depth-of-book data to be correlated across exchanges and that this be considered in assessing substitutability." But it does not follow that, simply because a security is traded on more than one exchange, the order books for each exchange necessarily must be the same or substantially similar. NYSE Arca predicates its substitutability argument on the unsupported inference that depth-of-book data is correlated across exchanges. Yet it submits no real-time comparisons of depth-of-book data across exchanges or other data that would support its contention. SIFMA submitted data that cuts against the exchanges' contentions—examples of depth-of-book data showing that limit orders in different exchanges' order books diverge.

We find the evidentiary support that NYSE Arca submits to support its inference unpersuasive. NYSE Arca relies on a study that evaluated the effect of trades on order cancellations on the London Stock Exchange and other European trading venues.[198] The study found that "trades on one venue are immediately followed by cancellations of limit orders on competing venues of more than 60% of the trade size." According to Hendershott and Nevo, "[s]uch commonality in changes to limit-order books *implies* that traders purchasing depth-of-book data from one exchange can *forecast* the limit-order book on other exchanges for which they do not purchase depth-of-book data." (emphasis added). But Hendershott and Nevo do not offer evidence of the effectiveness of any such forecasting.

The cited study does not provide evidence establishing a correlation between depth-of-book data across exchanges. It looked at the size of trade cancellations following executed trades, not the prices of limit orders contemporaneously contained in different exchanges' order books. Knowing that order cancellations of a certain size are likely to follow a trade does not establish that order books are correlated.

Second, Hendershott and Nevo do not explain how a trader interested in making order routing decisions could do so knowing only the contents of the order book of a single exchange.[199] For example, they do not explain how traders engaging in high-frequency or algorithmic trading could pursue their strategies without depth-of-book data from multiple

---

[197]   *Kaiser Aluminum & Chem. Corp. v. FTC*, 652 F.2d 1324, 1330 (7th Cir. 1981).

[198]   Competition for Order Flow with Fast and Slow Traders, Vincent van Kervel, The Review of Financial Studies, Volume 28, Issue 7, 1 July 2015, Pages 2094–2127, available at https://doi.org/10.1093/rfs/hhv023.

[199]   Although depth-of-book data is not required to satisfy best execution obligations, it is not irrelevant to a firm's order routing decisions. *See supra* note 174. As discussed above, moreover, a firm's order routing decisions may be constrained by existing regulatory obligations. *See supra* note 164.

exchanges. They also do not explain how traders would understand the aggregate supply versus demand imbalance within the marketplace (that could potentially be a directional market signal) without depth-of-book data from all the exchanges. Moreover, they do not explain how traders who obtain the faster depth-of-book data from one exchange could gain an accurate view of the marketplace without also obtaining the faster depth-of-book data from other exchanges (e.g., to accurately detect a directional market signal, or to accurately derive the current NBBO for compliance with the Order Protection Rule). Indeed, Nasdaq concedes the existence of traders who require all depth-of-book data.

iii. The threat to drop Nasdaq data products

The exchanges also rely on a statement from one market participant that depth-of-book data is interchangeable. As relayed in an internal Nasdaq email from January 2014, an executive at a company with a trading platform threatened to encourage its users to drop Nasdaq's depth-of-book products. According to the Nasdaq email, the executive stated that 90% of the trading done on his company's platform was through algorithms and "these users don't need depth displays." The executive threatened that "[i]f they do want that type of data, he will just push them to the lower cost or free alternative options (BATS, DE [Direct Edge], etc) since they are all basically interchangeable."

This single statement does not establish that depth-of-book data products are interchangeable or that there are substitutes for the depth-of-book products at issue here. An assertion that such products are interchangeable in the course of negotiating the fees for these products does not establish that this is in fact the case. It is also unclear whether the executive was asserting that all depth-of-book data is interchangeable for firms employing algorithms or whether it was only the display form of data they did not need. In any event, Nasdaq explained in an internal email that it "pushed back to say that our data is more valuable than the competition." And Nasdaq does not offer any evidence that the customers replaced its depth-of-book data with other data, that the executive actually encouraged them to do so, or that the executive's threats prompted Nasdaq to make any concessions.

iv. Switching between depth-of-book products

The exchanges argue that evidence shows that customers routinely change the depth-of-book products that they purchase or otherwise limit the extent of their purchases, and they identify limited instances where customers switched depth-of-book products. Neither the statistics that the exchanges cite nor the examples that they discuss supports their contention that the availability of substitutes for depth-of-book products puts pressure on those products' prices. The exchanges principally rely on an analysis showing that, between 2008 and 2014, the annual turnover rate for Nasdaq's depth-of-book products (the rate at which Nasdaq added and lost customers for depth-of-book products) ranged between 23 to 41%.[200] This study does not

---

[200] The parties refer to this analysis as a "churn" analysis—Ordover defined the "churn" rate as "the sum of annual customer additions and losses divided by the total number of customers."

purport to show if these firms substituted any other exchange's depth-of-book product for Nasdaq's depth-of-book product (or vice versa), identify the reasons why firms added or dropped Nasdaq's products, or attempt to tie turnover to any particular price change for depth-of-book products. Accordingly, we find this evidence unpersuasive.

The exchanges' other evidence that customers switched between depth-of-book products is similarly flawed because it does not show that price increases were the reasons customers switched.[201] After initially identifying seven examples of customers that switched between ArcaBook and Nasdaq depth-of-book products at some point between 2006 to 2014, Nasdaq's expert Ordover explained at the hearing that he later found a total of 31-35 examples of switching over this period. But Ordover did not attempt to attribute these customers' decisions over this multi-year period to any changes in the price of an exchange's depth-of-book data or indeed give any explanation why these customers switched depth-of-book products. Nasdaq's fact witness, Oliver Albers, was able to offer only three examples of customers that switched from Nasdaq's TotalView to ArcaBook since 2006, including over the period that ArcaBook was free. And Albers also did not identify the reason that these customers switched products.

NYSE Arca's fact witness, James Brooks, identified a single customer that dropped ArcaBook when NYSE Arca began to charge for it.[202] Brooks could not identify any other customers that NYSE Arca lost as a result of any fee increase. The exchanges' evidence of assorted customer purchasing decisions at various times, generally for unidentified reasons, does not support their contention that the availability of substitutes for depth-of-book products puts pressure on those products' prices.

v.   Historical depth-of-book prices

The exchanges argue that the prices they charge for depth-of-book data have remained relatively stable and attribute this to an inability to raise prices due to the existence of

---

[201]   *See Mobil Pipe Line Co. v. FERC*, 676 F.3d 1098, 1103 (D.C. Cir. 2012) (stating that the inquiry into market power "examines the alternatives reasonably available to consumers and the cross-elasticity of demand—that is, the extent to which consumers will respond to an increase in the price of one good by substituting or switching to another"); *see also* Areeda § 536 (stating that products may have a high cross-elasticity of demand and be good substitutes for one another if enough customers would respond to a small but significant nontransitory increase in the price of product A by switching to product B, so that it would make the increase unprofitable).

[202]   That customer continued to purchase market data from NYSE Arca; it simply downgraded from NYSE Arca's depth-of-book product to its top-of-book BBO product, which offers access to the best bids and offers on the exchange more quickly than the NBBO data available through the SIPs.

alternatives to their products. Contrary to this assertion, NYSE Arca has raised or modified every charge specified in its 2008 ArcaBook Fee Rule and introduced new fees:[203]

Fee	2008 ArcaBook Fee Rule (monthly charge)	Current (monthly charge)
Access Fee	$750	$2,000
Multiple Data Feed Fee	N/A	$200
Redistribution Fee	N/A	$2,000
Non-Display Fee	N/A	$6,000 (subject to $18,000 cap for one of three categories)

---

[203] *See* NYSE PDP Market Data Pricing (January 1, 2018), https://www.nyse.com/publicdocs/nyse/data/NYSE_Market_Data_Pricing.pdf at 15 (current fees); *see also* Notice of Filing and Immediate Effectiveness of Proposed Rule Change Establishing Non-Display Usage Fees for NYSE Arca Integrated Feed, NYSE ArcaBook, NYSE Arca Trades, and NYSE Arca BBO, and a Redistribution Fee for NYSE ArcaBook, Exchange Act Release No. 69315 (Apr. 5, 2013), 78 Fed. Reg. 21,668 (Apr. 11, 2013), *available at* https://www.gpo.gov/fdsys/pkg/FR-2013-04-11/pdf/2013-08464.pdf (imposing non-display usage and redistribution fees); Notice of Filing and Immediate Effectiveness of a Proposed Rule Change Amending the Fees for NYSE ArcaBook, Exchange Act Release No. 71483 (Feb. 5, 2013), 79 Fed. Reg. 8217 (Feb. 11, 2014), *available at* https://www.gpo.gov/fdsys/pkg/FR-2014-02-11/pdf/2014-02874.pdf (increasing fees); Notice of Filing and Immediate Effectiveness of Proposed Rule Change Amending the Fees for NYSE ArcaBook, Exchange Act Release No. 72560 (July 8, 2014), 79 Fed. Reg. 40,801 (July 14, 2014), *available at* https://www.gpo.gov/fdsys/pkg/FR-2014-07-14/pdf/2014-16368.pdf (increasing nonprofessional fee cap); Notice of Filing and Immediate Effectiveness of Proposed Rule Change Amending Its Fees for Non-Display Use of NYSE Arca Integrated Fee, NYSE ArcaBook, NYSE Arca Trades, and NYSE Arca BBO, and to Establish a Fee for Managed Non-Services for NYSE Arca BBO, Exchange Act Release No. 73011 (Sept. 5, 2014), 70 Fed. Reg. 54,315 (Sept. 11, 2014), *available at* https://www.gpo.gov/fdsys/pkg/FR-2014-09-11/pdf/2014-21650.pdf (generally increasing non-display use fees); Notice of Filing and Immediate Effectiveness of Proposed Rule Change Amending the Fees for NYSE ArcaBook, Exchange Act Release No. 74011 (Jan. 7, 2015), 80 Fed. Reg. 1681 (Jan. 7, 2015), *available at* https://www.gpo.gov/fdsys/pkg/FR-2015-01-13/pdf/2015-00295.pdf (establishing access fee for managed non-display services and redistributor support fee cap); Notice of Filing and Immediate Effectiveness of Proposed Rule Change Amending the Fees for NYSE ArcaBook, Exchange Act Release No. 76903 (Jan. 14, 2016), 81 Fed. Reg. 3547 (Jan. 21, 2016), *available at* https://www.gpo.gov/fdsys/pkg/FR-2016-01-21/pdf/2016-01055.pdf (establishing multiple data feed fee, discontinuing fees relating to managed-non-display, and modifying application of non-professional fee cap).

Professional User Fee	$30 (two $15 charges)	Non-Broker/Dealers: $60 (bundled) Broker/Dealers: $60 each for first 500 customers, $40 each for additional customers, and subject to $75,000 enterprise license
Nonprofessional User Fee	$10 (two $5 charges) subject to $20,000 cap	$10 (bundled) subject to a $40,000 cap

Similarly, Nasdaq has raised certain data fees on depth-of-book products.[204] And Nasdaq does not consider other factors that might indirectly affect the cost or value of its product. For example, Nasdaq does not address the fees that it charges for high-speed access to depth-of-book data or co-location services, the extent to which the purchasers of its depth-of-book products also buy these products to facilitate their use of the data, or variations in Nasdaq's relative share of trading on venues that make depth-of-book data available. These factors suggest that the reason for some price stability might not be the exchanges' inability to raise prices.

No more persuasive is Nasdaq's declaration that it "reduced professional subscriber fees for TotalView"—Nasdaq's depth-of-book product for Nasdaq-listed securities—"by more than 50% in 2003 and has not increased that fee since."[205] The fee reduction to which Nasdaq refers was approved about seven years before the filings at issue here and occurred soon after Nasdaq

---

[204] *See generally* 2012 Nasdaq Rule Filing, 77 Fed. Reg. 21,125; Notice of Filing and Immediate Effectiveness of Proposed Rule Change To Modify an Optional Subscriber Fee and Tiered Distribution Fee for "Enhanced" Data Displays, Exchange Act Release No. 73807 (Dec. 10, 2014), 79 Fed. Reg. 74,784 (Dec. 16, 2014), *available at* https://www.gpo.gov/fdsys/pkg/FR-2014-12-16/pdf/2014-29362.pdf.

[205] *See* Order Granting Approval to Proposed Rule Change and Amendment Nos. 1, 2, and 5 Thereto by the National Association of Securities Dealers, Inc., Relating to Charges for ViewSuite Services Set Forth in NASD Rule 7010(q), Exchange Act Release No. 48581, 68 Fed. Reg. 57,945 (Oct. 7, 2003) (approving revised fees), *available at* https://www.gpo.gov/fdsys/pkg/FR-2003-10-07/pdf/03-25340.pdf; s*ee also supra* note 37 and accompanying text (defining TotalView).

first began to charge for TotalView.[206] This initial fee adjustment for a recently introduced product provides little evidence about whether competition later constrained Nasdaq's ability to set prices for its data products.

Finally, Nasdaq's argument does not address the price increase at issue in this proceeding: its extension of distributor and direct access fees to Level 2.

vi.   Other possible indicia of competition

The exchanges argue that they must employ sales staff because of the competitive nature of the market, and that they improve their products to offer more attractive options to customers. But the fact that the exchanges hire sales staff does not prove that the market for their depth-of-book products is competitive. Nasdaq also identifies no specific innovations to its products in its brief; at the hearing, it extensively relied on documents dating from 2006 (nearly ten years before the hearing) to support the existence of innovation; and despite identifying the amount of its research and development budget, the most significant subsequent development after 2006 that it identified at the hearing is its choice of third-party internet service provider, not any change to its data.

The exchanges also argue that there are no significant barriers to entry to the business of operating an exchange and that new exchanges (or existing alternative trading systems) could begin to sell their depth-of-book data. We reject this argument for the reason stated by the D.C. Circuit in *NetCoalition I*, which held that "even if we assume that the 'threat of independent distribution of order data by securities firms and data vendors' is not unduly speculative, the [Commission]'s duty is to ensure that fees are 'fair and reasonable'—not to predict that, with the entry of a competitor, they might someday get there."[207]

---

[206]   Order Approving Proposed Rule Change and Notice of Filing and Order Granting Accelerated Approval to Amendment No. 5 to the Proposed Rule Change by the National Association of Securities Dealers, Inc., Relating to Fees for Nasdaq Data Entitlement Packages, Exchange Act Release No. 46843 (Nov. 18, 2002), 67 Fed. Reg. 70,471 (Nov. 18, 2002), *available at* https://www.gpo.gov/fdsys/pkg/FR-2002-11-22/pdf/02-29761.pdf (approving initial TotalView fees); Notice of Filing of Proposed Rule Change and Amendment No. 1 Thereto by National Association of Securities Dealers, Inc. Relating to Charges for ViewSuite Services Set Forth in NASD Rule 7010(q), Exchange Act Release No. 48358 (Aug. 15, 2003), 68 Fed. Reg. 50,566 (Aug. 21, 2003), *available at* https://www.gpo.gov/fdsys/pkg/FR-2003-08-21/pdf/03-21448.pdf (announcing proposed fee change). An internal Nasdaq email shows, but does not quantify, an increase in subscribers following the fee reduction.

[207]   *NetCoalition I*, 615 F.3d at 543 (citing 2008 ArcaBook Approval Order at 74,785). We note that there are contractual limitations on independent distribution of depth-of-book data by data vendors or securities firms. *See* NYSE Master User Agreement, available at https://www.nyse.com/publicdocs/nyse/markets/nyse/NYSE_Master_User_Agreement.pdf.

Finally, the exchanges suggest that they should prevail because "[s]ince *NetCoalition I* was decided, the DOJ has twice concluded that exchanges compete against each other for the sale of proprietary market data." But the three documents on which the exchanges rely—a complaint submitted in an antitrust case seeking to block a merger transaction, a competitive impact statement submitted in connection with a proposed consent judgment in the case, and a press release announcing that another transaction had been abandoned after the Department of Justice had threatened to file a lawsuit to block it—do not provide sufficient data or analysis for us to conclude that competitive forces constrain the pricing of depth-of-book data for purposes of determining whether the fees at issue here are fair and reasonable.[208] In any event, these documents concern the resolution of different legal questions under a statute not at issue here.[209]

3. The exchanges fail to establish a basis other than competitive forces to demonstrate that the fees at issue are fair and reasonable.

The exchanges have failed to establish that their depth-of-book fees are constrained by significant competitive forces. But as explained in the 2008 ArcaBook Approval Order, the exchanges still may meet their burden to demonstrate consistency with the Exchange Act by establishing "a substantial basis, other than competitive forces, . . . demonstrating that the terms of the proposal are equitable, fair, reasonable, and not unreasonably discriminatory."[210] As explained below, however, the exchanges fail to make that demonstration.

a. The exchanges' proffered alternative bases for sustaining the fees at issue do not show that the fees are fair and reasonable.

In a footnote, NYSE Arca asserts that there is a "substantial basis, other than competitive forces [for concluding] that the terms of [2010 ArcaBook Fee Rule] are equitable, fair, reasonable, and not unreasonably discriminatory." Its support for this contention is the

---

[208]   *Cf. NetCoalition I*, 615 F.3d at 528, 540, 541 (concluding that Commission failed to "support its conclusion with substantial evidence," even though it reached a "conclusion . . . not objectionable in theory," and that it relied on a report that stated "a conclusion, not evidence").

[209]   The Department of Justice alleged that a proposed merger would violate Section 7 of the Clayton Act, 15 U.S.C. § 18. Section 7 "prohibits mergers and acquisitions the effects of which 'may be substantially to lessen competition, or to tend to create a monopoly.'" *United States v. Baker Hughes Inc.*, 908 F.2d 981, 982 (D.C. Cir. 1990). The relevant question in a Section 7 enforcement action is whether the proposed merger or acquisition "will lead to undue concentration in the market for a particular product in a particular geographic area" and thereby presumptively "lessen competition." *Id.* The analysis and evidence necessary to answer the question posed in a Section 7 proceeding is distinct from that necessary for the Commission to determine whether there is sufficient market competition to constrain the prices charged for depth-of-book data, such that fees are fair and reasonable under the Exchange Act. None of the merger documents that the exchanges point to purports to answer that question.

[210]   2008 ArcaBook Approval Order, 73 Fed. Reg. at 74,781.

conclusory statement in its rule filing that "*[b]y making the data it includes available*, ArcaBook enhances market transparency, fosters competition among orders and markets, and enables buyers and sellers to obtain better prices" (emphasis added). NYSE Arca's argument addresses the benefits of making depth-of-book data available but it says nothing about whether the level of the market data fees it charges is fair and reasonable, and thus consistent with the Exchange Act.

In its fee filing, NYSE Arca also contended that its fees are consistent with the Exchange Act because they are less than the prices charged by competing providers. It also argued in its brief that "ArcaBook display prices for individuals are and always have been far less than what a nonprofessional subscriber might pay for getting cable television at home." These comparisons do not establish that NYSE Arca's fees are consistent with the Exchange Act. The exchanges must demonstrate that the fees are fair and reasonable, not that they are less expensive than competing products, or products in an entirely different industry.[211]

Nasdaq also contends that there is an alternative substantial basis to approve its rule change because it "benefits market participants by keeping trading prices low, encouraging investment and innovation in market-data products, enhancing trading platform efficiency, and promoting consumer welfare." But Nasdaq provides no evidentiary showing to establish that the 2010 Level 2 Fee Rule, which increased the price of Level 2 depth-of-book data, serves these ends.

b. The exchanges do not attempt to support their fees using cost data.

In *NetCoalition I*, the D.C. Circuit recognized that an exchange's cost of providing non-core market data could be relevant to the fairness of fees charged for that data under the Commission's market-based approach.[212] SIFMA asserts that the evidence shows that the exchanges have "low costs and extraordinarily high profit margins," which SIFMA contends "further confirms that the Exchanges have significant market power over their depth-of-book data fees." In contrast, the exchanges urge us to reject consideration of costs as irrelevant.

We need not address these arguments because the exchanges failed to demonstrate that significant competitive forces constrain their fees. We reached that conclusion without assessing

---

[211]   *Cf.* Rule of Practice 700(c)(3), 17 C.F.R. § 201.700(c)(3) ("A mere assertion . . . that another self-regulatory organization has a similar rule in place, is not sufficient," to carry an SRO's burden of demonstrating consistency with the Exchange Act.).

[212]   *NetCoalition I*, 615 F.3d at 537 (stating that the court did "not mean to say that a cost analysis is irrelevant" and that because "in a competitive market, the price of a product is supposed to approach its marginal cost, i.e., the seller's cost of producing one additional unit," "the costs of collecting and distributing market data can indicate whether an exchange is taking 'excessive profits' or subsidizing its service with another source of revenue").

or relying on the exchanges' costs. Because the exchanges do not ask us to sustain their fees on the basis of cost, we need not determine if it presents an alternative basis to sustain their fees.

D.   NYSE Arca is not entitled to an adverse inference against SIFMA.

NYSE Arca argues that we should draw unspecified adverse inferences against SIFMA because it allegedly engaged in discovery misconduct by failing to produce certain documents from its members and information relating to meetings between its members and an expert. The administrative law judge rejected this argument below on several grounds that NYSE Arca largely fails to address here. We find that NYSE Arca's argument fails for two reasons.

First, NYSE Arca fails to establish that SIFMA engaged in discovery misconduct. NYSE Arca asserts generally that SIFMA was required to produce certain documents and information from or relating to its members in response to a subpoena issued to SIFMA. But NYSE Arca fails to identify the particular provisions of the subpoena that it contends required SIFMA to produce documents or information or explain why the materials that it contends SIFMA should have produced are responsive to those provisions. Accordingly, NYSE Arca fails to establish that there is a factual basis for its request for an adverse inference.

Second, NYSE Arca relies on inapposite case law. That case law allows (but does not require) an adverse inference to be made against a party that fails to come forward with evidence at a hearing that is within the party's control.[213] "The party complaining of the missing evidence bears the burden of demonstrating that it is peculiarly in the opposing party's control."[214] Here the opposing party is SIFMA, not its individual members. Because NYSE Arca complains that SIFMA "refused to present evidence within the *sole control* of its members" (emphasis added), there is no basis to enter an adverse inference against SIFMA based on a finding that SIFMA did not come forward with evidence "peculiarly" within its control. NYSE Arca could have sought the information at issue from SIFMA's members but did not do so.

E.   We set aside the fees at issue here but do not address other fees not at issue.

Because the exchanges have failed to discharge their burden to demonstrate that the fees at issue are consistent with the Exchange Act, we set those fees aside. The Commission hereby

---

213   *Bank of Crete, SA v. Koskotas*, 733 F. Supp. 648, 654 (S.D.N.Y. 1990).

214   *Czekalski v. LaHood*, 589 F.3d 449, 455 (D.C. Cir. 2009).

sets aside the challenged fees prospectively (i.e., as of the date of this order, and not retroactively).[215]

This case concerns two particular fee rules, and SIFMA's challenges to the exchanges' enforcement of those provisions. Thus, striking these fees as an improper limitation of access, as we do here, does not set aside other fees or limitations on access not directly at issue in this proceeding.[216]

Specificity with respect to the fees at issue in this proceeding and the application of our decision to set aside those fees is important. For example, after NYSE Arca began to charge the fees at issue here it took further action and amended the ArcaBook fee rule to modify fees or institute new fees that are not at issue here. Indeed, NYSE Arca has revised all the fees instituted by the 2008 ArcaBook Fee Rule or modified the applicable fee caps. NYSE Arca's enforcement of those fee rules is not at issue here. We draw no conclusions about the enforceability of NYSE Arca's current fees. Those fees remain in effect, subject to any challenges that have been filed with the Commission.

The scope of our ruling is also limited with respect to Nasdaq. The administrative law judge concluded that SIFMA had properly challenged direct access and distributor fees for Level 2 and Nasdaq's other depth-of-book products (TotalView and OpenView) based on SIFMA's challenge to the 2010 Level 2 Fee Rule.[217] The administrative law judge reasoned that the rule change "withdrew two fees that applied only to TotalView and OpenView, respectively, and then imposed new, broader fees, that applied to those products and Level 2," and thus the rule "imposed new fees on TotalView, OpenView, and Level 2, and all three data products are

---

[215]   *See* 15 U.S.C. § 78s(f) (providing that we "shall set aside the action of the self-regulatory organization" and require it "to . . . grant . . . access to [the] services" at issue if we do not make all necessary findings to sustain the action under the Exchange Act). These fees have been in effect pursuant to the exchanges' filings under Section 19(b)(3) of the Exchange Act. We note that SIFMA did not move to stay the fees when it filed its applications for review of the fees pursuant to Section 19(d). In applying Section 19(f) in this matter, we are setting aside the challenged fees only prospectively. To the extent that provision could operate otherwise, we are exercising our discretion to set aside the challenged fees only prospectively.

[216]   *See, e.g.*, *Bloomberg, L.P.*, 2004 WL 67566, at *5-6 (ordering that exchange action denying access based on particular provisions in vendor agreements be set aside because those provisions "cannot provide a basis for the Exchange's denial of access"); *Tower Trading, L.P.*, Exchange Act Release No. 47537, 2003 WL 1339179, at *7 n.58 (Mar. 19, 2003) (noting that "[w]hile we are constrained by Exchange Act Section 19(f) to set aside CBOE's action terminating Tower's DPM appointment [because it constitutes an improper prohibition or limitation of access], our order should not be read to suggest that CBOE is precluded from terminating Tower's appointment, following a fair hearing process, if such action is warranted").

[217]   *Sec. Indus. & Fin. Mkts. Ass'n*, 2016 WL 4035551, at *29.

subject to this proceeding."[218] We disagree. The TotalView and OpenView fees became effective in 2007.[219] No application for review was filed in response to that fee rule amendment. SIFMA's application for review timely challenged the 2010 Level 2 Fee Rule, but that rule amendment extended existing fees to Level 2 and did not otherwise revise them. We set aside Nasdaq's 2010 extension of the fees to Level 2. We take no action and draw no conclusions with respect to the fees applicable to TotalView and OpenView. The fees applicable to TotalView and OpenView remain in effect, subject to any challenges that have been filed with the Commission.

Finally, we emphasize that in finding that the exchanges have not met their burden of proof with respect to the competitiveness of the market, we are not finding that the market is not competitive. Our findings are limited to the record developed by the parties, and the arguments based on that record. We express no views on what conclusions might be reached on a different record.

An appropriate order will issue.[220]

By the Commission (Chairman CLAYTON and Commissioners STEIN, JACKSON, PEIRCE and ROISMAN).

Brent J. Fields
Secretary

---

[218] *Id.*

[219] Notice of Filing and Immediate Effectiveness of Proposed Rule Change To Lower Fees for Distributors of Certain Market Data From the Nasdaq Market Center, Exchange Act Release No. 55608 (Apr. 10, 2007), 72 Fed. Reg. 19,562 (Apr. 18, 2007), *available at* https://www.gpo.gov/fdsys/pkg/FR-2007-04-18/pdf/E7-7317.pdf; *see also* Form 19b-4, File No. SR-Nasdaq-2007-032 (Mar. 30, 2007) at 10, *available at* http://nasdaq.cchwallstreet.com/NASDAQ/pdf/nasdaq-filings/2007/SR-NASDAQ-2007-032.pdf (specifying fees and designating as an immediately effective "non-controversial" change).

[220] We have considered all of the parties' contentions. We have rejected or sustained them to the extent that they are inconsistent or in accord with the views expressed in this opinion.

UNITED STATES OF AMERICA
before the
SECURITIES AND EXCHANGE COMMISSION

SECURITIES EXCHANGE ACT OF 1934
Release No. 84432 / October 16, 2018

Admin. Proc. File No. 3-15350

In the Matter of the Application of

SECURITIES INDUSTRY AND FINANCIAL
MARKETS ASSOCIATION

For Review of Action taken by

NYSE Arca, Inc., and Nasdaq Stock Market LLC

ORDER SETTING ASIDE EXCHANGE FEE RULES

On the basis of the Commission's opinion issued this day, it is

ORDERED that the fees that became effective upon filing in Exchange Act Release No. 63291 are now set aside as of the date of this order; and it is further

ORDERED that the extension of fees for Level 2 service that became effective upon filing in Exchange Act Release No. 62907 are now set aside as of the date of this order.

By the Commission.

Brent J. Fields
Secretary