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| In The Matter of the Application of:<br>SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION<br>for Review of Actions Taken by Self-Regulatory Organizations | Admin. Proc. File No. 3-15350<br>The Honorable Brenda P. Murray, Chief Administrative Law Judge |

**POST-HEARING REPLY BRIEF OF NYSE ARCA, INC.**

**Redacted Version For Public Filing**

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Pursuant to Rule 340 of the SEC's Rules of Practice and the briefing schedule set by Your Honor on April 24, 2015, NYSE Arca[1] respectfully submits this post-hearing reply brief.

## PRELIMINARY STATEMENT

SIFMA's post-hearing brief continues the obfuscatory way SIFMA has approached this proceeding. Although the D.C. Circuit and SEC made clear that the issues here must be understood through evidence—facts and reasonable inferences from facts—SIFMA takes the position that it has no obligation to submit evidence at all, even when it is undisputed that it and its members are the best or even sole sources of evidence on a particular issue. Indeed, SIFMA doubles down on its obfuscation by largely pretending that the hearing—especially the cross-examinations of its experts—did not happen. However, considering the evidence NYSE Arca submitted, the utter lack of evidence submitted by SIFMA, the fact that SIFMA and its members made Herculean efforts to hide sources of clearly relevant evidence from the Exchanges and Your Honor, and the fact that SIFMA blatantly mischaracterizes even evidence from its own members—the only reasonable conclusion is that NYSE Arca has carried its burden and the SIFMA Application should be dismissed.

Having presented no evidence itself, SIFMA outright misrepresents the record. For example, when confronted with the [redacted] email (NQ Ex. 505) demonstrating "trader behavior" and expressly confirming that market data pricing can negatively impact order flow, SIFMA simply pretends that the email says something else:

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1 Capitalized terms not defined herein have the meanings set forth in the Post-Hearing Brief of NYSE Arca, Inc., dated June 5, 2015 ("OB"). References to the Post-Hearing Brief of Applicant SIFMA, dated July 17, 2015, are in the form "SIFMA Brief" or "SIFMA Br."

| What SIFMA Saysh the [redacted] Email Says | What the [redacted] Email *Actually* Saysh |
|---|---|
| [redacted] | [redacted] |

If SIFMA wanted Your Honor to infer that [redacted] (SIFMA Br. at 35) despite [redacted] clear written statement that ith could and would [redacted] SIFMA had to submit evidence demonstrating that NQ Ex. 505 did not actually mean what it said soh clearly. SIFMA could have tried to do that by (i) producing documents from [redacted] nh response to the Subpoena[2] or (ii) calling [redacted] as a witness and allowing him to be cross-examined.[3] Instead, SIFMA arranged a clandestine meeting between [redacted] and Dr. Evansh (which they hid from the Exchanges because they had previously told Your Honor that havingh such a meeting would create disclosure obligations under the Subpoena), and SIFMA hash produced no evidence regarding what transpired at that meeting. The only reasonable inferencesh are that (i) NQ Ex. 505 meant exactly what it said and (ii) there was no contradictory evidenceh for SIFMA to present (and thus no support for SIFMA's arguments).h

SIFMA also gets the underlying theme of its brief—that the Exchanges onlyh sought to charge for depth-of-book data after they became public companies (SIFMA Br. at 5)—

[2] SIFMA makes numerous attempts to dodge its failure to offer any evidence from its members by asserting (with no record support) that information relating to the relationship between data fees and order flow is in the Exchanges' exclusive possession. (*E.g.*, SIFMA Br. at 2.) But that is inconsistent with the unrebutted evidence in theh record. *See, e.g.*, NQ Ex. 505 [redacted] Tr. 159-60 (NYSE Arca would not knowh whether a customer had switched products unless the customer told it).h

[3] [redacted] was readily available to SIFMA; he signed one of the SIFMA Memberh Declarations SIFMA relied on to assert standing (NYSE Arca Ex. 4) and quickly met with Dr. Evans at SIFMA's request to discuss NQ Ex. 505 (Tr. 1100-03; Tr. 1152).h

completely wrong. Although it is true that the ArcaBook fees at issue here were proposed in an SEC filing that followed NYSE's demutualization, both NYSE and Nasdaq began charging for depth-of-book data years before they demutualized.[4]

Another misstatement SIFMA makes repeatedly—the claim that NYSE Arca "refused" to produce cost data for ArcaBook—is nonsense. NYSE Arca consistently explained that it does not create or track such data, even in NYSE Arca's separate financials. Every NYSE Arca document in the record is consistent regarding this issue, and SIFMA cites no evidence to the contrary.

SIFMA also misleadingly asserts that supposedly "high" depth-of-book data fees somehow increase costs and lower investment returns for "ordinary Americans" and "severely limit retail investors'" access to depth-of-book data. (SIFMA Br. at 3.) There are two insurmountable problems with these false claims. *First*, SIFMA submitted no evidence that depth-of-book fees have any impact on investment returns for *anyone*, let alone "ordinary Americans."[5] *Second*, SIFMA ignores that (i) its own expert conceded that retail investors do not need depth-of-book data (Tr. 925-27) and (ii) broker-dealers provide depth-of-book data to retail customers for free (OB at 29 n. 33). SIFMA presented no evidence that any retail investor had any difficulty getting access to any depth-of-book data he or she ever wanted.

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4 *See* SEC Release No. 34-45138 (Dec. 7, 2001) (approving initial fees for OpenBook); SEC Release No. 46843 (Nov. 22, 2002) (approving initial fees for TotalView). Indeed, SIFMA strangely asserts that NYSE Arca decided to keep ArcaBook free "until 2009" (SIFMA Br. at 50), despite the uncontested facts that NYSE Arca notified market participants that it intended to begin charging for ArcaBook in March 2006 (NYSE Arca Ex. 69) and, as Dr. Evans conceded, the reason it took until 2009 to begin charging for ArcaBook was the need for SEC approval (Tr. 1235-42).

5 This is yet another instance in which SIFMA members easily could have submitted evidence to try to support SIFMA's position, but SIFMA did nothing to present such evidence. For example, some SIFMA members are mutual fund companies, any of whom could have presented evidence that depth-of-book fees had negative impacts on retirement investments. The complete absence of any such evidence speaks volumes.

All of this shares a common core, and to understand it one must turn to the end of SIFMA's brief (specifically, SIFMA Br. at 58), where it finally becomes clear that SIFMA bases much of its argument on the premise that market participants need depth-of-book data from all exchanges to "choose" where to send their order flow. SIFMA's members, of course, are the best source of evidence regarding how they "choose" to route their order flow, and yet SIFMA presented no evidence that any of its members need depth-of-book data from all exchanges to "choose" where to send their order flow. It is easy to see why SIFMA members were not stampeding to make such claims in public—the premise is false. The record shows that most large broker-dealers run ATSs and otherwise try to internalize orders rather than sending them to exchanges. And some exercise no "choice" whatsoever.

Schwab is a good example. Beginning in 2004, Schwab (a SIFMA member) entered into a contractual arrangement with UBS (another SIFMA member) to direct the vast majority of Schwab's undirected orders (which make up nearly all of Schwab's orders) to UBS for execution. (OB at 43 n. 54.) Thus, Schwab does not need depth-of-book data from *any* exchange, let alone all of them, to "choose" where to route its orders. That conclusion is reinforced by what data Schwab buys from NYSE Arca: [redacted] *See* NYSE Arca Ex. 88. Likewise for [redacted] which spends millions of dollars per year for Nasdaq depth-of-book data to give away to its customers but sends little or no order flow to exchanges at all. SIFMA Ex. 369; Tr. 183-87. It is thus apparent that one of the real reasons SIFMA filed its petition is to try to force exchanges to lower the price of market data products certain SIFMA members want to use to entice retail customers to trade through them—the same retail customers SIFMA's own expert conceded do not need that data.[6]

Nothing in the SIFMA Brief changes the simple fact that NYSE Arca has, through the ArcaBook Filing and the additional *unrebutted* evidence presented in this proceeding, satisfactorily answered the questions raised by the D.C. Circuit in *NetCoalition I*, and that requires that the SIFMA Application be dismissed.

## ARGUMENT

### I.h SIFMA MISSTATES THE STANDARD OF REVIEW

NYSE Arca has not, as SIFMA asserts, "resuscitate[d] the theories rejected by the D.C. Circuit." (SIFMA Br. at 1.) The D.C. Circuit approved the Commission's market-basedh approach, which asks "whether the exchange was subject to significant competitive forces" when setting the prices for its data. *Net Coalition I*, 615 F.3d at 532 & 535 (D.C. Cir. 2010). "Significant competitive forces" can be established by, *inter alia*, (i) an exchange's "compelling need to attract order flow from market participants" or (ii) "the availability to market participants of alternatives to purchasing" depth-of-book data. *NetCoalition I*, 615 F.3d at 539 (citing ArcaBook Approval Order (NYSE Arca Ex. 46) at 48-49, 51). NYSE Arca has done precisely what the D.C. Circuit requested—provided the evidence the D.C. Circuit felt was lacking from the original record.

After correctly stating that *NetCoalition I* held "that there must be evidence that competition will in fact constrain pricing for market data before the Commission approves a fee

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6 SIFMA's other principal motivation is to make it possible for SIFMA's members to increase their profits at the expense of the Exchanges by getting cheaper data for them either to redistribute or to use to operate private, unlit trading venues in competition with the Exchanges. (OB at 35-36.) SIFMA is not here championing the public interest or the "little guy."

charged for market data premised on a competitive pricing model," SIFMA tries to redefine the evidence necessary to meet this standard. Throughout its brief, SIFMA asserts that the Exchanges can only meet their burden through the production of "systematic" evidence. (SIFMA Br. at 2, 18, 25, 35, 38.)[7] Neither the ArcaBook Approval Order nor *NetCoalition I* refer to "systematic" evidence, whatever SIFMA means by that term (not surprisingly, SIFMA does not explain what it means by "systematic"). Regardless, NYSE Arca has, by any description, met its burden by providing detailed and *unrebutted* fact evidence and fact-based expert evidence (including multiple statistical analyses) establishing (i) the linkage between order flow and market data pricing, (ii) that not everyone needs to purchase depth-of-book data, and (iii) that customers can and do substitute across exchanges' depth-of-book products.

## II. NYSE ARCA'S PRICING OF ARCABOOK IS SUBJECT TO SIGNIFICANT COMPETITIVE FORCES

### A. ArcaBook Is Sold In A Competitive Market

NYSE Arca submitted a considerable body of evidence demonstrating thatr ArcaBook pricing is subject to "significant competitive forces." SIFMA largely ignores that evidence.

***First***, NYSE Arca demonstrated that competition between exchange platforms constrains pricing. (OB at 14-16.)[8] In an attempt to diminish this evidence, SIFMA

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7 SIFMA cites *Vollrath Co. v. Sammi Corp.*, 9 F.3d 1455 (9th Cir. 1993), for the proposition that "'anecdotal evidence' [is] inferior to systematic analysis of market data." (SIFMA Br. at 25 n. 18.) But *Vollrath* did not hold that anecdotal evidence is inferior to systematic evidence, only that the "limited" evidence presented by the plaintiff was insufficient to meet its burden in that case. 9 F.3d at 1457 & 1462.

8 SIFMA misleadingly states that *NetCoalition I* "did not embrace this 'total platform' theory." (SIFMA Br. at 46.) But the D.C. Circuit simply declined to consider its merits because the SEC had not relied on the theory in the ArcaBook Approval Order; it did not reject the theory at all. *See NetCoalition I*, 615 F.3d at 542 n. 116. Now, of course, the record is more extensive and ripe for consideration.

mischaracterizes NYSE Arca's argument, stating that the "Exchanges are arguing that they may set depth-of-book data prices that exceed competitive levels so long as they charge less for other services." (SIFMA Br. at 46.) What the undisputed evidence shows, however, is not that NYSE Arca charges more for market data to subsidize trade executions, but that market data prices themselves are constrained by vigorous platform competition. (OB at 14-16.)

*Second*, Prof. Hendershott and Nevo's HHI analysis established that competition at the level of individual stocks constrains pricing. (OB at 16-17.) SIFMA agrees that HHI analysis is the "standard measure of concentration" (Evans Report (SIFMA Ex. 377) ¶ 72 & n. 83)land does not dispute the results of the HHI analysis. (SIFMA Br. at 30-31.) To try to getl around this concession, SIFMA asserts that NYSE Arca's concentration analysis "says absolutely nothing about whether traders treat depth-of-book products as substitutes" because "liquidity may fluctuate significantly from one exchange to another over the course of even a single day." (*Id.*) But NYSE Arca did not argue that the HHI analysis proved substitution among depth-of-book products; it used the analysis to refute the premise for SIFMA's argument that there could be no substitution because every trader needed all depth-of-book products *given the alleged concentration of trading on various exchanges*. Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶¶ 55-64. The record is undisputed that trading in individual stocks is almost entirely unconcentrated.[9]

*Third*, SIFMA has largely abandoned its earlier claim that the market for proprietary market data cannot be competitive because each exchange's market data is "unique."

[9] SIFMA asserts that Profs. Hendershott and Nevo relied on a "theoretical" argument regarding correlation of information across exchanges (SIFMA Br. at 31 n. 25). But the peer-reviewed article they relied upon was not "theoretical"—it measured actual correlation between exchanges. *See* Van Kervel, Vincent, "Competition for Order Flow with Fast and Slow Traders," October 2014; Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶ 92 & n. 112.l

(OB at 17-19.) The only references to the Exchanges being "exclusive providers" of their depth-of-book data, or that their data are "unique," are contained in passing references in the background section of SIFMA's brief. (SIFMA Br. at 8-9, 12.)[10] In particular, SIFMA does not address NYSE Arca's citations holding that there was no legal basis for SIFMA's argument (OB at 18), thus conceding NYSE Arca's refutation of SIFMA's argument. SIFMA also does not address the fact that its argument rests on the false assumption that a firm not operating in a perfectly competitive market must have monopoly power of antitrust concern. (*Id.*) Nor does SIFMA address the evidence that its argument is inconsistent with the behavior of SIFMA members, who do not all purchase all depth-of-book products. (*Id.*)

SIFMA clings only to the mistaken claim that the Exchanges' marketing practices reflect significant market power. SIFMA asserts that the Exchanges' depth "products sell themselves" (SIFMA Br. at 55), but if this were true then the Exchanges would not employ commissioned sales forces and devote the efforts they do to marketing. Tr. 66-67; Tr. 387; Tr. 419-38.[11] Likewise, SIFMA completely ignores the unrebutted evidence that entities have

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10 Even here SIFMA gets its facts wrong. SIFMA asserts that screenshots like those discussed by Prof. Donefer are "viewed thousands of times a day by many different users" (SIFMA Br. at n. 4) but cites no evidence to support that assertion. If SIFMA is referring to "eyeball" usage, there is no way to verify its assertion without evidence about the individuals using the products—evidence within SIFMA members' possession that SIFMA chose not to provide. The only record evidence regarding eyeball usage is reflected in the relatively few ArcaBook display devices used by broker-dealers and by how few retail customers look at depth-of-book data at all. *See* NYSE Arca Exs. 87-88; Tr. 56-58 (out of Scottrade's approximately [redacted] active accounts, only [redacted] customers per month (less than [redacted]) actually view OpenBook data).

11 SIFMA twice notes that at trial, Mr. Brooks could not name the depth-of-book products offered by BATS from memory (SIFMA Br. at 26, 55), which is meaningless. Mr. Brooks testified that he regularly tracks and reviews the BATS depth products, as well as every other product that competes directly with ArcaBook. Tr. 63-64. In fact, NYSE Arca maintains a product pricing comparison that tracks approximately two dozen competing products that Mr. Brooks regularly reviews. *Id.*; NYSE Arca Ex. 89.

stopped using ArcaBook and that some entities to which NYSE Arca has tried to market ArcaBook have declined to buy it. Tr. 70-73; Tr. 79-80; Tr. 174-77; OB at 28-31.[12]

*Fourth*, NYSE Arca introduced evidence that the DOJ has twice found that there is substantial competition for the sale of proprietary market data. (OB at 13-14.) SIFMA contends that the DOJ's findings and conclusions "are not 'evidence' of anything," and that "[t]his case must be decided based on the evidence before the Commission." (SIFMA Br. at 31-32.) But the DOJ's findings and conclusions that exchanges compete against each other for the sale of proprietary market data (reached after two separate extensive and thorough investigations) are unrebutted, have been admitted into evidence, and are before the Commission. (NYSE Arca. Exs. 8-10.) That SIFMA wishes this evidence did not exist is irrelevant, and if SIFMA had wanted to dispute the evidence it should have submitted evidence of its own.

### B. Competition For Order Flow Disciplines Depth-Of-Book Data Pricing

#### 1. Trader Behavior Demonstrates The Linkage Between Order Flow And Proprietary Market Data

As discussed above, SIFMA's response to [redacted] email proving that large customers could and would divert order flow from an exchange if they were unhappy with that exchange's depth-of-book data prices is to pretend the email says something else. SIFMA also speculates that [redacted] in response to Nasdaq's depth-of-book data pricing, but because of some other reason, such as Nasdaq's "mishandling of the Facebook IPO." (SIFMA Br. at 36-37 & n. 37.) This assertion is

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12 To put this in perspective, if ArcaBook "sells itself," then why was [redacted] total expenditure for *all* NYSE depth-of-book products in February 2015 [redacted] less than the monthly access fee for just ArcaBook (NYSE Arca Ex. 88)?

laughable—SIFMA cites no evidence to support it and it is directly contrary to the evidence actually in the record. *See* NQ Exs. 506-507, 619; Tr. 510-14; Tr. 1198-99.

SIFMA discounts the additional examples (OB at 20-22) of customers that expressed disapproval of market data prices and attempted to use their leverage to drive prices down (such as [redacted] for NYSE Arca, and [redacted] for Nasdaq), alleging that "there is no evidence that these were credible threats." (SIFMA Br. at 37.) But Mr. Brooks and Mr. Albers viewed these threats as credible, and SIFMA did not even attempt to undermine their testimony on cross-examination or otherwise. Tr. 73-75; Tr. 143; Tr. 386; Tr. 514; Tr. 530-34.[13] Indeed, both of SIFMA's experts agreed that threats to pull order flow can be credible and have an "attention getting effect" on exchanges' executives. Tr. 1041-43; Tr. 1203.

### 2.r Traders' Ability To Shift Order Flow Is Not Impacted By Best-Execution Obligationsr

SIFMA's assertion that "traders have little practical ability to shift their order flow in response to market data fees" because of broker-dealers' duty of best execution (SIFMA Br. at 6-8, 34) is completely without support. SIFMA acknowledges that the SEC has already rejected this argument in the ArcaBook Approval Order (which is to be applied here), but dismisses the SEC's holding because it "was made almost seven years ago." (SIFMA Br. at 6 n. 2.) But SIFMA does not (because it cannot) point to any authority to establish that the SEC's views on this issue have changed. The only "support" SIFMA cites is an off-the-cuff statement made at a SIFMA-sponsored conference by a FINRA staffer that FINRA *may* at some *future* point *consider* focusing on depth-of-book data within the context of best execution. SIFMA Ex. 371; Tr. 239-42. But FINRA does not require broker-dealers to obtain depth-of-book data to

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13 Any of these entities could have testified that they were bluffing. None did.

comply with best execution requirements, nor is there any evidence that FINRA's staff is actively considering doing so.[14]

Furthermore, contrary to SIFMA's claim (SIFMA Br. at 7-8), Regulation NMS does not require depth-of-book data to be used in order routing. Prof. Hendershott provided unrebutted testimony that broker-dealers have discretion in how they route their orders, even when taking into account Regulation NMS's order protection rule. Tr. 194-96. And that rule does not affect where market participants can send non-marketable limit orders. *Id.*[15]

In contrast, the record contains no evidence to support SIFMA's argument. SIFMA has not provided evidence of even a single broker-dealer that uses real-time depth-of-book data to achieve best execution, nor has it provided any examples (or attempted to quantify) the supposed "significant cost in foregone profits" incurred by traders that do not route orders using real-time depth-of-book data. SIFMA points only to an NYSE Arca information bulletin (SIFMA Br. at 6-7; SIFMA Ex. 41), but that bulletin is not even about best execution.[16] In anyn

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14 Put differently, if SIFMA could demonstrate that the off-the-cuff statement it relies on had caused any broker-dealers to start purchasing depth-of-book data they had not purchased before, it would have. But it did not even try. Likewise, SIFMA's speculation that an SRO *might* discipline a broker-dealer for not buying that SRO's depth-of-book data (SIFMA Br. at 7) is absurd. Even if something like that were to happen (and there is no evidence it has), the broker-dealer could appeal any such discipline to the Commission and a Court of Appeals, if necessary.

15 SIFMA misleadingly cites to Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶ 28(b) to assert that "[f]or large and even moderately sized orders, broker-dealers cannot achieve best execution without using depth-of-book data" (SIFMA Br. at 7), but that paragraph merely explains how some traders can use market data to forecast the likelihood that limit orders will execute, and has nothing to do with best execution. In addition, SIFMA's unsupported assertion that depth-of-book data is necessary for "even moderately sized orders" is disproved by the undisputed fact that 96.7% of trades occur at or within the NBBO. Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶ 29.

16 The bulletin SIFMA cites relates to guidance for NYSE Arca Equity Trading Permit Holders, which are entities approved by NYSE Arca to hold permits for effecting approved securities transactions on its trading facilities. *See* NYSE Arca Equities Rule 1, *available at* http://nysearcarules.nyse.com/pcx/pcxe/pcxe-rules/chp_1_1/default.asp.

event, the record overwhelmingly demonstrates that broker-dealers can and do fulfill their best execution obligations without using real-time depth-of-book data (OB at 42-43):

- Approximately 40% of trading occurs on venues which do not offer depth-of-book data at all. Hendershott-Nevo Report, (NYSE Arca Ex. 65) at Exhibit 2. Indeed, some broker-dealers commit their order flow without regard to the availability of depth-of-book data at all. For example, in 2004 Schwab signed a contractual agreement to send the vast majority of its order flow to UBS. *See Lim v. Charles Schwab & Co., Inc.*, Case No. 3:15-cv-02074-EDL (N.D. Cal., filed May 8, 2015), Complaint ¶¶ 1, 8-34. And despite purchasing Nasdaq's depth-of-book product, [redacted] did not route *any* nondirected orders (which account for 99 percent of its orders) to Nasdaq or any other exchange in the fourth quarter of 2014. SIFMA Ex. 369; Tr. 183-87. SIFMA simply ignores this evidence.
- It is undisputed that the Exchanges, by means of an SEC-approved practice, pay hundreds of millions of dollars per year in rebates to attract order flow, which would make no sense if large customers could not shift order flow freely. *See* OB at 22-23; Tr. 31-33; Tr. 431-32; Tr. 720-21; Tr. 1029.[17]
- [redacted]

### 3. **The Record Demonstrates That Competition For Order Flow Constrains Pricing**

SIFMA criticizes the regression analysis performed by Profs. Hendershott and Nevo because its results allegedly "can be observed simply by comparing [NYSE Arca's] share

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This bulletin is addressed to preventing a narrow category of Clearly Erroneous Executions, not to evaluating best execution performance. SIFMA Ex. 41 at 2. The bulletin did not advise market participants to use real-time depth-of-book data for best execution.

17 SIFMA does not directly address the evidence that, in an effort to attract order flow, NYSE Arca pays market participants hundreds of millions of dollars per year for submitting displayable limit orders. (OB at 22-23.) Therefore the only permissible inference is that the recipients of these rebates (largely SIFMA members) have the ability to direct their order flow to the venues of their choosing for any reason, including to try to exert pressure on depth-of-book data fees.

18 Either SIFMA's best execution argument is wrong, or SIFMA believes that [redacted] violated its best execution obligations by routing order flow away from Nasdaq. *See* SIFMA Br. at 34 ("Routing orders away from large sources of liquidity like Nasdaq and NYSE Arca based on their market data fees is not sustainable, and could place the trader in violation of best execution obligations.") (internal quotations omitted).

before and after" NYSE Arca's January 1, 2009 price increase. (SIFMA Br. at 38.) This misses the point entirely—the purpose of a regression analysis is to analytically determine whether there is a causal relationship between variables being observed.[19] The regression analysis confirmed the relationship between the January 2009 ArcaBook price increases and NYSE Arca's trading volume and demonstrated that the increased cost of trading at NYSE Arca resulted in a statistically significant decline of order flow for NYSE Arca. (OB at 24-26.)

SIFMA also faults the regression for failing to control for several variables, but none of these criticisms has merit. In its brief, SIFMA *for the very first time in this proceeding* argues that the regression is flawed because it fails to control "for any changes in NYSE Arca's trade execution prices compared to other trading venues" and "NYSE Arca's other price increases." (SIFMA Br. at 39.) But Dr. Evans did not discuss either criticism in his report or at the hearing, and so it is not part of SIFMA's case. Indeed, SIFMA offers no explanation in its brief for why these controls would be relevant to the regression analysis or how, if at all, controlling for these variables would impact the analysis. (SIFMA Br. at 39.) Guesses are not evidence, and these are guesses even SIFMA's expert did not venture to make.

SIFMA also argues that Profs. Hendershott and Nevo should have included a "time trend control" (SIFMA Br. at 39), but it fails to acknowledge that, as a sensitivity check, the regression included a three-month window around the January 2009 price increase, which addresses SIFMA's criticism that NYSE Arca's share had started to decline before the January price increase. Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶ 69. Finally, SIFMA rehashes its criticism that the regression includes BATS and does not examine Nasdaq. (SIFMA Br. at

[19] *See* Federal Judicial Center, *Reference Manual on Scientific Evidence* (3rd ed. 2011) at 305-06; David L. Faigman, *et al.*, *Modern Scientific Evidence: The Law and Science of Expert Testimony* (2013) § 7.1; Tr. 196.

39.) These criticisms were refuted in NYSE Arca's opening brief (OB at 24-26) and SIFMA offers nothing new. In any event, as Prof. Hendershott explained, even taking into account Dr. Evans' criticisms concerning BATS and Nasdaq does not "change the fact that Arca lost market share after it started charging for ArcaBook," which is what the regression was designed to test. Tr. 202-08.

Finally, SIFMA's arguments ignore the fact that the record contains independent evidence supporting the type of linkage tested for by the regression: [redacted] NQ Exs. 505, 619. The record thus contains not just systematic analysis (thet regression) but also confirmatory behavioral evidence.t

**4. Pricing ArcaBook In The Inelastic Portion Of The Demand Curvet Demonstrates That Competition For Order Flow Constrains Pricing**

SIFMA argues that, even if depth-of-book data and order flow are complements, thereby making ArcaBook's pricing on the inelastic portion of the demand curve consistent with the conduct of a firm seeking to maximize revenues from a portfolio of products, NYSE Arca would still be required to show that ArcaBook is priced "at the competitive level." (SIFMA Br. at 41-42 & n. 37.) NYSE Arca's elasticity analysis demonstrates that ArcaBook is priced in a competitive market and thus at a competitive level. NYSE Arca's pricing of two complementary products[20] shows that NYSE Arca's behavior is (i) consistent with a firm that does not have

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[20] Because the Exchanges are multi-product firms with complementary products (i.e. depth-of-book data and trade executions), the question is not whether the demand for ArcaBook is inelastic because there are not enough substitutes constraining pricing, it is whether competition for order flow constrains pricing because increasing the price of depth-of-book data will harm order flow. Tr. 309-15. Put differently, depth-of-book data is priced on the inelastic portion of the demand curve because raising prices into the elastic portion would risk lowering demand for the complementary product (executions), precisely what the evidence here confirms.

market power and (ii) is pricing to try to maximize profits from the overall sale ofn complementary products. NYSE Arca Ex. 86; Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶¶n 73-75; Tr. 309-15; OB at 26-27.[21]

### C. Trader Behavior And The Availability Of Substitutes Show That ArcaBookn Pricing Is Constrainedn

Throughout its brief, SIFMA relies on a too-narrow definition of "switching" ton argue that the availability of alternatives does not constrain the Exchanges' depth-of-book prices.n (SIFMA Br. at 17-32.) According to SIFMA, the only way the Exchanges can demonstrate thatn substitutes constrain prices for depth-of-book data is by showing that traders "switch" from onen such product to another. (*Id.*) But the D.C. Circuit did not require such evidence. Instead, itn invited evidence concerning "the availability to market participants of alternatives to purchasing"n an exchange's depth-of-book data, and substitution can be shown not only when a customern stops using ArcaBook and uses TotalView (or vice versa), but also when a customer who hadn subscribed to both products drops one of them [redacted] for example, *infra* at p. 17), or when an customer decreases usage of one in favor of another. *NetCoalition I*, 615 F.3d at 539. Even Dr.n Evans conceded that "[c]ustomer switching in response to a price increase isn't limited ton customers that completely stop their purchases from a supplier. ... Customers can also disciplinen a price increase by reducing their intensity of usage in response to a price increase." Tr. 1187-88.nEvidence of such behavior demonstrates that NYSE Arca must respond to competitiven

21 SIFMA responds to this evidence not by refuting it with its own evidence, but by raising rhetorical questions regarding its alleged incompatibility with NYSE Arca's regression analysis. (SIFMA Br. at 43.) Prof. Nevo explained in detail how the elasticity analysis fits together with and is consistent with the regression. *See* Tr. 311. Because SIFMAn introduced no contradictory evidence, Prof. Nevo's unrebutted testimony is the only record evidence on this issue.n

forces in pricing ArcaBook or risk losing customers to competitors. Tr. 143 (Mr. Brooks testifying that customer attrition constrains pricing).

SIFMA's restrictive view of the evidence necessary to demonstrate the availability of alternatives also ignores the fact that much of the evidence SIFMA complains is missing is squarely in the possession of SIFMA members. Although NYSE Arca knows when a customer purchases or stops purchasing ArcaBook, SIFMA claims that NYSE Arca must also show that a customer purchasing ArcaBook did so because it had stopped purchasing a Nasdaq depth product, or that a customer that stopped purchasing ArcaBook replaced it with a Nasdaq product. But unless customers tell NYSE Arca or Nasdaq, only the customers know that information. Tr. 159-60; Tr. 1166-67; Tr. 1228-29; Tr. 807-08. Having stonewalled the Subpoena and refused to provide this information from its members, SIFMA can not be heard to complain about its absence.

In any event, SIFMA is fundamentally wrong about the evidentiary record, which shows that substitutes constrain the pricing of ArcaBook:

- i SIFMA acknowledges that the Exchanges *did* provide evidence meeting its too-stricti definition of "switching," but it dismissed this evidence as "insignificant." (SIFMAi Br. at 24.)i
- i SIFMA does not address NYSE Arca's data examining the purchasing patterns acrossi NYSE and Nasdaq depth-of-book products and showing that (i) many customers buyi depth-of-book data from some but not all exchanges, (ii) a number of Nasdaq depth-of-book subscribers either never subscribed or stopped subscribing to ArcaBook, andi (iii)ia number of subscribers treated ArcaBook and OpenBook as substitutes. (OB ati 28-30.) SIFMA's only response to this evidence is to claim that it is irrelevanti because it does not show a strict "switch[] between products." (SIFMA Br. at 29.)[22] But as demonstrated above, this is precisely the evidence the D.C. Circuit sought.i

[22] This evidence was offered to show that the availability of depth-of-book data products from other exchanges disciplines ArcaBook pricing (*see* Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶¶ 76-87; NYSE Arca Ex. 82; Tr. 178-80; Tr. 319-320), not (as SIFMA asserts (SIFMA Br. at 30)) to attack a straw man.

- SIFMA does not refute any of the evidence that broker-dealers do not buy depth-of-book products from all exchanges for (i) distribution to their retail customers or (ii) their own internal use. (OB at 29.)[23] Both are unrebutted and inconsistent with SIFMA's arguments.
- SIFMA ignores statements from customers (including SIFMA members themselves) that they believe exchanges' depth-of-book products are interchangeable. (OB at 31-32.)
- SIFMA takes issue with the evidence that [redacted]ropped ArcaBook in response to a price increase. (SIFMA Br. at 22 n. 15.) As Mr. Brooks carefully explained (Tr. 72-73), the Arca Integrated Feed consisted of ArcaBook plus Arca trades data, and [redacted] indicated that following the price increase it would continue purchasing the Arca trades data but would no longer purchase ArcaBook data. By dropping the Arca Integrated Feed and continuing to take Arca trades data, [redacted] in fact "dropped" ArcaBook. That is precisely the sort of evidence SIFMA concedes satisfies the D.C. Circuit's questions regarding trader behavior. (SIFMA Br. at 18 n. 11.)h
- SIFMA acknowledges that customers can and do significantly reduce purchases of a particular depth-of-book product without switching entirely to another supplier, but dismisses this evidence because it did not include data concerning revenue losses from these customers. (SIFMA Br. at n. 18.) Regardless of how much revenue was lost from these customers, this evidence shows that, for these customers, there are alternatives to purchasing a particular exchange's depth-of-book data.

### D.h ArcaBook's Pricing History Shows A Series Of Reasonable Price Changesh And Is Not Evidence Of Market Power

SIFMA fixates on an internal Nasdaq document—not any evidence concerningh NYSE Arca—to argue that NYSE Arca engaged in a history of "naked" price increases following the initial ArcaBook Filing. (SIFMA Br. at 13-14, 43-45.) Although these later ArcaBook filings are not part of this proceeding and should not be considered in this proceeding, the pricing history of ArcaBook nevertheless shows that the price changes introduced by NYSE Arca since the ArcaBook Filing have been reasonable, reflect the value received by customers for their use of ArcaBook, and are not evidence of market power:[24]

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23 SIFMA's discussion of broker-dealers is limited to their best-execution obligations and an unsupported assertion that they pass market data costs on to ordinary investors. There is no merit to either argument. *See supra* Sections II.B.2 & III.B.

24 SIFMA alleges that a [redacted] occurred as a result of these price changes, but cites to an exhibit that was not admitted because it included revenue from

- The record contains no evidence that any SIFMA member cannot afford to purchase ArcaBook data for any desired use. Tr. 78-79.
- Significant categories of fees are currently substantially the same, or lower, than the fees set in the ArcaBook Filing. The ArcaBook Filing imposed a professional user fee of $30/month and a nonprofessional user fee of $10/month. Tr. 37-40; OB at 6-7. The nonprofessional user fee is still $10/month, but can be reduced to $3/month or even lower depending on the number of nonprofessional users as a result of changes to the caps on nonprofessional fees. Donefer Report (SIFMA Ex. 376) at Ex. 1. The professional user fee is currently set at just $40/month. *Id.* These rates are clearly affordable.
- SIFMA's contention that "the Exchanges engage in a fairly significant amount of price discrimination" (SIFMA Br. at 28 (internal quotations omitted)) is not true. NYSE Arca treats each class of subscribers exactly the same. As Mr. Brooks testified and the rule filings themselves demonstrate, NYSE Arca added certain fees, such as redistribution and non-display fees, in recognition of the value such uses provide to market participants who use depth-of-book data in certain ways. Tr. 43-45; OB at 35-36; NYSE Arca Ex. 94. SIFMA does not refute the substantial evidence showing that SIFMA members derive an extraordinary amount of profit from their use of such data.[25]
- SIFMA persists in claiming that NYSE Arca "imposed a massive price increase" when it began charging for ArcaBook in 2009, asserting it was akin to a 900%, 2900%, and 74,900% price increase (measured from $1). (SIFMA Br. at 19-22.) This is nonsensical. As even Dr. Evans acknowledged, this sort of "analysis" is not appropriate because the initial $0 price of ArcaBook data (pending SEC approval of the request to charge for ArcaBook data) was not a competitive price. Tr. 1150. It does not make sense to measure the scale of a price increase from before a company begins charging for a product (and therefore the price is $0) because all price increases (even when assuming, as SIFMA does, an initial price of $1) will be "massive" in such circumstances. Tr. 1394-95. The fact is that the prices charged are far less than what a subscriber might pay for getting cable television at home. *Id.*
- SIFMA is wrong that [redacted] in response to NYSE Arca's supposedly "massive" price increase. (SIFMA Br. at 20-21.) Mr. Brooks testified that when NYSE Arca began charging for ArcaBook in January 2009, it suffered a 23% decrease in the number of accounts with ArcaBook direct data feed access, going from approximately 220 such accounts to 170. Tr. 66; Tr. 90; OB at 20. This matters because these direct feed accounts all pay at least the monthly access fee. And Profs. Hendershott and Nevo testified that the number of

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the NYSE Arca Integrated Feed, which is not at issue in this proceeding. *See* SIFMA Ex. 104AA; Order on Consent Motion Regarding Exhibits Deemed in Evidence (June 5, 2015) at 1-2. The exhibit that *was* admitted (SIFMA 104AA-2) shows that [redacted]

[25] *See* OB at 35-36. SIFMA casually dismisses this evidence as "irrelevant." (SIFMA Br. at 57 n. 44.)

direct and indirect subscribers obtaining the data declined by [redacted] Hendershott-Nevo Report (NYSE Arca Ex. 65) ¶ 74; Tr. 1398-99. Ignoring the 23% decrease in accounts taking the direct ArcaBook data feed, SIFMA focuses solely on [redacted] in subscriber accounts, calling this loss of subscribers "insignificant." (SIFMA Br. at 20 & n. 21.) SIFMA's argument is contrary to law and fact.[26]

- SIFMA's argument that following NYSE Arca's January 2009 price increase "one would expecttto see a substantial drop-off in demand if customers could readilyn switch or stop buying" (SIFMA Br. at 19) ignores the unrebutted evidence of substantial infrastructure costs that depth-of-book data feed recipients incur in ordern to start taking feeds and make them usable (even when the cost of the data is zero).[27] SIFMA's argument that high switching costs can entrench market power (SIFMA Br.n at 21) is a red herring—what NYSE Arca has demonstrated is that customers knewn that ArcaBook was not going to be free forever and still invested in the infrastructuren to use it. In other words, these customers thought ArcaBook was worth the price thatn NYSE Arca announced it planned to charge for the product, and they were willing ton make investments to obtain it knowing they would later have to pay for the data.[28] That alone destroys SIFMA's hypothetical "expectation" theory.n

- SIFMA suggests that there can be no price competition unless the prices for then Exchanges' depth-of-book products converge down. (*E.g.*, SIFMA Br. at 25-26n (asking "why, if there is such fierce competition, prices have not converged?").)n Putting aside the fact that SIFMA's rhetorical questions are not evidence, the market-based approach approved by the D.C. Circuit does not require a showing that pricesn for depth-of-book products have gone down; it requires a showing that an exchangen "was subject to significant competitive forces" when setting the fees. *NetCoalition I*, 615 F.3d at 532. NYSE Arca has shown exactly that. Furthermore, in a market withn differentiated products (SIFMA concedes that these products are differentiatedn (SIFMA Br. at 9)), there is no reason to expect differentiated products to be priced then

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26 The D.C. Circuit does not require customer losses to be "significant" (which these losses in any event are), only that "significant competitive forces constrained NYSE Arca's fees." *NetCoalition I*, 615 F.3d at 532; *see also* SIFMA Br. at 1.

27 NYSE Arca relies on evidence in support of this claim not, as SIFMA alleges (SIFMA Br. at 21), its counsel's questions. Tr. 26; Tr. 29-30; Tr. 154-55 (Mr. Brooks testifying to the bandwidth, hardware, software, and development costs necessary to take the data feed); Tr. 443-47 (Mr. Albers testifying similarly); Tr. 1244-46 (Dr. Evans acknowledging infrastructure costs to take the data feed). Moreover, customers can use this infrastructure (with some modifications) to use other exchanges' depth-of-book products, meaning that there are not substantial costs associated with "switching" between exchanges' depth products once the initial infrastructure investment is made. *Id.*

28 Even so, some accounts that had incurred these infrastructure costs dropped ArcaBook when it became fee liable, which is precisely the evidence of price-sensitivity *NetCoalition I* invited.

same. And the fact that the Exchanges' depth-of-book products are not priced identically in no way diminishes the fact that they compete with each other.

## E. Costs And Profit Margins Are Not Indicators Of Market Power

SIFMA reiterates its same stale arguments concerning the alleged importance tot this proceeding of the Exchanges' costs of producing depth-of-book data. As the Exchanges have exhaustively explained, the D.C. Circuit approved the Commission's decision not to adopt a cost-based approach to pricing where there is evidence of significant competitive forces. (OB at 11-12; Nasdaq Br. at 37-42.) SIFMA's claim that costs are relevant to NYSE Arca rest on a portion of a single sentence from the ArcaBook Filing, taken out of context, that references the "equitable allocation of NYSE Arca's overall costs among users of its services." (SIFMA Br. att 48.) The ArcaBook Filing and Mr. Brooks' testimony made clear, however, that what was discussed there were NYSE Arca's overall costs for the services provided by the exchange as a whole, not the cost of producing market data. ArcaBook Filing (NYSE Arca Ex. 1) at 22-26; Tr. 47.[29] Once again, SIFMA creates arguments by taking words out of context.[30]

SIFMA's arguments concerning the relevance of profit margins fare no better. (*See* OB at 36-38; Nasdaq Br. at 37-42.) SIFMA's contention that NYSE Arca's profit margins

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[29] SIFMA's assertion that "NYSE Arca refused to produce its own cost and margin data" (SIFMA Br. at 14, 49) is false. NYSE Arca did not *refuse* to produce cost and margin data; it had no such data to produce because, as NYSE Arca repeatedly stated, it does not track such data. *See* Tr. 47.

SIFMA's attempt to impute the calculation of cost data to NYSE Arca by way of a statement made by an SEC staff attorney during the *NetCoalition I* argument (SIFMA Br. at 49-50) also fails. Beyond the fact that there is no evidence that that SEC attorney had any knowledge of how NYSE Arca deals with costs, the ArcaBook Approval Order specifically found that it is "virtually impossible to identify the costs specifically associated with the production of market data versus other SRO functions." ArcaBook Approval Order (NYSE Arca Ex. 46) at n. 97.

[30] Focusing on costs as SIFMA demands would put the SEC on a path to becoming a ratemaker, something even Dr. Evans believes is inappropriate. *See* Tr. 1081-83 (Dr. Evans admitting that "price regulation is not the ideal form of regulation" and that "regulation often has unanticipated costs and rarely, if ever, has unanticipated benefits").

are the same as Nasdaq's (SIFMA Br. at 49-50) is pure speculation, unsupported by any evidence. And SIFMA is completely silent regarding the extensive testimony from its own expert stating (both generally and with respect to this proceeding) that profit margins should not be used to determine whether a company has market power. (OB at 37-38.)[31]

## III. THERE IS NO SUBSTANTIAL COUNTERVAILING BASIS TO DISAPPROVE NYSE ARCA'S PRICING OF ARCABOOK[32]

### A. The Vast Majority Of Investors Do Not Need Depth-Of-Book Data

SIFMA now concedes (as it must) that not everyone needs depth-of-book data. Until trial, SIFMA argued that depth-of-book data are essential for institutional investors, broker-dealers, short term traders, and many retail investors, and that these market participants "could not be commercially competitive without [depth-of-book] products" from "several major

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31 *United States v. Am. Express Co*, No. 10-4496 2015 WL 728563 (E.D.N.Y. Feb. 19, 2015) (SIFMA Br. at 51), does not support SIFMA's argument that pricing based on value makes a company a monopolist. That case dealt with the credit card industry, a true dual-sided market composed of cardholders on one side and merchants on the other. AmEx raised merchant fees while simultaneously requiring merchants to sign contractual non-discrimination provisions that prevented merchants from steering consumers to credit cards with lower merchant fees. 2015 WL 728563, at *51-52. Because merchants were prevented from steering customers to lower-cost alternatives, AmEx was "largely insulated from the downward pricing pressure ordinarily present in competitive markets" which "[d]eprived [merchants] of any meaningfully opportunity" to contest price increases. *Id.* at *52. These circumstances are completely inapplicable here, where the consumers of depth-of-book data are the same entities that create downward pricing pressure through their ability to shift order flow and have no restrictions on what data they can buy or what they can use it for. Broker-dealers, for example, buy and provide whatever depth-of-book data they wish to their retail customers. (OB at 29.)

32 Once NYSE Arca meets its burden of establishing that significant competitive forces exist, it has shown that the ArcaBook fees satisfy the '34 Act. Nothing in the ArcaBook Approval Order or *NetCoalition I* imposes the burden on NYSE Arca to then show that there are no substantial countervailing bases to find that the fees violate the '34 Act or SEC rules. SIFMA's claim that it is somehow NYSE Arca's burden to prove a negative (SIFMA Br. at 16 n. 9) makes no sense and is contrary to the ArcaBook Approval Order and *NetCoalition I*. Common sense dictates that the opponent of a fee have the burden of showing a substantial countervailing basis once the proponent has shown compliance with the '34 Act.

exchanges." Donefer Report (SIFMA Ex. 376) ¶¶ 36, 60-62. Prof. Donefer disavowed these positions at trial, admitting that not only do retail investors not need depth data, but many institutional investors, pension funds, mutual funds, insurance companies, and large charitable and educational endowments do not need it either. *See* OB at 39-41; Tr. 915-27. SIFMA has now walked its position back even further, stating that it is "precisely" the "roughly 100 large banks and electronic trading firms" who base their trading strategies on using real-time depth-of-book data that need such data from all lit markets and are impacted by the Exchanges' price changes. (SIFMA Br. at 28; *see also id.* at 44 ("the Exchanges have singled out [high frequency and algorithmic traders] for their most significant price increases.").) Having walked away from its prior assertion that real-time depth-of-book data was needed by nearly every market participant, SIFMA now tries to blunt that concession by asserting that "how many traders need depth-of-book data" is not even the right question to ask. (SIFMA Br. at 27.)

Small wonder that SIFMA now tries to hide from this issue: The evidence shows that, with the exception of a small number of algorithmic and high frequency traders whose businesses are specifically built around using real-time depth-of-book data to perform proprietary trading for profit, for all other investors depth-of-book products are either not necessary or are sufficiently interchangeable with other such products. *NetCoalition I*, 615 F.3d at 542-43; *supra* Section II.C. The few entities that need all real-time depth-of-book data are hugely sophisticated, profitable entities that are making enormous amounts of money through their use and redistribution of depth-of-book data (OB at 35-36), and there is no evidence that the Exchanges' fees "limit" or "deny" their access to this data. *Id.* Indeed, it is primarily these "large banks and electronic trading firms" (and vendors like Bloomberg) who are looking to profit at the Exchanges' expense. (OB at 35-36.) Any of those large, sophisticated firms that are unhappy with the fees have the ability to constrain pricing by threatening to shift order flow or decrease usage of depth-of-book data, which they can do and have done. (OB at 19-27.) This is all that *NetCoalition I* requires.

### B.i There Is No Evidence That The Depth-Of-Book Data Fees Paid By Broker-Dealers Increase Trading Costs For Retail Investorsi

SIFMA asserts that "high depth-of-book data fees increase trading costs, resultingi in lower investment returns for millions of ordinary Americans who invest to save for retirement, college, or to buy a home." (SIFMA Br. at 3, 59 (citing Tr. 998-1001).) Nonsense. Prof. Donefer's musings are not evidence and are not supported by any evidence. SIFMA astonishingly claims that the "institutions that invest these funds use depth-of-book data and ***inevitably pass on the fees to investors, diminishing their returns***," (SIFMA Br. at 59 (emphasis added)), but the only evidence submitted in this proceeding shows the exact opposite—that broker-dealers do ***not*** pass depth-of-book data fees on to customers.[33] SIFMA did not submit evidence that *any* retail investor who wanted real-time depth-of-book data was prevented from receiving it by any ArcaBook fees.

Moreover, Prof. Donefer admitted that not all pension funds and mutual funds need to purchase depth-of book data (Tr. 915-19) and that depth-of-book data is not essential for

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[33] For example, [redacted] pays the enterprise cap for ArcaBook, thus enabling all of its retail customers to access ArcaBook for free. NYSE Arca Ex. 87; Tr. 59-60. Scottrade offers TotalView and OpenBook *free* to retail investors who meet minimum trading requirements, although only a few hundred retail investors actually elect to access it. Tr. 56-59; NYSE Arca Exs. 87, 92, 93. [redacted] all purchase Nasdaq's TotalView or OpenView products, and collectivelyi they distribute these Nasdaq products to more than [redacted] of their nonprofessional retaili customers. NYSE Arca Ex. 87; Tr. 49-53; Tr. 182-83; Tr. 318-19. Finally, even ifi broker-dealers did not provide depth-of-book data to their retail customers for free,i NYSE Arca charges only $10 per month (the price has not changed since the ArcaBook Filing) for nonprofessional investors who wish to use ArcaBook (Tr. 40-42), and thus iti would only cost such a retail investor $10 per month to access ArcaBook data.i

any retail investors (Tr. 925-27). Prof. Donefer's admissions are further supported by the fact that the largest depth-of-book data customers do very little investing with respect to mutual funds. NQ Ex. 615; Tr. 1347-48.

Finally, the so-called "informational disadvantage" that SIFMA alleges retail investors are subject to is nonexistent. (SIFMA Br. at 58.) Retail investors never used depth-of-book data in significant numbers, even when the data was free. ArcaBook Filing (NYSE Arca Ex. 1) at NYSE_ARCA_000145; Tr. 26; Tr. 66; Tr. 90. Even now, when retail investors are provided access to this data for free by their broker-dealers, few choose to access it. Tr. 56. This is likely because, as Prof. Donefer admitted, retail investors do not know how to make use of depth-of-book data. Tr. 925-27. In fact, Mr. Brooks, Mr. Albers, and Prof. Donefer[34]—three professionals with as much knowledge about depth-of-book data as anyone—subject ***themselves*** to this alleged "informational disadvantage" by declining to use depth-of-book data when trading for their own personal accounts. Tr. 24-25; Tr. 440.[35r]

### C. SIFMA Has Abandoned Its Arguments Concerning Order Imbalance Data

In its Pre-Hearing Brief, SIFMA argued that most retail investors need ArcaBookr because it is "essential to many market participants" who participate in NYSE Arca opening and closing auctions, and that ArcaBook "provide[s] the only 'order imbalance' information about the exchanges' respective daily open and close auctions in a real-time, low-latency feed." SIFMA Pre-Hearing Br. at 5-6, 18, 24-25; Donefer Report (SIFMA Ex. 376) ¶¶ 35, 55, 65. Now

34 Indeed, Prof. Donefer testified that he stopped using ArcaBook as soon as it became fee-liable and began using BATS depth-of-book data instead (Tr. 939-41), thus proving by his own actions that investors had alternatives to ArcaBook.

35 There is not, as SIFMA suggests (SIFMA Br. at 58), any evidence that retail brokerage firms "ration" the use of market data products by their retail customers. To the contrary, the evidence shows that broker-dealers make widely available certain exchanges' depth-of-book data but that few retail customers choose to use it. *See supra* n. 33.

that it has been proven at trial and admitted by Prof. Donefer that real-time order imbalance data was made available for free on NYSE Arca's website (OB at 41-42), SIFMA has all but abandoned this argument.[36]e

**CONCLUSION**

For all the foregoing reasons, and those set forth in NYSE Arca's Post-Hearing Brief, NYSE Arca respectfully submits that the SIFMA Application should be dismissed.

Respectfully submitted,

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Dated: July 31, 2015

[36] The only references in SIFMA's brief to order imbalance data or the Exchanges' auctions are in a single paragraph in the fact section of its brief (SIFMA Br. at 11) that repeats the line from its Pre-Hearing Brief that ArcaBook is "the exclusive low-latency source" of NYSE Arca's order imbalance information. (OB at 41-42.) Moreover, contrary to SIFMA's assertion, mutual funds do not trade on order imbalances, they *create* such imbalances through the use of Market-on-Close orders. Tr. 187-93.

## CERTIFICATE OF SERVICE

I hereby certify that on July 31, 2015, I caused a copy of the foregoing Post-Hearing Reply Brief of NYSE Arca, Inc. to be served on the parties listed below via the methods set forth for each recipient.

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