

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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: CITY OF PROVIDENCE, RHODE ISLAND et al., :
: :
: Plaintiffs, :
: : 14-CV-2811 (JMF)
: -v- :
: : OPINION AND ORDER
: BATS GLOBAL MARKETS, INC., et al., :
: :
: Defendants. :
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JESSE M. FURMAN, United States District Judge:

In these consolidated cases, familiarity with which is presumed, a collection of institutional investors allege that seven stock exchanges (the “Exchanges”) violated Section 10(b) of the Securities Exchange Act of 1934, 15 U.S.C. § 78j(b). Specifically, Plaintiffs allege that the Exchanges sold certain products and services to high-frequency trading (“HFT”) firms — thereby purportedly giving the HFT firms an advantage over Plaintiffs and the investing public — and failed to fully disclose the effects of these products and services to the market. In 2019, on remand from the Court of Appeals, this Court denied the Exchanges’ renewed motion to dismiss for lack of standing and failure to state a plausible claim for relief. *See In re Barclays Liquidity Cross & High Frequency Trading Litig.*, 390 F. Supp. 3d 432 (S.D.N.Y. 2019) (“*In re Barclays IP*”). In its Opinion and Order, though, the Court warned that while “general factual allegations of injury resulting from the defendant’s conduct . . . suffice[d]” at the pleading stage, *id.* at 443-44 (internal quotation marks omitted), Plaintiffs “may ultimately be unable to show that they were injured under the more demanding standards applicable at summary judgment or trial,” *id.* at 445 (cleaned up).

The Exchanges now move, pursuant to Rule 56 of the Federal Rules of Civil Procedure, for summary judgment on the ground that Plaintiffs lack Article III standing. *See* ECF No. 607. Relatedly, the Exchanges move, pursuant to Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), to exclude the testimony of an expert on whom Plaintiffs rely to prove standing. *See* ECF No. 651.¹ For the reasons that follow, both motions are GRANTED. More specifically, to survive summary judgment, Plaintiffs must present evidence from which a jury could reasonably conclude that they engaged in at least one transaction from which they suffered harm traceable to Defendants' allegedly unlawful conduct. Plaintiffs' only purported such evidence is contained in the expert reports of David Lauer. But his reports are inadmissible for two interrelated reasons: They are not sufficiently tied to the facts of the case, and they are not based on reliable methodology. It follows that Plaintiffs cannot establish that they were harmed by Defendants' conduct, a *sine qua non* of standing.

In fact, even if they were admissible, Lauer's reports cannot and do not show harm that is fairly traceable to the Exchanges' challenged conduct — that is, their provision of the at-issue products to certain firms — because his analyses do not track firms' use of those products. This methodological flaw appears to stem from a more fundamental disconnect between the evidence Plaintiffs present (including Lauer's analyses) and their claims: Plaintiffs' evidence shows harm caused to non-HFTs by HFT firms, but Plaintiffs are not suing HFT firms; nor do they allege that there is anything unlawful about being a high-frequency trader per se. Instead, Plaintiffs are suing the Exchanges for their sale of three specific products and services to certain firms.

¹ In addition, the Exchanges move for summary judgment on the ground that Plaintiffs' claims are precluded, *see* ECF Nos. 599, 603; Plaintiffs move for class certification pursuant to Rule 23 of the Federal Rules of Civil Procedure, *see* ECF No. 610; and both sides move to exclude other expert testimony, *see* ECF Nos. 641, 643, 769.

Because Plaintiffs have not put forward evidence from which a jury could reasonably conclude they have suffered an injury in fact that is fairly traceable to the Exchanges' sale of these products and services, their claims must be dismissed, without prejudice, for lack of standing.

BACKGROUND

The following facts, taken from the Second Amended Complaint, ECF No. 252 (“SAC”), and admissible materials submitted in connection with the pending motions, are either undisputed or described in the light most favorable to Plaintiffs. *See, e.g., Costello v. City of Burlington*, 632 F.3d 41, 45 (2d Cir. 2011).

A. Plaintiffs' Claims

As recounted in this Court's prior opinions, familiarity with which is presumed, this consolidated set of cases originally included five actions — four filed in this District and one filed in the Central District of California, which was later consolidated in this Court by the Judicial Panel on Multidistrict Litigation. *See In re Barclays II*, 390 F. Supp. 3d at 439; *In re Barclays Liquidity Cross & High Frequency Trading Litig.*, 126 F. Supp. 3d 342, 347-48 (S.D.N.Y. 2015) (“*In re Barclays I*”), *vacated and remanded sub nom. City of Providence, Rhode Island v. Bats Glob. Markets, Inc.*, 878 F.3d 36 (2d Cir. 2017). Following this Court's ruling on Defendants' first motion to dismiss, an appeal from that ruling, and a subsequent ruling by this Court on remand, the remaining claims involved in the case have significantly narrowed. *See In re Barclays II*, 390 F. Supp. 3d at 441-42. Out of the five original actions, three remain: 14-CV-2811, 14-CV-3133, and 14-CV-3608. *See id.* at 442; ECF No. 330. And of the claims originally brought in those actions, only Plaintiffs' claims under Section 10(b) of the Securities Exchange Act of 1934 (“Section 10(b)”) and Securities and Exchange Commission (“SEC”) Rule 10b-5 (“Rule 10b-5”) persist. *See In re Barclays II*, 390 F. Supp. 3d at 442.

The gravamen of Plaintiffs’ claims is that the Exchanges developed certain products and services, sold them “at prices that ordinary investors could not afford, and failed to publicly disclose the full or cumulative effects that the products and services have on the market” — and thereby “g[a]ve HFT firms trading advantages over non-HFT firms and the investing public.” *City of Providence*, 878 F.3d at 40; *see In re Barclays II*, 390 F. Supp. 3d at 439-42; *In re Barclays I*, 126 F. Supp. 3d at 348-53. In particular, Plaintiffs’ claims focus on three products and services that the Exchanges allegedly offered during the proposed Class Period (April 18, 2009, to November 24, 2014, *see* ECF No. 617, at 2): co-location services, proprietary data feeds, and complex order types. *See* SAC ¶¶ 3, 108-31, 136-51; ECF No. 659 (“Pls.’ SOF”), ¶¶ 108-88; ECF No. 727 (“Defs.’ COF”), ¶¶ 108-88.² The Court will address each in turn.

Co-Location Services. When an Exchange offers co-location services, it sells customers the right to place their servers in close physical proximity to the Exchange’s own servers for a fee. Co-location enables these customers to reduce their “latency” period — the amount of time it takes for them to receive information about changes in the market and to send trading signals to the Exchange — by reducing the physical distance that those signals have to travel. Pls.’ SOF ¶¶ 108-09. In exchange for this speed advantage, certain firms during the proposed Class Period

² Plaintiffs’ current articulation of their theory of harm diverges from their pleadings in some notable respects. In particular, Plaintiffs appear no longer to claim that they suffered harm from HFT firms’ ability to engage in rebate arbitrage, spoofing, or layering, as a result of the Exchanges’ at-issue products and services. *Compare* SAC ¶¶ 238, 244-47, 250-51, *with, e.g.*, ECF No. 638 (“Pls.’ Standing Opp’n”), at 1, 8-9, 11; ECF No. 617 (“Pls.’ Class Cert. Mem.”), at 3; ECF No. 619-1 (“First Lauer Report”), at 1-2, 17. Plaintiffs’ description in the Complaint of “latency arbitrage” and how it harmed institutional investors also differs from the description in their filings related to the pending motions. *Compare* SAC ¶ 249, *with* Pls.’ Standing Opp’n 1, 8-9, 11; Pls.’ Class Cert. Mem. 3; First Lauer Report 1-2, 17. Additionally, during oral argument, Plaintiffs’ counsel clarified that they are suing over the harm caused by HFT firms’ ability to use “the combination of [all] three [products and services],” specifically. *See* March 11, 2022 Oral Argument Transcript, (“Arg. Tr.”), 30.

were willing to pay substantial sums to co-locate — in some cases, hundreds of thousands of dollars per month per Exchange, totaling millions of dollars in fees per year, Pls.’ SOF ¶ 136; *see also, e.g.*, ECF No. 660-77, at 3 (listing “Top Ten COLO Customers” of Nasdaq in May 2009 by monthly revenue);³ ECF No. 660-128 (listing annual co-location fees by client earned by Defendants New York Stock Exchange, LLC (“NYSE”), NYSE Arca, Inc. (“NYSE Arca”), and NYSE Chicago, Inc. (“NYSE CHX”) (together, the “NYSE Defendants”) from 2010 to 2019); ECF No. 660-220 (same for 2009 to 2019).⁴

Proprietary Data Feeds. Next, the proprietary data feeds at issue are “enhanced” or “direct” data feeds that the Exchanges offer as a subscription service to certain customers. Pls.’ SOF ¶¶ 138-41. According to Plaintiffs, these feeds generally provide more information at faster speeds than the “consolidated” data feed to which all investors seeking to trade on a given Exchange have access. *Id.* ¶¶ 141, 143.⁵ For instance, certain proprietary data feeds provide access to greater “depth-of-book” data, meaning that instead of only providing information about

³ References to page numbers in this filing are to the page numbers automatically generated by the Court’s Electronic Case Filing (“ECF”) system.

⁴ The Exchanges contend that “BATS and Direct Edge never offered co-location services,” Defs.’ COF ¶ 110, but do not dispute that NYSE and Nasdaq did, *see id.* ¶¶ 110-11, 136.

⁵ Defendants dispute this proposition. *See* Defs.’ COF ¶ 143 (“Defendants note that the citations do not support this statement because the cited documents do not discuss the speed at which data is transmitted.”). But the exhibits cited by Plaintiffs do appear to support it. *See, e.g.*, ECF No. 660-181, at 2 (statement made in 2014 by former Nasdaq executive that “getting a prop data feed in a data center certainly [is] faster than reading the SIP into [sic] the data center”); ECF No. 660-184, at 4 (NYSE product overview from 2009 stating that “[p]roduct [a]dvantages” of “NYSE Trades feed” include “Less Hops - NYSE Trades does not consolidate prices from other markets therefore its path to customers is faster than CTA”); ECF No. 660-30, at 1 (Direct Edge internal communication from 2013 stating that “most major U.S. equity exchanges take in direct feeds which help give them a competitive advantage since this data is processed faster than market data from the SIP’s”). In any event, the Court need not and does not resolve this factual dispute for purposes of this Opinion and Order.

the single best bid and offer for a given stock on a given exchange (the National Best Bid and Offer or “NBBO”), an Exchange may also provide information about outstanding bids and offers at prices lower or higher than the NBBO for a given stock through an enhanced data feed. *See id.* ¶¶ 140-41. They may also give traders information about “where [their orders] are in the book,” as well as information about “executions, cancellations and administrative messages.” *Id.* ¶ 141.⁶ According to Plaintiffs, certain firms during the Class Period were able to use proprietary data feeds to construct their own internal NBBO before the NBBO was released via the consolidated data feed. *Id.* ¶ 149.⁷ Like co-location services, access to proprietary data feeds came with high monthly subscription fees — sometimes tens of thousands of dollars per month — during the Class Period. *Id.* ¶ 153.

Complex Order Types. Finally, the Exchanges offer customers certain “complex” or “specialized” order types, which are pre-programmed commands that instruct an Exchange how to handle a particular buy or sell order. *Id.* ¶¶ 156-57. Standard order types might instruct an Exchange simply to execute a trade at the current market price (a “market order”) or to buy at or below — or sell at or above — a particular price (a “limit order”). *See In re Barclays II*, 390 F. Supp. 3d at 440. By contrast, a complex order type can involve more customized functionality. One example of such an order type is “Hide not Slide,” an order type that was available on the

⁶ Defendants dispute Plaintiffs’ characterization of proprietary data feeds as providing information that is “‘richer and thicker’ than the consolidated data feeds,” but do not dispute that “[p]roprietary data feeds offer additional and different market information from the consolidated data feeds.” Defs.’ COF ¶ 141.

⁷ Defendants dispute this proposition, *see* Defs.’ COF ¶ 149, but once again Plaintiffs cite exhibits that appear to support it, *see, e.g.*, ECF No. 660-189, at 12 (presentation by NYSE senior vice president stating that “[m]any HFTs use internally constructed NBBO from the prop feeds for trading”); ECF No. 660-190, at 4 (NYSE whitepaper stating that “[p]roprietary data feeds . . . allow market participants to aggregate their own view of the market”). Here too, the Court need not and does not resolve this factual dispute for purposes of this Opinion and Order.

Direct Edge Exchange during the Class Period. Pls.’ SOF ¶¶ 158, 163. Plaintiffs contend that orders placed using this order type would remain hidden and then jump the queue when the market was unlocked, while other orders in the queue would “slide” to a lower execution priority, “even if [they] were submitted before the Hide not Slide order.” *Id.* ¶¶ 159-61; *see also* ECF No. 638, (“Pls.’ Standing Opp’n”), at 7. Another example is Nasdaq’s “Post Only ISO” order type, which permitted firms to send orders that would be immediately canceled if they were about to execute against an existing order or, if they were not going to execute against an order, would simply be posted on the Exchange’s order book. *See* Pls.’ SOF ¶¶ 173-74. Plaintiffs contend that this enabled certain firms to “obtain an informational advantage without the risk of an order executing or being re-priced by learning the price at which an order will not execute.” *Id.* ¶ 174. Similar complex order types were offered on other Exchanges during the Class Period. *See id.* ¶¶ 177-78. In some cases, the Exchanges that offered these complex order types worked in close collaboration with specific firms to develop them. *See id.* ¶¶ 158, 163; *see also id.* ¶¶ 165-67, 184, 187 (detailing other direct communications between the Exchanges and specific firms related to complex order type functionality).

As noted, in May 2019, this Court denied the Exchanges’ renewed motion to dismiss for lack of standing and failure to state a claim. *In re Barclays II*, 390 F. Supp. 3d at 453. With respect to standing, the Court pointedly cautioned that while Plaintiffs’ “general factual allegations of injury resulting from the defendant’s conduct” sufficed at the pleading stage, *id.* at 443-44 (internal quotation marks omitted), Plaintiffs “may ultimately be unable to show that they were injured under the more demanding standards applicable at summary judgment or trial,” *id.* at 445 (cleaned up). Following that ruling, on August 16, 2019, the Court issued a Case Management Plan and Scheduling Order, ECF No. 329, which (at Defendants’ suggestion, *see*

No. 14-MD-2589, ECF No. 130, at 3) directed the parties to “prioritize discovery necessary for class certification and preclusion,” *see* ECF No. 329, at 1. After eighteen months of discovery and a slew of discovery disputes, the Exchanges now move for summary judgment on preclusion grounds and a subset of the Exchanges — the NYSE Defendants, BATS Global Markets, Inc. (“BATS”), and Direct Edge ECN, LLC (“Direct Edge”) — move for summary judgment on Article III standing grounds. *See* ECF Nos. 599, 607. Plaintiffs move for class certification. *See* ECF No. 610. And both sides move to preclude the testimony of certain experts relied upon by the other side in support of, or in opposition to, these motions. *See* ECF Nos. 641, 643, 651, 769.

B. David Lauer’s Expert Reports

Three expert reports — all authored by David Lauer, a former trader at an HFT firm and an industry consultant and public speaker on market structure — are central to the parties’ standing arguments, *see, e.g.*, Pls.’ Standing Opp’n 1-2, 11, 13; ECF No. 724, (“Def.’ Standing Reply”), at 1, and, thus, warrant description. In support of their motion for class certification and their opposition to Defendants’ motion for summary judgment on standing, Plaintiffs proffer the First Lauer Report. *See* ECF No. 619-1 (“First Lauer Report”), at 2-4; ECF No. 719, (“Pls.’ Lauer Opp’n”), at 1. This report seeks to corroborate Plaintiffs’ theory of harm and to provide a method for proving and measuring class-wide damages. First Lauer Report 1-2; Pls.’ Lauer Opp’n 1. To do so, Lauer first assesses whether the challenged products and services offered by the Exchanges “afford trading advantages to [HFT firms] that they can exploit in order to pick off resting limit orders placed on behalf of institutional investors by slower broker-dealers before the slower liquidity provider can react and adjust to new information.” First Lauer Report 1. He then “estimate[s] any damages incurred when non-HFT resting orders are picked off by aggressive HFT orders” in this manner using a metric called a “trade markout.” *Id.* 1-2.

At a basic level, Lauer explains, trade markouts “examine the magnitude and direction of a change in stock price a certain amount of time after a trade occurs.” *Id.* at 17. More specifically, for each execution of a trade, they “measure the profitability of that execution had it been closed out at some assumed price after a certain fixed amount of time had elapsed.” *Id.* For example, if a buy order executes against an incoming sell order at \$1.00, but then the price drops to \$0.99 at some time “T” after the trade, then the markout for that execution would be -\$0.01. *See id.* at 22. Markouts can therefore be seen as “measuring the impact of executing at a point in time, versus having waited and executed at a different point in time.” *Id.* at 18. A positive markout “reflects that if the trade in question opened a position, the position would have been closed out for a profit at some fixed time after the trade,” while a negative markout reflects that the trade would have resulted in an effective loss at that fixed time after the trade. *Id.* at 19.

According to Lauer, a negative markout “suggest[s] the presence of adverse selection, . . . which occurs when an informed trader buys from (sells to) a market participant with a resting sell (buy) order immediately before prices increase (decrease).” *Id.* at 19. As Lauer explains:

If a trader buys (sells) a share of stock, and the price of the stock immediately drops (increases), it would have been better for the trader to have canceled their order, waited, and then purchased (sold) the stock after the price drops. In other words, their resting order traded with an order that was better informed about near-term price movement, and therefore their resting order was adversely selected against.

Id. at 18. This is relevant, Lauer claims, because “HFT firms are effectively doing this as they monitor markets, cancel resting orders when they detect an impending price level change in the NBBO (prior to that change being reflected in the [consolidated data feed]), and then sweep markets for stale-priced limit orders placed by broker-dealers who are not as fast as the HFT firm.” *Id.*

To estimate damages incurred “when non-HFT resting orders are picked off by aggressive HFT orders,” Lauer evaluates the difference in share-weighted average trade markouts for two scenarios: “one in which an HFT firm takes liquidity from a slower non-HFT firm” (i.e., a non-HFT to HFT trade); “and one in which two slower non-HFT firms trade with each other” (i.e., a non-HFT to non-HFT trade). *Id.* at 1-2; *see also id.* at 25 (describing these “pairwise comparisons”). Lauer hypothesizes that one would expect to see a negative share-weighted average trade markout for the non-HFT to HFT trades (“Scenario 1”) relative to the non-HFT to non-HFT trades (“Scenario 2”), on the theory that HFT firms have faster access to more information due to their use of the Exchanges’ at-issue products and services and can therefore take advantage of stale non-HFT offers. *Id.* at 25-27. To classify firms as either HFT or non-HFT, Lauer relies on a “list of HFT [market participant identifiers] produced by Nasdaq”; “an industry list of HFTs” from a recruiting firm; and the characteristics used to describe HFT firms in a 2010 SEC Concept Release. *Id.* at 21. Lauer runs his analysis on a sample of one hundred stocks examined on approximately seven to ten days across four years on five exchanges: Nasdaq, NYSE Arca, BATS-Y, EDGE-X, EDGE-A. *Id.* at 27.

Lauer reports that, for the stocks on each of the five Exchanges examined, there was a negative share-weighted average trade markout for Scenario 1 relative to Scenario 2, as predicted by his hypothesis. *See id.* at 27-28, 30-31. Lauer then computes an estimate of damages incurred by non-HFTs by multiplying the difference in the share-weighted average trade markout between the two scenarios (which he attributes to HFT speed advantages) with the volume of trades executed between non-HFT and HFT firms. *Id.* at 29-30. For the sample size, the model estimates “\$4,564,528.91 of damages,” *id.* at 30, which, by extrapolation, amounts to, “on average, . . . nearly \$480,000 in damages per day [incurred by non-HFTs] in this subset of stocks

alone,” *id.* at 2. Lauer concludes, “based on [his] education, training and experience . . . that these damages are suffered due to the fundamental differences between HFT and [n]on-HFT firms, specifically the use by HFT firms of every high-performance option offered by the exchanges, including fast, proprietary market data feeds, complex order types, low latency network cross-connects, high-speed binary order entry protocols and co-location.” *Id.* at 30-31.

In support of their opposition to the Exchanges’ motion for summary judgment on standing grounds, Plaintiffs also submit a supplemental expert report by Lauer. *See* ECF No. 660-1 (“Supp. Lauer Report”). Rather than examine harm to non-HFTs generally, this report aims to determine “whether any of *Plaintiffs’* orders were subjected to adverse selection by an HFT firm just prior to a quote change” and, relatedly, seeks to “calculate the damages to the Plaintiffs” for those specific orders. *Id.* at 1 (emphasis added). To do so, Lauer relies on a similar methodology from his First Report with one material modification: Instead of comparing the difference between trade markouts in the two scenarios described above, he calculates individual trade markouts for executions purportedly made on behalf of Plaintiffs that traded against “an aggressive HFT order.” *Id.* at 2-3. Lauer relies on trading data from five exchanges (NYSE Arca, BATS-Y, BATS-Z, EDGE-X, and EDGE-A) and claims to have “successfully match[ed] the broker orders with the corresponding exchange-level data” to identify trades made on behalf of three Plaintiffs on three dates: Plumbers and Pipefitters National Pension Fund (“PPNF”); Employees’ Retirement System of the Government of the Virgin Islands (“VIGERS”); and City of Providence, Rhode Island (“City of Providence”). *Id.* at 2-4.

Using this methodology, Lauer identifies examples of negative trade markouts for transactions that he claims were made on behalf of PPNF, VIGERS, or City of Providence “when trading against an aggressive HFT order.” *Id.* at 4. He opines that, “as described more

fully in the First Lauer Report,” these negative trade markouts “mean[] that [these three Plaintiffs] suffered economic harm in connection with [the] trades resulting from the contra side HFT’s faster access to, and ability to trade on, market information,” *id.* at 4-5, and thus “demonstrate[] that at least several of Plaintiffs’ trades were negatively impacted by the advantages sold to HFT firms by Defendants,” *id.* at 2. Plaintiffs, in turn, rely on these examples of specific trades in which they were allegedly harmed to demonstrate an injury in fact that is fairly traceable to the Exchanges’ challenged conduct. *See* Pls.’ Standing Opp’n 13-14.

Finally, in support of their motion for class certification, Plaintiffs submit an amended supplemental report by Lauer. *See* ECF No. 730-15 (“Am. Supp. Lauer Report”). This report is identical to the Supplemental Lauer Report with one exception: It also identifies examples of trades in which Plaintiff State-Boston Retirement System (“Boston”) was allegedly harmed. *See id.* at 2, 5. Lauer notes that, “[u]nlike the . . . orders analyzed [for the three other Plaintiffs], Boston . . . was selling shares of the [selected stock], so negative markouts result when the price increases.” *Id.* at 5. Notably, Plaintiffs submitted this report over a month after their opposition to the Exchanges’ motion for summary judgment on standing, and Plaintiffs did not move to supplement the record for the summary judgment motion on standing with this additional report. *See* March 11, 2022 Oral Argument Transcript (“Arg. Tr.”), at 62-63.

DISCUSSION

The Court will begin, as it must, with the Exchanges’ motion for summary judgment on Article III standing grounds. *See Lance v. Coffman*, 549 U.S. 437, 439 (2007) (“Federal courts must determine that they have jurisdiction before proceeding to the merits.”); *accord Ross v. Bank of Am., N.A. (USA)*, 524 F.3d 217, 222 (2d Cir. 2008).

A. Applicable Legal Standards

Summary judgment is appropriate where the admissible evidence and pleadings demonstrate “no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *see also Johnson v. Killian*, 680 F.3d 234, 236 (2d Cir. 2012) (per curiam). A dispute over an issue of material fact qualifies as genuine “if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *accord Roe v. City of Waterbury*, 542 F.3d 31, 35 (2d Cir. 2008). The moving party bears the initial burden of demonstrating the absence of a genuine issue of material fact. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986). “In moving for summary judgment against a party who will bear the ultimate burden of proof at trial, the movant’s burden will be satisfied if he can point to an absence of evidence to support an essential element of the nonmoving party’s claim.” *Goenaga v. March of Dimes Birth Defects Found.*, 51 F.3d 14, 18 (2d Cir. 1995) (citing *Celotex*, 477 U.S. at 322-23); *accord PepsiCo, Inc. v. Coca-Cola Co.*, 315 F.3d 101, 105 (2d Cir. 2002) (per curiam).

In ruling on a motion for summary judgment, all evidence must be viewed “in the light most favorable to the non-moving party,” *Overton v. N.Y. State Div. of Military & Naval Affairs*, 373 F.3d 83, 89 (2d Cir. 2004), and the court must “resolve all ambiguities and draw all permissible factual inferences in favor of the party against whom summary judgment is sought,” *Sec. Ins. Co. of Hartford v. Old Dominion Freight Line, Inc.*, 391 F.3d 77, 83 (2d Cir. 2004). To defeat a motion for summary judgment, the non-moving party must advance more than a “scintilla of evidence,” *Anderson*, 477 U.S. at 252, and demonstrate more than “some metaphysical doubt as to the material facts,” *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986). The non-moving party “cannot defeat the motion by relying on the

allegations in [its] pleading or on conclusory statements, or on mere assertions that affidavits supporting the motion are not credible.” *Gottlieb v. County of Orange*, 84 F.3d 511, 518 (2d Cir. 1996) (citation omitted); *see also Lujan v. Defs. of Wildlife*, 504 U.S. 555, 561 (1992) (“In response to a summary judgment motion, . . . the plaintiff can no longer rest on . . . mere allegations, but must set forth by affidavit or other evidence specific facts.” (internal quotation marks omitted)); *accord California v. Texas*, 141 S. Ct. 2104, 2117 (2021).

B. Admissibility of the Lauer Reports

The Exchanges’ motion for summary judgment on standing grounds is premised, in no small part, on their contention that the opinions set forth in the Lauer Reports are inadmissible. *See* Defs.’ Standing Reply 1 (“Plaintiffs submit one source of purported evidentiary support for their theory of harm: the opinions offered by their proposed expert witness, David Lauer.” (emphasis omitted)); *id.* at 2 (“Because Lauer’s opinions should be excluded in their entirety, Plaintiffs have no evidence relating to Article III standing.”); *see also* ECF No. 653 (“Defs.’ Lauer Mem.”); Arg. Tr. 5 (“THE COURT: . . . [Y]ou think you . . . certainly win [on standing] if I grant the Lauer motion. MR: HENKIN: Correct.”). Accordingly, the Court will address the admissibility of Lauer’s opinions before turning to the standing inquiry. *See Nora Beverages, Inc. v. Perrier Grp. of Am., Inc.*, 164 F.3d 736, 746 (2d Cir. 1998) (“On a summary judgment motion, the district court properly considers only evidence that would be admissible at trial.”).

1. Applicable Standards

The admissibility of expert testimony is governed by Rule 702 of the Federal Rules of Evidence, which provides, in relevant part that “[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify” to his opinion if:

- (a) the expert’s scientific, technical, or other specified knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. In *Daubert*, the United States Supreme Court defined the “gatekeeping role” of district courts with respect to expert testimony, declaring that “the Rules of Evidence — especially Rule 702 — [] assign to the trial judge the task of ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” 509 U.S. at 597. This inquiry is a “flexible” one that “depends upon the particular circumstances of the particular case at issue.” *In re: Gen. Motors LLC Ignition Switch Litig.*, No. 14-CV-5810 (JMF), 2017 WL 6729295, at *5 (S.D.N.Y. Dec. 28, 2017); *see also Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150-52 (1999) (explaining that because “there are many different kinds of experts, and many different kinds of expertise,” a court must be granted “considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable”).

The first requirement under Rule 702 — that the “evidence or testimony will assist the trier of fact to understand the evidence or to determine a fact in issue” — “goes primarily to relevance” or, as the Supreme Court has described it, “fit” between the proffered opinion and the facts of the case. *Daubert*, 509 U.S. at 591 (internal quotation marks omitted); *see also Trouble v. Wet Seal, Inc.*, 179 F. Supp. 2d 291, 302 (S.D.N.Y. 2001) (“[The] proffered testimony . . . must not only have a reliable foundation but also be relevant in that it ‘fits’ the facts of this case.”). In fulfilling its gatekeeping role, however, the Court must also consider “indicia of reliability.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 265 (2d Cir. 2002).

Factors that may bear on reliability, depending on the nature of the expert opinion, include:

- (1) whether a theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) a

technique's known or potential rate of error, and the existence and maintenance of standards controlling the technique's operation; and (4) whether a particular technique or theory has gained general acceptance in the relevant scientific community.

Id. at 266 (cleaned up). This inquiry is designed “to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire Co.*, 526 U.S. at 152.

The focus of the analysis “must be solely on principles and methodology, not on the conclusions that they generate.” *Daubert*, 509 U.S. at 595. Significantly, however, the Court is not required “to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.” *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). In such a case, the Court “may conclude that there is simply too great an analytical gap between the data and the opinion proffered.” *Id.* In the final analysis, “expert testimony should be excluded if it is speculative or conjectural, or if it is based on assumptions that are so unrealistic and contradictory as to suggest bad faith, or to be in essence an apples and oranges comparison.” *Boucher v. U.S. Suzuki Motor Corp.*, 73 F.3d 18, 21 (2d Cir. 1996) (cleaned up). By contrast, “other contentions that the assumptions are unfounded go to the weight, not the admissibility, of the testimony.” *Id.* (internal quotation marks omitted). Exclusion is “the exception rather than the rule.” *Vazquez v. City of New York*, No. 10-CV-6277 (JMF), 2014 WL 4388497, at *12 (S.D.N.Y. Sept. 5, 2014) (internal quotation marks omitted).

2. Discussion

Applying the foregoing standards, the Court concludes that Lauer's opinions based on his markout analyses are inadmissible for two interrelated reasons: They do not “fit” the facts of the case, and they are not supported by reliable methods. In particular, there is a clear disconnect

between the facts of the case and Plaintiffs' theory of Defendants' liability, on the one hand, and Lauer's data and the opinions they can reliably support, on the other.

As noted, Plaintiffs' claims under Section 10(b) and Rule 10b-5 are predicated on the Exchanges' sale of three products and services to certain "HFT" firms. *See* SAC ¶¶ 295-302; Pls.' Standing Opp'n 3-8. Plaintiffs confirmed this point unequivocally at oral argument. *See* Arg. Tr. 29 ("THE COURT: . . . Am I correct that the plaintiffs' theory is based on the three products and services that I mentioned? MR. MITCHELL: Yes, your Honor."). In his First Report, Lauer claims to estimate classwide damages "suffered due to . . . the use by HFT firms of [those at-issue products]." First Lauer Report 30-31; *see also id.* at 1. Similarly, in his Supplemental Reports, he purports to show specific trades in which Plaintiffs were harmed "as a result of Defendants' scheme" — that is, as a result of the Exchanges' provision of the at-issue products to certain firms. Pls.' Standing Opp'n 13; *see also* Supp. Lauer Report 2; Am. Supp. Lauer Report 2. Thus, both Plaintiffs' theory of the case and Lauer's opinions center on the harm caused by the Exchanges' sale of the three at-issue products to certain firms. But the markout analyses on which Lauer relies do not actually show harm tied to firms' use of those products. Instead, Lauer's data purport to show harm to "non-HFT" firms caused by trading with "HFT" firms in certain situations. *See* First Lauer Report 27, 30; Supp. Lauer Report 1, 3-5; Am. Supp. Lauer Report 1, 3-5. Lauer can bridge the gap between his data (about harm caused by "HFTs") and his opinions (about harm caused by the at-issue products) only if two assumptions are true: (1) the "HFT" firms in his markout analyses use the at-issue products, and (2) the "non-HFT" firms do not. Neither assumption, however, is supported by the record.

In fact, Lauer's own testimony makes clear that he did not investigate, let alone confirm, that the thirty-four firms on his list of HFTs actually used the at-issue products. When asked if

he had examined, for the firms identified as “HFTs” in his report, “which ones used co-location, which ones used proprietary data feeds, and which ones used certain order types,” Lauer responded bluntly: “I did not.” ECF No. 665-1 (“Lauer Dep.”), at 170. Likewise, when asked whether his “approach [to creating his list of HFT firms] . . . include[d] looking individually at whether specific entities included [on that list] used co-location with each of the Defendants, used proprietary data feeds from each of the Defendants, or used complex order types with each of the Defendants,” Lauer answered: “It did not.”⁸ *Id.* at 171. Along similar lines, Lauer failed to confirm the flip side of the equation: that the “non-HFTs” on his list did *not* use the at-issue products while making trades on behalf of Plaintiffs and other institutional investors. *See* ECF No. 680-1 (“First Hendershott Report”), ¶¶ 165-84, 205-10, 255; *see also* ECF No. 721-10 (“Lauer Reply Report”), at 4 (“While some broker-dealers may have subscribed to some of Defendants’ co-location services and proprietary data feeds . . . it is far from all.”). In other words, Lauer took no steps to verify that his list of HFT and non-HFT firms tracked the use and non-use, respectively, of the at-issue products.

Lauer and Plaintiffs make much of his “knowledge of firms that are generally known to be HFT trading firms.” First Lauer Report 21; *see also, e.g.*, Lauer Dep. 170; Lauer Reply Report 16; Pls.’ Lauer Opp’n 13-14. But Lauer never claims that, based on his experience, *all* of the “HFT” firms on his list used the at-issue products or, conversely, that *all* of the “non-HFT” firms did not. To the contrary, when Lauer does mention use of the at-issue products in his report, he speaks only in general terms (and without citation to any supporting sources):

Generally speaking, HFT firms have extremely fast order entry systems and make use of every high-performance option offered by the exchanges, *including* fast, proprietary market data feeds, complex order types, low latency network cross-connects, high-speed binary order entry protocols and co-location. On the other

⁸ Counsel objected to this question as to form. The objection is overruled.

hand, non-HFT firms are *mainly* institutional asset managers whose orders are being managed by broker-dealers. *In general*, broker-dealers during this time period were not incentivized to invest heavily in technology, were not using (or did not even know about) complex order types, and were *less likely* to purchase expensive low-latency options from exchanges.

First Lauer Report 25 (emphases added); *see also* Lauer Reply Report 4. Thus, by Lauer’s own admission, his HFT classification rests on nothing more than generalizations based on his own personal experience with respect to the firms’ use of the at-issue products.

Making matters worse, the Exchanges present expert testimony that some of the firms in Lauer’s analyses are, in fact, miscategorized. Specifically, Professor Terrence Hendershott (the Willis H. Booth Chair in Banking and Finance at the Haas School of Business at the University of California Berkeley) identifies entities categorized as “non-HFTs” in Lauer’s study, including “broker-dealers [who] traded on behalf of Plaintiffs,” that were allegedly “co-located with Defendant Exchanges, subscribed to the same data feeds as the ‘HFT firms’ . . . and used the purportedly ‘complex’ order types identified by Plaintiffs” during the Class Period. First Hendershott Report ¶ 205; *see id.* ¶¶ 206-09 (citing Exhibits 5-10); *see also id.* ¶¶ 166, 171, 255; ECF No. 772 (“Defs.’ Lauer Reply”), 7. That suggests some of the “non-HFT” firms that, according to Lauer’s analyses, were harmed by HFT firms’ use of the Exchanges’ products, actually used those very same products. Conspicuously, Lauer does not refute the point, but merely says “[w]hile some broker-dealers may have subscribed to some of Defendants’ co-location services and proprietary data feeds, even accepting Professor Hendershott’s own analysis as true, it is far from all.” Lauer Reply Report 4.⁹ This concession underscores the

⁹ Despite this concession, later in his Reply Report, Lauer adds: “In my experience, any broker-dealers that subscribed to co-location and direct feeds, only did so for their proprietary trading desks, and not their agency or algorithmic trading, despite marketing or sales claims suggesting otherwise.” Lauer Reply Report 6. This assertion is again based on nothing more than Lauer’s “experience” — the reliability of which is undermined by his own failure to

fundamental flaw in Lauer’s methodology: He concludes there is a causal connection between the Exchanges’ sale of certain products to “HFT” firms and harm to “non-HFT” firms even though his methods do not differentiate between firms that actually used these products and those firms that did not.

This gap between Lauer’s methods and conclusions is fatal to Plaintiffs’ arguments for admissibility. As the Supreme Court has made clear, “nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.” *Gen. Elec. Co.*, 522 U.S. at 146. Relatedly, courts should decline to admit expert testimony where “there is simply too great an analytical gap between the data and the opinion proffered.” *Id.*; *accord Restivo v. Hessemann*, 846 F.3d 547, 577 (2d Cir. 2017). The Second Circuit’s opinion in *Amorgianos* is instructive. There, the Second Circuit upheld a district court decision to “exclud[e an expert’s] testimony upon reasonably concluding that the analytical gap between the studies on which she relied and her conclusions was simply too great and that her opinion was thus unreliable.” 303 F.3d at 270. The “district court’s close analysis of those studies [had] revealed that” none of them provided evidence that could directly link the chemical exposure at issue to the “symptoms of which [the plaintiff] complained,” rendering her opinions on causation inadmissible. *Id.* The Second Circuit concluded that this “rigorous analysis . . . was appropriate given the facts of th[e] case” and the “discretion [afforded to district courts] in deciding *how* to determine reliability.” *Id.*

investigate what products and services any particular broker-dealer was using during the relevant time period. *Id.* at 4; *see also* Lauer Dep. 170-71. Moreover, by Lauer’s own admission, the assertion is contradicted by “marketing or sales claims.” Lauer Reply Report 6. And Plaintiffs themselves conceded at oral argument that “there are situations where certain broker[] [dealers] may have [had] a co[-]location service or proprietary data feed.” Arg. Tr. 31.

The same conclusion applies here. The markout analyses on which Lauer relies cannot reliably demonstrate harm caused by (or fairly traceable to) the at-issue products because his methodology does not distinguish firms that used the at-issue products from those that did not. As in *Amorgianos*, “there is simply too great an analytical gap between the data and the opinion proffered.” 303 F.3d at 270; *see also, e.g., Washburn v. Merck & Co.*, 213 F.3d 627, 2000 WL 528649 (2d Cir. 2000) (summary order) (affirming the district court’s decision to exclude expert opinions that were not “[s]ubstantiated” by the studies they relied upon); *Johnson Elec. N. Am. Inc. v. Mabuchi Motor Am. Corp.*, 103 F. Supp. 2d 268, 283 (S.D.N.Y. 2000) (“[T]he expert must have some reliable basis for extrapolating from the available data. . . . [I]f the analysis is not based upon relevant and reliable data, the expert’s opinion will be inadmissible.”). Moreover, Lauer’s efforts to plug the gap with his own “*ipse dixit*” do not suffice. *Gen. Elec. Co.*, 522 U.S. at 146; *see, e.g., In re Mirena IUD Prod. Liab. Litig.*, 169 F. Supp. 3d 396, 431-32 (S.D.N.Y. 2016) (concluding that an expert opinion was inadmissible where “the conclusions [were] linked to [the] studies only by [the expert’s] say-so”); *U.S. Commodity Futures Trading Comm’n v. Moncada*, No. 12-CV-8791 (CM), 2014 WL 2945793, at *5 (S.D.N.Y. June 30, 2014) (deeming inadmissible an expert’s opinions about how traders would have reacted to certain market developments based solely on his “own personal experience” as “[o]pinion evidence that [was] only connected to existing data by the *ipse dixit* of [the expert]”); *see also* Fed. R. Evid. 702 advisory committee’s note to 2000 amendment (“If the witness is relying solely or primarily on experience, then [he] must explain how that experience leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts. The trial court’s gatekeeping function requires more than simply ‘taking the expert’s word for it.’”); *cf. Macaluso v. Herman Miller, Inc.*, No 01-CV-

11496 (JGK), 2005 WL 563169, at *8 (S.D.N.Y. Mar. 10, 2005) (holding that an expert's analysis failed to meet the *Daubert* standard where "it [wa]s based on incorrect factual assumptions that render[ed] all of [the expert's] subsequent conclusions purely speculative").

Lauer's failure to tether his analyses to the at-issue products also creates an issue of "fit" between his methods and Plaintiffs' theory of the case. Without a clear connection to the Exchanges' challenged conduct, Lauer's methods, and any opinions they can reliably support, are not "sufficiently tied to the facts of the case . . . [to] aid the jury in resolving a factual dispute" at issue. *Daubert*, 509 U.S. at 591. They are therefore inadmissible. *Id.*; see, e.g., *In re Gen. Motors LLC Ignition Switch Litig.*, No. 14-CV-5810 (JMF), 2017 WL 6729295, at *9 (S.D.N.Y. Dec. 28, 2017) (holding inadmissible expert testimony because, among other things, "the experts' proposed testimony [wa]s not sufficiently tied to the facts of the case" (internal quotation marks omitted)); *LVL XIII Brands, Inc. v. Louis Vuitton Malletier S.A.*, 209 F. Supp. 3d 612, 642-63 (S.D.N.Y. 2016) (holding that an expert's testimony "fail[ed] *Daubert*'s 'fit' requirement" because there was "no evidence to support" the expert's definition of the "relevant consumer market," which meant that his "opinion would not assist the trier of fact in determining the pertinent issue *in this case*"), *aff'd sub nom. LVL XIII Brands, Inc. v. Louis Vuitton Malletier SA*, 720 F. App'x 24 (2d Cir. 2017) (summary order); *Malletier v. Dooney & Bourke, Inc.*, 525 F. Supp. 2d 558, 573 (S.D.N.Y. 2007) (adopting a special master's recommendation to exclude an expert report because, among other things, there was a "lack of fit between the basic premise of the study . . . and [the plaintiff's] . . . position in th[e] litigation").

Plaintiffs' and Lauer's counterarguments fail to persuade. Both focus on defending Lauer's method for classifying HFTs as adequately grounded in academic and industry sources. See Pls.' Lauer Opp'n 13-14; Lauer Reply Report 13-14; Arg. Tr. 27-28, 31-32. They note that

“academics, the SEC, and *Defendants themselves* have regularly defined the term ‘HFT’ with consistent meanings and have identified specific firms that meet their criteria.” Pls.’ Lauer Opp’n 13. Indeed, at oral argument, Plaintiffs repeatedly emphasized that Lauer relied on a list of HFTs created by Nasdaq itself. Arg. Tr. 27-28, 31-33, 38, 68 (discussing the Nasdaq list, *see* ECF No. 730-10 (“Nasdaq List”), and an email chain describing how the Nasdaq list was compiled, *see* ECF No. 721-5¹⁰ (“Nasdaq List Email”)). According to Plaintiffs, because “Lauer used . . . those sources, in addition to his expertise, to generate a list of HFTs,” that “makes his methodology reliable.” Pls.’ Lauer Opp’n 13; *see also id.* at 13-14 (“Mr. Lauer considered . . . characteristics [identified by the SEC] (among others), along with his years of experience in the industry, to generate a reliable list of HFT firms. . . . Nothing more is required.”).

But whether or not Lauer accurately classified “HFT” versus “non-HFT” firms in his analyses is beside the point. Plaintiffs are not suing HFT firms; nor do they allege that there is anything unlawful about high-frequency trading per se. *See* SAC ¶¶ 295-302. Instead, Plaintiffs are suing the Exchanges for their sale of three specific types of products and services to certain firms and the Exchanges’ failure to disclose the full effects of these products and services on the market. *See id.*; *City of Providence*, 878 F.3d at 40; *see also* Arg. Tr. 29. Thus, unless the sources that Lauer relied on distinguished between firms that used the at-issue products and those that did not, they cannot cure the flaw in his methodology.

Contrary to Plaintiffs’ assertions, they did not. The three external sources that Lauer used to compose his list — (1) “the list of HFT[s] . . . produced by Nasdaq,” (2) “an industry list of HFTs,” and (3) “the factors in the SEC Concept Release,” First Lauer Report 21 — did not

¹⁰ References to page numbers in this filing are to the page numbers automatically generated by the Court’s ECF system.

correspond to, or even necessarily consider, firms' use of co-location, proprietary data feeds, or complex order types. The Nasdaq list, emphasized so heavily by Plaintiffs at oral argument, *see* Arg. Tr. 27-28, 31-33, 38, 68, labeled certain firms as "HFTs" based largely on trade execution volume, combined with "industry knowledge and experience of Nasdaq staff, and information posted on the Internet, usually from the firm's own webpage," Nasdaq List Email 2. Plaintiffs asserted at oral argument that the firms on the Nasdaq list were "designated as such because they used the products and services." Arg. Tr. 68. But there is no evidence in the record to support that assertion. To be sure, one factor "[a]mong the characteristics of HFT firms" that the author of the Nasdaq list considered was "trading done using sophisticated trading tools, including high-powered analytics and use of co-location services provided by exchanges." Nasdaq List Email 2. It does not follow, however, that *all* "HFT" firms on the list used co-location services — let alone, propriety data feeds or complex order types (which were not even noted as characteristics of HFTs by the author of the Nasdaq list). *See* Nasdaq List Email 2-3. What is more, Lauer deviated from the Nasdaq list; he added eight firms that were not included on the list because, based on his "experience in the industry, it was well understood that each of [those] firms was engaged in high-frequency trading." Lauer Reply Report 16. In short, Lauer's partial reliance on the Nasdaq list to create his own list of "HFT" firms cannot cure his failure to tie his HFT classification to firms' use of the at-issue products.

The "industry list of HFTs" on which Lauer relied likewise did not track use of the at-issue products. First Lauer Report 21. To the contrary, the "industry list" is simply a blog post by a recruiting firm on "Top 50 HFT firms and their history," *id.* at 21 n.49 (available at <https://blog.grainstonelee.com/insight/top-50-hft-firms-and-their-history>). It did not examine or even discuss whether the firms at issue used co-location, proprietary data feeds, or complex order

types during the Class Period, *see id.*, and (as the title makes clear) included sixteen more firms than the thirty-four identified by Lauer, *compare id.*, with First Lauer Report 37-38. Similarly, the 2010 SEC Concept Release cited by Lauer merely described characteristics of HFTs; it did not name specific firms with these characteristics and certainly did not identify firms that used the products and services at issue in this lawsuit. *See id.* at 10 (citing Jan. 14, 2010, SEC Concept Release on Market Structure (“2010 SEC Concept Release”), at 45 (available at: <https://www.sec.gov/rules/concept/2010/34-61358.pdf>)).¹¹ In sum, whether or not Lauer’s method for identifying HFT firms would be reliable if he were using it for more general purposes, *see* Pls.’ Lauer Opp’n 13-14 (citing *Broadspring, Inc., v. Congo, LLC*, No. 13-CV-1866 (JMF), 2014 WL 4100615, at *16 (S.D.N.Y. Aug. 20, 2014)), it is not reliable as a basis for opinions about the harms caused by the at-issue products and services.

Compounding the issue, Lauer’s methods suffer from two additional defects that further widen the gap between his data and his opinions. First, the firm-identifying labels in the data that Lauer used to connect individual trades to firms, called Market Participant Identifiers (“MPIDs”), “do not identify the investor on whose behalf a trade was made.” Defs.’ Lauer Reply 8 (citing First Hendershott Report ¶ 164). As a result, “when the executing broker executes agency trades on behalf of another party, the MPID does not identify who that other party is” or whether they used the at-issue products. *Id.* For instance, an order placed by an “institutional investor,” such as Plaintiffs, “executed by a firm such as Citadel (which Lauer classifies as an ‘HFT’) is treated by Lauer’s model as a proprietary ‘HFT’ order, even if Citadel

¹¹ The 2010 SEC Concept Release did discuss co-location and proprietary data feeds, but, as noted, it did not name any specific firms that used these services. *See* 2010 SEC Concept Release 57-61. It also repeatedly acknowledged that “the term [HFT] is relatively new and not yet clearly defined.” 2010 SEC Concept Release 45; *see also id.* at 46.

is acting as an agency broker for that institutional investor.” *Id.* Conversely, orders associated with the MPIDs of brokers that Lauer classifies as non-HFT are all treated as non-HFT orders, even if the order was in fact placed by a proprietary trading firm using the at-issue products and engaging in behavior that Lauer would classify as HFT activity. *See id.*; First Hendershott Report ¶ 164 (describing trading via “sponsored access” through another broker-dealer).

Lauer acknowledged this issue in his deposition, *see* Lauer Dep. 163 (“Q. And so how do you know that on orders [sic] submitted by Citadel isn’t an agency order? A. I don’t. Not in this analysis.”), but offered no substantive response to the Exchanges’ argument in his Reply Report, *see* Lauer Reply Report 1. And Plaintiffs’ responses, offered during oral argument, fall flat. *See* Arg. Tr. 33-34. Plaintiffs returned once again to the Nasdaq list. *See id.* at 33. But, as noted above, that list is not the same as Lauer’s list of MPIDs. *Compare* First Lauer Report 36-38 (Appendix A), *with* Nasdaq List. Plaintiffs also argued that there was “not one declaration” submitted by the Exchanges that “claimed that the broker was an HFT or traded like HFT or used the complained of products and services.” Arg. Tr. 34. Whether or not that is true,¹² Plaintiffs, not the Exchanges, “[bear] the burden of establishing by a preponderance of the evidence that the admissibility requirements of Rule 702 are satisfied” for their expert. *United States v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007). They have not met that burden. Given that Lauer’s method for assessing the harm allegedly caused by the Exchanges hinges on his ability to reliably connect orders to specific firms, Lauer’s failure to use data that actually identify the firm placing

¹² Although the Exchanges may not have submitted a declaration on this point, they did submit expert testimony that some of Plaintiffs’ broker dealers used the at-issue products. *See* First Hendershott Report ¶¶ 205-10; Defs.’ Lauer Reply 7. Notably, Plaintiffs themselves also appear to concede that some of the “non-HFT” broker-dealers may have used co-location services and/or proprietary data feeds. *See* Arg. Tr. 31 (“We’re not disputing that there are situations where certain brokers may have a co[-]location service or proprietary data feed.”).

the order (as opposed to, for instance, the firm providing sponsored access) further undermines the reliability of his methodology.¹³

Second, as Lauer concedes, his markout analyses in all three reports do not attempt to control for, or disentangle the effects of, other factors that contribute to the negative markouts he measures — that is, factors other than certain firms’ use of the at-issue products and services. As noted, Lauer purports to use “trade markouts [to] measure economic harm to investors that is caused by HFT speed advantages.” Supp. Lauer Report 1 (describing his First Report and stating that his Supplemental Report “[u]se[s] the same methodology [to] calculate[] markouts for Plaintiffs’ orders themselves”); *see also* First Lauer Report 30-31. Lauer acknowledges, however, that “speed advantage[s] originate[] from several places,” not just use of the Exchanges’ at-issue products and services, including from “software and hardware optimization . . . internal to the HFT firm.” First Lauer Report 12. And when asked in his deposition “how would you disentangle the advantage[s] conferred by the systems they develop internally from the advantage that you say they get from [use of the at-issue products and services],” Lauer replied: “I don’t know.” Lauer Dep. 182.¹⁴ Instead, Lauer claims that “HFT advantages are considered as a complete set, rather than in isolation” and, “[t]herefore, by

¹³ Hendershott also identifies discrepancies between the list of 88 MPIDs associated with the 34 firms listed as HFT firms in Lauer’s First Report and the 133 MPIDs that Lauer actually used in his code for his markout calculations based on his backup materials. *See* First Hendershott Report ¶ 167 n.321. Hendershott likewise identifies “discrepancies” between Lauer’s list of HFTs in his First Report “and the list he uses in his backup materials to the [Supplemental] Report.” ECF No. 731-2 (“Supp. Hendershott Report”), ¶ 9 n.9. Lauer does not address these discrepancies in his Reply Report. Nor do Plaintiffs in their opposition. *See* Pls.’ Lauer Opp’n 14 (mentioning Lauer’s “list of 88 MPIDs” without reference to the discrepancies identified by Hendershott). Lauer also acknowledged that “[s]ome MPIDs were not associated with a firm name” and he simply labeled them as “Non-HFT.” First Lauer Report 21.

¹⁴ Counsel objected to this question as to form. The objection is overruled.

definition, the entire markout calculated on the HFT trades considered . . . is a result of the combination of these features without confounding factors that might affect the markout.” First Lauer Report 27 n.54; *see also* Pls.’ Lauer Opp’n 17. That explanation confirms rather than refutes Lauer’s failure to control for other sources of HFT speed advantages beyond the Exchanges’ at-issue products and services — which, in turn, further calls into question his methodology’s ability to reliably demonstrate whether and to what extent any particular negative markout was caused by the contra-side firm’s use of the at-issue products and services as opposed to some other source. *See* Defs.’ Lauer Mem. 13-15.

Once again, Plaintiffs’ counterarguments miss the mark. In addition to parroting Lauer’s explanation from the footnote in his First Report, *see* Pls.’ Lauer Opp’n 17 (quoting First Lauer Report 27 n.54), Plaintiffs note that Lauer “testified, based on his expertise, that trying to parse factors contributing to the excess markouts . . . is unnecessary or may not be possible because the most important consideration is HFTs’ speed advantage,” *id.* (citing Lauer Dep. 120-23; 168-70). But that argument is a non sequitur because “HFTs’ speed advantage[s]” can come from sources *other than* the at-issue products and services.¹⁵ Lauer’s decision not to control for, or separate out the effects of, other factors that might have caused the negative markouts he measured thus undermines the reliability of his conclusions that those negative markouts in fact “demonstrate[] that at least several of Plaintiffs’ trades were negatively impacted *by the advantages sold to HFT firms by Defendants.*” Supp. Lauer Report 2 (emphasis added); *see, e.g., Bank of Am., N.A. v. Bear Stearns Asset Mgmt.*, 969 F. Supp. 2d 339, 350 (S.D.N.Y. 2013) (concluding an expert’s

¹⁵ During oral argument, Plaintiffs’ counsel also argued that the only evidence in the record that suggests HFT firms’ “[s]uperior models” “require[] disentanglement” is paragraph 258 of Professor Hendershott’s First Report. Arg. Tr. 40. That is incorrect. As noted, Lauer himself acknowledges that “speed advantage[s] originate[] from several places,” including “software and hardware optimization . . . internal to the HFT firm.” First Lauer Report 12.

methodology was “unreliable and inadmissible” because, among other things, it failed to control for other causes of the loss the expert purported to measure).

Relatedly, Lauer also fails to control for potential causes of negative markouts that have nothing to do with “HFT speed advantages,” Supp. Lauer Report 1, including differences in trading strategies and the “impact of trading that occurs on venues other than the Defendants’ exchanges,” Defs.’ Lauer Mem. 15-17. For instance, according to the Exchanges’ expert, some traders “may deem that the value of executing sooner is greater than the potential gain from waiting and trying to get a better price.” First Hendershott Report ¶ 264. Thus, for any particular negative markout associated with a broker dealer’s trade (including the negative markouts for the fourteen executions examined in Lauer’s Supplemental Reports), it is possible that that negative markout was caused by the broker dealer’s own “preference . . . not to reprice their orders” rather than the contra-side firm’s speed advantage. *Id.* ¶ 264; *see also* Defs.’ Lauer Mem. 15-16. Lauer’s and Plaintiffs’ only response to this issue focuses on the *excess* markout calculation in the First Lauer Report (which compared the markouts for two scenarios) rather than the negative markouts in his Supplemental Report, which Lauer claims are examples of specific trades in which Plaintiffs suffered harm due to the Exchanges’ challenged conduct. *See* Pls. Lauer Opp’n 17 (citing Lauer Dep. 120-23, 168-70).¹⁶ Lauer’s opinion that those negative markouts show that Plaintiffs “suffered economic harm in connection with the[] trades *resulting from the contra side HFT’s faster access to, and ability to trade on, market information*”

¹⁶ At oral argument, Plaintiffs’ counsel addressed two factors other than HFT speed advantages that the Exchanges argue require disentanglement: “sweeping the book [and] wider bid-ask spreads.” Arg. Tr 37-38. Regardless of whether Plaintiffs’ points are fully responsive to the Exchanges’ arguments — the Court is skeptical — Plaintiffs did not address the differences in non-HFT firms’ trading strategies, noted above, that the Exchanges claim could cause negative markouts. Arg. Tr. 37-42.

therefore rests on the unsupported assumption that these negative markouts can be caused only by HFT speed advantages. Supp. Lauer Report 4 (emphasis added). This additional “analytical gap” between Lauer’s markout analyses and the opinions he offers reinforces the unreliability of his methodology. *Gen. Elec. Co.*, 522 U.S. at 146; *accord Amorgianos*, 303 F.3d at 270.¹⁷

For the foregoing reasons, the Exchanges’ motion to exclude Lauer’s testimony is GRANTED in relevant part.¹⁸ Specifically, the Court finds that Lauer’s opinions in his First and

¹⁷ It is also unclear whether the fourteen executions that Lauer analyzed in his Supplemental Reports were in fact placed on behalf of the four Plaintiffs that Lauer identifies. *See* Supp. Lauer Report 4-5; Am. Supp. Lauer Report 4-5. The Exchanges present expert testimony that the fourteen executions analyzed by Lauer were each part of larger “parent” orders with thousands of executions collectively submitted by investment managers for multiple clients. *See* Defs.’ Standing Reply 3; Supp. Hendershott Report ¶¶ 8, 10. Additionally, some of the broker-dealers that produced the data on which Lauer relied explicitly caveated their production by stating that, “[b]ecause [they] queried the database at the investment advisor level, [they] can only represent that the [] Data Export reflects trades placed by the investment advisor on the given day, for the given ticker, and given transaction type” and they “cannot rule out the possibility that the data relates to orders and executions that were not carried out on behalf of Lead Plaintiffs.” ECF No. 660-96, ¶ 12 (Credit Suisse); *see also, e.g.*, ECF No. 727, ¶ 232 (Liquidnet) (same). In response to a question regarding this issue in his deposition, Lauer acknowledged that orders can be “part of a larger parent order,” but claimed that the orders he looked at were “individual child orders.” Lauer Dep. 140. Notably, however, Lauer did not provide any support, either during his deposition or in his reports, for the claim that the fourteen executions were in fact “child orders” *made on behalf of the Plaintiffs*. *See* Supp. Lauer Report 2-4; Am. Supp. Lauer Report 2-4. When asked about this issue at oral argument, Plaintiffs first responded by arguing that all clients from a parent order group receive a “volume-weighted average price” for their child orders, Arg. Tr. 35 — a point that does not directly respond to whether the specific fourteen executions identified by Lauer were made on behalf of Plaintiffs, as Lauer claims. And, when pressed, Plaintiffs’ counsel simply cited to Lauer’s unsupported statement from his Supplemental Reports. Arg. Tr. 37. Plaintiffs’ and Lauer’s failure to meaningfully address this point exacerbates the reliability issues already noted. *See Gen. Elec. Co.*, 522 U.S. at 146; *accord Restivo*, 846 F.3d at 577.

¹⁸ The Court need not and does not reach the Exchanges’ other arguments for exclusion, namely that (1) trade markouts cannot reliably measure damages or economic harm that is legally cognizable under Section 10(b) and Rule 10b-5, *see* Defs.’ Lauer Mem. 5-7; Defs.’ Lauer Reply 5-6; (2) Lauer’s choice of a one-second close-out time in his markout analyses is unjustified, *see* Defs.’ Lauer Mem. 16-17; (3) Lauer’s method has no known error rate, *see id.* at 19; Defs.’ Lauer Reply 9; (4) Lauer’s sampling method in his First Report is invalid, *see* Defs.’

Supplemental Reports based on his markout analyses — that is, his opinions about the harms caused by (or at least fairly traceable to) the Exchanges’ challenged conduct based on his markout analyses — are inadmissible.¹⁹ The Court recognizes that these conclusions will have a significant impact on the pending motions, as discussed below, and does not reach them lightly. Nevertheless, the Court’s role in applying *Daubert*’s “gatekeeping requirement” is an “important[]” one, as it is necessary “to ensure the reliability and relevancy of expert testimony.” *Kumho*, 526 U.S. at 152. And Lauer’s opinions based on his markout analyses do not pass muster. Accordingly, those opinions must be, and are, excluded.

C. Article III Standing

With that, the Court turns to the question of Article III standing. All but two of the Exchanges (Nasdaq and BX) move to dismiss for lack of standing. But, of course, courts have an independent duty to “determine that they have jurisdiction before proceeding to the merits.” *Lance*, 549 U.S. at 439 (citing *Steel Co. v. Citizens for Better Env’t*, 523 U.S. 83, 94-95 (1998)). Accordingly, the fact that only some Exchanges move for summary judgment on standing grounds is of no moment, and the Court will consider Plaintiffs’ standing as to all Defendants. Based on the admissible evidence, the Court concludes that Plaintiffs have failed to put forward the “specific facts” necessary to demonstrate injury in fact fairly traceable to the Exchanges’ allegedly unlawful conduct. *Lujan*, 504 U.S. at 561.

Lauer Mem. 20; (5) the data in Lauer’s First Report contradict his conclusions, *see id.* at 21; and (6) Lauer’s methodology is inconsistent between his reports, *see* Defs.’ Lauer Reply 12.

¹⁹ The Exchanges’ motion is denied, however, with respect to Lauer’s proposed testimony regarding the history of U.S. stock markets, modern market structure, the rise of HFT, and HFT practices that are made possible by products and services provided by the Exchanges. *See* First Lauer Report 4-16. Indeed, the Exchanges do not meaningfully challenge his proposed testimony on these subjects.

1. Applicable Standards

It is axiomatic that “federal courts are courts of limited jurisdiction and, as such, lack the power to disregard such limits as have been imposed by the Constitution or Congress.” *Purdue Pharma L.P. v. Kentucky*, 704 F.3d 208, 213 (2d Cir. 2013) (internal quotation marks omitted). One such limit is that all suits filed in federal court must be “cases and controversies of the sort traditionally amenable to, and resolved by, the judicial process.” *Steel Co.*, 523 U.S. at 102. That requirement “is satisfied only where a plaintiff has standing.” *Sprint Commc’ns Co., L.P. v. APCC Servs., Inc.*, 554 U.S. 269, 273 (2008). More specifically, “a plaintiff must demonstrate standing for each claim he [or she] seeks to press” against each defendant. *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 335 (2006); *see also Mahon v. Ticor Title Ins. Co.*, 683 F.3d 59, 65-66 (2d Cir. 2012). In a class action, that means that at least one named plaintiff must have standing as to each defendant. *See, e.g., Frank v. Gaos*, 139 S. Ct. 1041, 1046 (2019); *Lewis v. Casey*, 518 U.S. 343, 357 (1996).

It is well established that “the irreducible constitutional minimum of standing contains three elements”: (1) injury in fact, (2) causation, and (3) redressability. *Lujan*, 504 U.S. at 560-61. An injury in fact is “an invasion of a legally protected interest which is (a) concrete and particularized, and (b) actual or imminent, not conjectural or hypothetical.” *Id.* at 560 (cleaned up). “For an injury to be ‘particularized,’ it must affect the plaintiff in a personal and individual way.” *Spokeo, Inc. v. Robins*, 578 U.S. 330, 339 (2016) (internal quotation marks omitted). And for an injury to be “concrete” it “must actually exist” — that is, it must be “real and not abstract.” *Id.* at 340 (internal quotation marks omitted). The second element requires that the injury be “fairly traceable to the challenged action of the defendant, and not the result of the independent action of some third party not before the court.” *Lujan*, 504 U.S. at 560 (cleaned

up). Finally, to establish redressability, “it must be likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.” *Id.* at 561 (internal quotation marks omitted).

Article III standing is jurisdictional, so it is “not subject to waiver,” *Lewis*, 518 U.S. at 349 n.1, and may be challenged “at any stage in the litigation,” *Carter v. HealthPort Techs., LLC*, 822 F.3d 47, 56 (2d Cir. 2016). Moreover, as noted above, the Court has an “independent obligation to ‘determine that [it has] jurisdiction before proceeding to the merits.’” *In re Barclays II*, 390 F. Supp. 3d at 443 (quoting *Lance*, 549 U.S. at 439) (cleaned up). At every stage of the case, “[t]he party invoking federal jurisdiction bears the burden of establishing the [] elements” of Article III standing. *Lujan*, 504 U.S. at 561. “[E]ach element must be supported in the same way as any other matter on which the plaintiff bears the burden of proof, *i.e.*, with the manner and degree of evidence required at the successive stages of the litigation.” *Id.* Most relevant for present purposes, “[i]n response to a summary judgment motion, . . . the plaintiff can no longer rest on . . . mere allegations, but must set forth by affidavit or other evidence specific facts” sufficient to support standing. *Id.* (internal quotation marks omitted).

2. Discussion

Applying the foregoing standards, the Court concludes that Plaintiffs lack standing for two reasons. First, they have failed to set forth “specific facts” capable of demonstrating that they have suffered an injury in fact. *Id.* And second, even setting aside that failure, Plaintiffs have not put forth evidence from which a jury could reasonably conclude they suffered an injury that is fairly traceable to the Exchanges’ challenged conduct.

The Court’s ruling on standing at the pleading stage provides helpful context and, thus, warrants a brief review. In that Opinion and Order, the Court held that Plaintiffs had satisfied

the injury-in-fact requirement, despite the fact that they had “not allege[d] that they transacted in any particular security at any particular price, or how that price was supposedly affected by the alleged manipulation.” *In re Barclays II*, 390 F. Supp. 3d at 444 (internal quotation marks omitted). The Court premised this conclusion on the fact that, at the pleading stage, “general factual allegations of injury resulting from the defendant’s conduct may suffice.” *Id.* at 443-44 (internal quotation marks omitted). Notably, however, in reaching this decision, the Court warned that Plaintiffs “may face an uphill battle in proving any harm at all,” *id.* at 444, and “may ultimately be unable to show that they were injured under the more demanding standards applicable at summary judgment or trial,” *id.* at 445 (cleaned up).

Now, at the summary judgment stage, Plaintiffs have failed to set forth “specific facts” from which a jury could reasonably conclude they suffered an injury in fact. *Lujan*, 504 U.S. at 561. Plaintiffs advance two theories with respect to the injury-in-fact requirement: one based on “marketwide” harm and the other based on specific trades identified in the Supplemental Lauer Reports. *See* Arg. Tr. 46. Neither suffices.

a. Marketwide Harm

First, Plaintiffs argue that their evidence of “marketwide” harm, combined with evidence that they participated in that market via the Exchanges, suffices to show injury in fact. *See* Arg. Tr. 49-52.²⁰ More specifically, Plaintiffs proffer evidence that “HFT firms accounted for

²⁰ Plaintiffs did not articulate this argument in their opposition brief, *see* Pls.’ Standing Opp’n 13-17, even though they had previously advanced it during a hearing held on May 26, 2021, *see* ECF No. 626, at 11, 15. Instead, they relied on evidence of specific trades where they were purportedly harmed, identified in the Supplemental Lauer Reports, to support their arguments on injury in fact. *See* Pls.’ Opp’n 2 (“Data produced by Plaintiffs’ broker dealers clearly show trades executed on Defendants’ exchanges . . . , and Plaintiffs have established harm on those trades through the testimony of Mr. Lauer, satisfying the first *Lujan* factor.” (citing Supp. Lauer Report)); *id.* at 14 (“[Lauer’s Supplemental] report, together with the above-

approximately 50%-60% of domestic equity trading volume on Defendants' exchanges," Pls.' SOF ¶ 213; that, according to "numerous academic[]" articles, investors have suffered "billions of dollars of harm" generally from HFT firms, Arg. Tr. 56 (citing Pls.' SOF ¶ 266); *see also* Pls.' SOF ¶¶ 266-67; and that Plaintiffs each traded on at least one of the Defendant Exchanges, *see* Pls.' SOF ¶¶ 214, 228-55; *see also* Arg. Tr. 54-55, 66. According to Plaintiffs, that general evidence of "marketwide" harm is sufficient to create a genuine dispute as to injury in fact, even without evidence from the Lauer Reports identifying specific trades in which Plaintiffs were harmed. *See* Arg. Tr. 49-52.

As Plaintiffs all but conceded at oral argument, *see* Arg. Tr. 45-49, however, that argument is foreclosed by Second Circuit precedent, namely *John v. Whole Foods Mkt. Grp., Inc.*, 858 F.3d 732 (2d Cir. 2017) ("*Whole Foods I*"), and *John v. Whole Foods Mkt. Grp., Inc.*, 823 F. App'x 46 (2d Cir. 2020) (summary order) ("*Whole Foods II*"). In the first decision, the Second Circuit reversed the district court's dismissal for lack of standing at the pleading stage. The plaintiff had incorporated into his complaint a government press release stating that "89 percent of Whole Foods' pre-packaged products [that had been] tested . . . were mislabeled" and that "the mislabeling was systematic and routine." 858 F.3d at 736 (internal quotation marks omitted). He had also alleged that he "made monthly purchases of Whole Foods pre-packaged cheese and cupcakes." *Id.* The Second Circuit held that these "general factual allegations" showing (1) "systematic overcharging" of certain products at Whole Foods stores, and (2) that plaintiff had purchased those products on a monthly basis sufficed to plausibly allege injury in fact at the motion-to-dismiss stage. *Id.* at 737-38.

described evidence, is sufficient to demonstrate Plaintiffs' Article III standing for each of their claims."). During oral argument, however, Plaintiffs' counsel insisted that they are also still relying on a theory of "marketwide" harm. *See* Arg. Tr. 46.

After discovery, however, the district court concluded that the plaintiff had failed to present admissible evidence of an injury in fact. *See In re Whole Foods Mkt. Grp., Inc. Overcharging Litig.*, 397 F. Supp. 3d 406, 429-30 (S.D.N.Y. 2019). On appeal, the Second Circuit agreed. It began by noting that the plaintiff *could have* adequately demonstrated an injury in fact by showing a “systemwide” or “unitary practice” of overcharging for certain products, combined with evidence that the plaintiff had purchased those products. 823 F. App’x at 48-49 (“[I]f the evidence enabled a jury reliably to find a unitary practice of falsely weighting prepackaged chocolate cupcakes and cheeses at Whole Foods, this evidence would enable [the plaintiff’s] claims of injury to reach a jury.” (cleaned up)).²¹ Significantly, however, the Second Circuit concluded that the plaintiff had “failed to adduce evidence from which a jury could reasonably find such a unitary practice” — i.e., evidence that “*all . . . prepackaged cheeses*” and “*all chocolate cupcake packages at all Whole Foods’ New York stores [were] underweight.*” *Id.* at 48-50 (emphases added). As a result, to demonstrate standing the plaintiff had to point to evidence that he had purchased specific products that were underweight. *See id.* at 50. Lacking “specific facts” of that sort, the plaintiff could not demonstrate injury in fact at the summary judgment stage. *See also In re Whole Foods Mkt. Grp., Inc. Overcharging Litig.*, 397 F. Supp. 3d at 408 (“Although [plaintiff’s] testimony can establish that he purchased cupcakes and cheeses from two Whole Foods stores, there is no competent, non-speculative, evidence that any cupcake or cheese item [plaintiff] bought weighed less than the weight used to price it.”).

²¹ *Cf. Spokeo*, 578 U.S. at 339 n.7 (“The fact that an injury may be suffered by a large number of people does not of itself make that injury a nonjusticiable generalized grievance. The victims’ injuries from a mass tort, for example, are widely shared, to be sure, but each individual suffers a particularized harm.”).

Plaintiffs face the same problem here. They have not pointed to any evidence that “would permit a jury reasonably to conclude that” *every* trade on the Exchanges made on behalf of institutional investors like Plaintiffs suffered a financial loss due to the Exchanges’ provision of the at-issue products to certain firms. *Whole Foods II*, 823 F. App’x at 50. Nor do they claim to have done so. *See* Pls.’ Standing Opp’n 8-11. Accordingly, Plaintiffs’ “marketwide” theory of injury in fact fails. As in *Whole Foods II*, Plaintiffs must present evidence of at least one specific trade made on behalf of each Plaintiff where that Plaintiff suffered a financial loss due to the Exchanges’ challenged conduct in order to survive summary judgment on standing. *See, e.g., Whole Foods II*, 823 F. App’x at 48-50; *In re Whole Foods Mkt. Grp., Inc. Overcharging Litig.*, 397 F. Supp. 3d at 419 (finding no injury in fact where plaintiff “adduced . . . no evidence as to his *own purchases* that could substantiate a claim against Whole Foods” (emphasis added)).

Plaintiffs do not meaningfully dispute this conclusion. During oral argument, the Court asked Plaintiffs’ counsel no fewer than six times how he could “distinguish this case from *Whole Foods II*.” Arg. Tr. 49; *see id.* at 44-49. On each occasion, Plaintiffs’ counsel was unable to give a straight answer, *see id.*, with one exception: At one point, he stated “we believe it’s distinguishable because [the plaintiff in *Whole Foods II*] bought cheese and cupcakes at different stores than the one that he visited,” *id.* at 47. But that is wrong. The plaintiff’s testimony in *Whole Foods II* did “establish that he purchased cupcakes and cheeses from two Whole Foods stores.” *In re Whole Foods Mkt. Grp., Inc. Overcharging Litig.*, 397 F. Supp. 3d at 408. That was not the issue. Instead, the plaintiff failed to create a genuine dispute as to injury in fact because “there [wa]s no competent, non-speculative, evidence that any cupcake or cheese item

[that *the plaintiff*] bought weighed less than the weight used to price it.” *Id.* (emphasis added); see *Whole Foods II*, 823 F. App’x at 48-50. Plaintiffs are in an analogous position here.²²

For the first time at oral argument, Plaintiffs also cited *CILP Associates, LP v. PriceWaterhouseCoopers, LLP*, 735 F.3d 114 (2d Cir. 2013) (“*PWC*”), in support of their marketwide harm theory. Specifically, Plaintiffs argued that, in *PWC*, “the Second Circuit held . . . it was enough to defeat summary judgment on standing where the securities at issue consistently and systematically were overvalued.” Arg. Tr. 50. But *PWC* did not address Article III standing; it addressed statutory standing under Section 10(b) and, more specifically, whether the plaintiffs there could bring a direct rather than a derivative claim. See 735 F.3d at 122-24. *PWC*, thus, has no bearing on Plaintiffs’ ability to create a genuine dispute as to injury in fact for the purposes of Article III standing. Additionally, the plaintiffs in *PWC* had “direct evidence of the overvaluation of the securities underlying th[e] interests at all relevant times,” based on which a jury could reasonably conclude that the interests the plaintiffs had purchased had been affected by the challenged conduct, thus enabling them to bring a direct claim. *Id.* at 124; see *id.*

²² To be sure, *Whole Foods II* is a summary order. “But a district judge is not ‘at liberty . . . to disregard,’ let alone ‘contradict[,] a Second Circuit ruling squarely on point merely because it was rendered in a summary order.’” *Boone v. United States*, No. 02-CR-1185 (JMF), 2017 WL 398386, at *1 (S.D.N.Y. Jan. 30, 2017) (quoting *United States v. Tejada*, 824 F. Supp. 2d 473, 475 (S.D.N.Y. 2010)); see also *United States v. Payne*, 591 F.3d 46, 58 (2d Cir. 2010) (“[D]enying summary orders precedential effect does not mean that the court considers itself free to rule differently in similar cases.”). Moreover, even if the Court were to ignore *Whole Foods II* and accept Plaintiffs’ theory that they need only show harm in some substantial share of trades in the market and evidence that Plaintiffs participated in that market to survive summary judgment on standing, see Arg. Tr. 54-56, Plaintiffs’ argument would still fail. That is because Plaintiffs have adduced no evidence of harm that is relevant to the claims *in this case* for any share of trades in the market. Instead, Plaintiffs’ evidence shows harm to “non-HFTs” (and the investors who traded through them) from “HFT” activity, as Plaintiffs themselves point out. See Arg. Tr. 56. It does not show harm caused by (or fairly traceable to) the at-issue products, on which Plaintiffs’ claims against the Exchanges are predicated. As such, even accepting Plaintiffs’ marketwide harm theory as correct, Plaintiffs have failed to present facts sufficient to create a genuine dispute of material fact under that theory.

at 124-25. By contrast, Plaintiffs here provide no such direct evidence that trades made on their behalf were “consistently” affected “at all relevant times” by the challenged conduct, *id.* at 124, 126 — namely, the Exchanges’ provision of the three at-issue products to certain firms and not others — such that they would not need to identify specific trades in which they were harmed.

b. Plaintiff-Specific Trades

Because Plaintiffs have not set forth the facts necessary to substantiate a “marketwide” theory of injury in fact per *Whole Foods II*, it is not enough for Plaintiffs to simply show that they each traded on at least one of the Defendant Exchanges, *see* Pls.’ SOF ¶¶ 214, 228-55; *see also* Arg. Tr. 54-55, 66, or that “HFT firms accounted for approximately 50%-60% of domestic equity trading volume on Defendants’ exchanges,” Pls.’ SOF ¶ 213. Nor is it enough to cite “numerous academic[]” articles that have “quantified billions of dollars of harm to investors” generally from HFT firms. Arg. Tr. 56 (citing Pls.’ SOF ¶ 266). Instead, Plaintiffs must point to at least one trade made on behalf of each Plaintiff where that Plaintiff suffered harm fairly traceable to the Exchanges’ challenged conduct — that is, the at-issue products and services. *Lujan*, 504 U.S. at 561; *see Whole Foods II*, 823 F. App’x at 48-50; *see also* Arg. Tr. 52 (“THE COURT: . . . Assume for the sake of argument[,] . . . that I find that you cannot proceed on a marketwide theory[.] . . . Do you agree in that instance you would have to identify specific trades . . . by specific plaintiffs on at least one defendant exchange; is that correct? MR. HOFFMAN: Yes, your honor.”). Plaintiffs have failed to do so.

For starters, Plaintiff Boston plainly lacks standing. As Plaintiffs themselves acknowledge, *see* Pls.’ Standing Opp’n 15 n.4; Arg. Tr. 53, the Supplemental Lauer Report does not identify or examine *any* trades made on behalf of Boston, *see* Supp. Lauer Report 3-5; *see also* Defs.’ Standing Reply 1 n.2. And Plaintiffs filed the Amended Supplemental Lauer Report,

which does examine two executions purportedly made on behalf of Boston, over a month after their deadline to oppose the Exchanges’ motion for summary judgment on standing — and in support of a different motion, no less. *See* Am. Supp. Lauer Report 3-5. Plaintiffs never moved for leave to supplement the record for the standing summary judgment motion. In fact, they did not even alert the Court that they had filed an additional expert report on which they planned to rely in opposition to the Exchanges’ motion for summary judgment until oral argument. *See* Arg. Tr. 53. The Amended Supplemental Lauer Report is therefore not part of the record with respect to the Exchanges’ summary judgment motion on standing. And Plaintiffs have not identified — nor has the Court found — any other evidence in the record of at least one specific trade in which Boston was harmed due to the Exchanges’ challenged conduct. *See* Arg. Tr. 53 (Plaintiffs’ counsel referring to Lauer’s “amended report” as the evidence of trades made by Boston). Accordingly, Boston has failed to satisfy the injury-in-fact requirement. *See TransUnion LLC v. Ramirez*, 141 S. Ct. 2190, 2208 (2021) (“Article III does not give federal courts the power to order relief to any uninjured plaintiff, class action or not.”).

Similarly, four Exchanges — Nasdaq, BX, NYSE, and NYSE CHX — are entitled to summary judgment because Plaintiffs present no evidence of any transaction causing harm on these Exchanges. That is, Lauer’s Supplemental Report does not calculate markouts for any trades on Nasdaq, BX, NYSE, and NYSE CHX, *see* Supp. Lauer Report 4-5, as the Exchanges note, *see* Defs.’ Standing Reply 3 n.4.²³ This dooms Plaintiffs’ claims against these four Exchanges because the law requires that at least one Plaintiff have standing to sue each Defendant. *See Mahon*, 683 F.3d at 65-66 (rejecting argument that “as long as the injurious

²³ Not for nothing, Lauer’s Amended Supplemental Report also did not examine trades made on these four Defendant Exchanges. *See* Am. Supp. Lauer Report 3-5.

defendant is sued in the same case, Article III does not prevent a plaintiff from suing non-injurious defendants”); *Cent. States Se. & Sw. Areas Health & Welfare Fund v. Merck-Medco Managed Care, LLC*, 504 F.3d 229, 241 (2d Cir. 2007) (“[F]or every named defendant there must be at least one named plaintiff who can assert a claim directly against that defendant [to satisfy standing in a putative class action].”); *see also, e.g., City of Perry, Iowa v. Procter & Gamble Co.*, 188 F. Supp. 3d 276, 283 (S.D.N.Y. 2016) (dismissing claims against two out of six defendants named in the suit because the pleadings lacked allegations that could support standing as to those defendants specifically).

When pressed on these gaps in the record at oral argument, Plaintiffs protested that they “simply ran out of time” to substantiate an injury in fact as to Boston and these four Defendant Exchanges. *See* Arg. Tr. 54; *see also id.* at 53-54, 57. More specifically, they noted that discovery in the case was phased to prioritize class certification and preclusion issues over merits issues, at the Exchanges’ request, *id.* at 57; Pls.’ Lauer Opp’n 7 & n.9, and, “given the bifurcated nature” of discovery, they did not anticipate a motion for summary judgment on standing, Arg. Tr. 53. They also did not ask Lauer to analyze trades made on the Nasdaq and BX Exchanges “because [those Defendants] didn’t move” for summary judgment on standing grounds. *Id.* at 54. But putting aside the fact that the question of subject-matter jurisdiction can be raised at any time (and must be considered by a court *sua sponte* if it is in doubt), the Federal Rules of Civil Procedure expressly provide a mechanism for parties to seek relief if they “cannot present facts essential to justify [their] opposition” to a motion for summary judgment: a Rule 56(d) declaration. *See* Fed. R. Civ. P. 56(d). As they were forced to concede, Plaintiffs did not avail themselves of this option. *See* Arg. Tr. 58 (“THE COURT: . . . [Is there] [a]nywhere in your brief [where] you . . . say, Judge, you should defer this until we have had an opportunity to

complete discovery on these issues? . . . MR. HOFFMAN: We didn't say that other than the footnote your Honor described [which did not request any opportunity for additional discovery or any relief under Rule 56(d)], because, frankly, we thought we had done a good enough job with introducing both marketwide standing and the individual plaintiffs' standing."). Thus, they cannot now complain that they did not have sufficient time for discovery to substantiate standing.

Ultimately, whether Plaintiffs had enough time to plug the holes in the record as to Boston, Nasdaq, BX, NYSE, and NYSE CHX is immaterial because, those holes aside, Plaintiffs cannot establish standing for a more fundamental reason: The Supplemental Lauer Reports are necessary to demonstrate an injury in fact and they are inadmissible. Conspicuously, Plaintiffs are unable to point to any evidence of specific "examples where *Plaintiffs'* transactions" were allegedly harmed by the Exchanges' challenged conduct — that is, by the provision of the at-issue products — other than the fourteen executions identified in the Supplemental Lauer Reports. Pls.' Standing Opp'n 11 (emphasis added) (citing Supp. Lauer Report); *see id.* at 2, 13-14; Pls.' SOF ¶ 262 (citing Lauer Reports and portion of another expert report that summarizes the Lauer Report); Arg. Tr. 52-53, 55-58. But, for the reasons discussed above, the Lauer Reports are inadmissible. It follows that Plaintiffs have adduced no admissible evidence that their *own* trades were harmed by the Exchanges' challenged conduct and, thus, have failed to demonstrate injury in fact. *See Lujan*, 504 U.S. at 561. In fact, without the Supplemental Lauer Reports, Plaintiffs cannot create a genuine issue of fact as to the traceability and redressability prongs of the standing test either. *See Spokeo, Inc.*, 578 U.S. at 338.

Second, and in any event, even if the Supplemental Lauer Reports were admissible, Plaintiffs' case for standing would still founder on the traceability requirement. To satisfy "[t]he

traceability requirement for Article III standing . . . [a] plaintiff must demonstrate a causal nexus between the defendant’s conduct and the injury.” *Rothstein v. UBS AG*, 708 F.3d 82, 91 (2d Cir. 2013) (internal quotation marks omitted). That is, “the injury has to be fairly traceable to the challenged action of the defendant, and not . . . the result of the independent action of some third party not before the court.” *Nat’l Res. Def. Council, Inc. v. FDA*, 710 F.3d 71, 84 (2d Cir. 2013) (cleaned up). At the summary judgment stage, courts cannot simply “assum[e] that general averments embrace the specific facts” necessary to demonstrate traceability. *Lujan v. Nat’l Wildlife Fed’n*, 497 U.S. 871, 888 (1990) (internal quotation marks omitted); *see also Lujan*, 504 U.S. at 561. Instead, the plaintiff must set forth “specific facts,” *id.*, from which a jury could reasonably conclude a “causal nexus” exists between the plaintiff’s injury and the defendant’s challenged conduct, *Rothstein*, 708 F.3d at 91.

Even assuming for the sake of argument that the Supplemental Lauer Reports are admissible, Plaintiffs fail to satisfy that standard. Because, as discussed above, Lauer’s Supplemental Reports did not distinguish between firms that used the at-issue products and those that did not, they cannot show an injury in fact that is fairly traceable to the Exchanges’ allegedly unlawful conduct — namely, the provision of those products. Indeed, based on Lauer’s own methodology, the fourteen executions with negative markouts identified in the Supplemental Reports are not examples of specific trades in which Plaintiffs were purportedly harmed by the Exchanges’ provision of the at-issue products. Instead, they are examples of trades in which Plaintiffs (whose broker-dealers *may* have been using the at-issue products) were purportedly harmed by trading against “HFT” firms (that *may not* have been using the at-issue products). *See* Supp. Lauer Report 1, 3-4; *see also* First Lauer Report 26 (stating that, “[g]enerally speaking,” HFT firms used the at-issue products, and non-HFT firms did not); Lauer Reply Report 4

(acknowledging “some broker-dealers,” i.e., non-HFT firms, “may have subscribed to some of Defendants’ co-location services and proprietary data feeds”); Arg. Tr. 31 (Plaintiffs’ counsel conceding the same). Thus, while Lauer’s Supplemental Reports, if admissible, could arguably demonstrate an injury that is fairly traceable to the “HFT” firms identified by Lauer, they cannot demonstrate an injury that is fairly traceable to the *Exchanges*’ challenged conduct — namely, their sale of specific products and services to certain firms and their failure to disclose the full effects of those products and service to the market. See SAC ¶¶ 295-302; *City of Providence*, 878 F.3d at 40. In short, because, at the summary judgment stage, the Court “cannot presume, without evidence,” that the harm purportedly measured by the negative markouts in Lauer’s Supplemental Report is causally linked to the Exchange’s challenged conduct, Plaintiffs would have failed to satisfy the traceability requirement even if Lauer’s Supplemental Reports were admissible. *Ctr. for Biological Diversity v. EPA*, 542 F. Supp. 3d 232, 241 (S.D.N.Y. 2021); see, e.g., *id.* at 241-42 (concluding, at the summary judgment stage, that “plaintiffs lack[ed] standing,” because “a reasonable factfinder could not simply presume, without evidence, that the monitoring failures [documented in a study cited by the plaintiffs] caused excess discharges,” the harm alleged).²⁴

In sum, because Plaintiffs have failed to present evidence from which a jury could reasonably conclude that they each suffered a concrete, particularized injury in fact that is fairly

²⁴ Plaintiffs’ clarification during oral argument that they are suing over the harm caused by “the *combination* of the three [products and services]” sold by the Exchanges, Arg. Tr. 30 (emphasis added), only reinforces this conclusion. Given that Lauer’s analyses did not track firms’ use of the at-issue products, his Supplemental Reports certainly do not demonstrate an injury in fact that is fairly traceable to “HFT” firms’ use of a “combination” of *all three* of the at-issue products. See Arg. Tr. 30-31.

traceable to the Exchanges' challenged conduct, the Exchanges are entitled to summary judgment on standing grounds.

CONCLUSION

For the foregoing reasons, the Exchanges' motion to exclude Lauer's opinions is largely granted and the Exchanges are granted summary judgment for lack of standing. Because the Court lacks subject-matter jurisdiction over Plaintiffs' claims, the remaining motions are DENIED as moot, and Plaintiffs' claims must be and are dismissed without prejudice. *Cent. States Se. & Sw. Areas Health & Welfare Fund*, 433 F.3d at 198 (“Without a plaintiff’s satisfaction and demonstration of the requirements of Article III standing, a federal court has no subject matter jurisdiction to hear the merits of a plaintiff’s . . . claim.”); *see also id.* (“Without jurisdiction . . . , the only function remaining to the court is that of announcing the fact and dismissing the case.” (quoting *Steel Co.*, 523 U.S. at 94)); *Carter*, 822 F.3d at 54 (“[W]here a complaint is dismissed for lack of Article III standing, the dismissal must be without prejudice, rather than with prejudice.”).


One housekeeping matter remains. In its February 23, 2022 Memorandum Opinion and Order regarding Plaintiffs' motion to unseal, the Court noted that it might “revisit whether [the documents identified in the Order] should remain under seal or in redacted form” once the Court had “ruled on the underlying motions associated with the[] filings.” *City of Providence v. BATS Glob. Markets, Inc.*, No. 14-CV-2811 (JMF), 2022 WL 539438, at *5 (S.D.N.Y. Feb. 23, 2022). Having now done so, the Court concludes that its prior findings with respect to these filings still stand. The filings sealed by that Order and the filings submitted with redactions consistent with that Order, *see* ECF Nos. 809, 829, 831, will thus be maintained under seal and in redacted form. If either party believes that any additional filings should remain under seal, in whole or in part, it

shall, **within two weeks of the date of this Opinion and Order**, file a letter brief to that effect and, if and as appropriate, propose redactions to those papers in accordance with the procedures set forth in the Court's Individual Rules and Practices in Civil Cases. The parties must consult and comply with Section 7 of the Court's Individual Rules, which requires, among other things, that any party seeking leave to maintain a document in redacted form must simultaneously publicly file on ECF a copy of the document with proposed redactions and also file under seal on ECF (with the appropriate level of restriction) an unredacted copy of the document with the proposed redactions highlighted. Any document — other than those sealed, in whole or in part, by the Court's February 23, 2022 Memorandum Opinion and Order, *see* ECF No. 809; *see also* ECF Nos. 829, 831 — for which the parties do not move for the Court to maintain under seal or in redacted form **within two weeks of the date of this Opinion and Order** shall be unsealed without any further notice to the parties. The parties shall, no later than **three weeks of the date of this Opinion and Order** file a joint letter with the list of the ECF numbers of the filings to be unsealed.

The Clerk of Court is directed to terminate ECF Nos. 599, 603, 607, 610, 641, 643, 651, 769, to enter judgment for Defendants, and to close the case.

SO ORDERED.

Dated: March 28, 2022
New York, New York



JESSE M. FURMAN
United States District Judge