

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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NORTHWEST BIOTHERAPEUTICS, INC., :

Plaintiff, :

- against - :

CANACCORD GENUITY LLC, CITADEL
SECURITIES LLC, G1 EXECUTION
SERVICES LLC, GTS SECURITIES LLC,
INSTINET LLC, LIME TRADING CORP.,
and VIRTU AMERICAS LLC, :

Defendants. :

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22 Civ. 10185 (GHW) (GS)

**REPORT AND
RECOMMENDATION**

GARY STEIN, United States Magistrate Judge:

Pending before the Court is Defendants’ motion to dismiss Plaintiff’s Second Amended Complaint. (Dkt. No. 155). For the reasons set forth below, the Court respectfully recommends that Defendants’ motion be **GRANTED IN PART** and **DENIED IN PART**.

BACKGROUND

This is a federal securities action brought by Plaintiff Northwest Biotherapeutics, Inc. (“NWBO” or “Plaintiff”), a publicly traded biotechnology company, against Defendants Canaccord Genuity, LLC, Citadel Securities LLC, G1 Execution Services, LLC, GTS Securities LLC, Instinet LLC, Lime Trading Corporation, and Virtu Americas LLC (“Defendants”), all U.S. registered broker-dealers that traded in NWBO stock. (Second Amended Complaint, Dkt. No. 150 (“SAC”). Plaintiff alleges that, from December 2017 to August 2022 (the “Relevant Period”), Defendants engaged in a manipulative scheme to “spoofer” the market for

NWBO stock, damaging NWBO when it sold shares at artificially depressed prices. (*Id.* ¶¶ 1, 10-11). Plaintiff asserts claims for securities fraud under Section 10(b) of the Exchange Act, market manipulation under Section 9(a)(2) of the Exchange Act, and New York common law fraud. (*Id.* ¶¶ 333-42).

A. Defendants' First Motion to Dismiss

On February 14, 2024, the Honorable Gregory H. Woods granted Defendants' motion to dismiss Plaintiffs' First Amended Complaint ("FAC") without prejudice (Dkt. No. 148), adopting the undersigned's report and recommendation dated December 29, 2023 (Dkt. No. 137 (the "R&R")). *See Nw. Biotherapeutics, Inc. v. Canaccord Genuity LLC*, No. 22 Civ. 10185 (GHW) (GS), 2024 WL 620648 (S.D.N.Y. Feb. 14, 2024), *adopting the R&R*, 2023 WL 9102400 (S.D.N.Y. Dec. 29, 2023).¹ As explained in the R&R, Defendants' motion to dismiss was granted solely on the ground that the FAC failed to adequately plead loss causation. (R&R at 1, 65-79). Defendants' arguments that the FAC failed to adequately plead a manipulative act, scienter, and reliance were rejected. (*See id.* at 29-64, 79-84).

The R&R analyzed the FAC's loss causation allegations under the Second Circuit's framework in *Gamma Traders – I LLC v. Merrill Lynch Commodities, Inc.*, 41 F.4th 71 (2d Cir. 2022). The R&R first addressed whether the FAC had adequately pled loss causation on a "temporal proximity" theory, *i.e.*, that NWBO sold shares "so close in time to Defendants' spoofing' as to permit the court to 'infer as a matter of common sense that the market prices were artificial' when [NWBO]

¹ Familiarity with the R&R is presumed, and abbreviations herein conform to those used in the R&R, unless otherwise indicated.

traded.” (R&R at 66 (quoting *Gamma Traders*, 41 F.4th at 80)). The R&R noted that Paragraph 289 of the FAC alleged that NWBO had sold more than 49 million shares where the sale price was “formulaically derived” from the closing price of NWBO stock on dates when Spoofing Episodes occurred (“Pricing Dates”), including 30 instances (denoted by an asterisk) in which spoofing occurred within an hour of the market close. (*Id.* at 66-67). Because Plaintiff did not explain what it meant when it said that a sale price was “formulaically derived” from a closing price, and because the sale dates listed in Paragraph 289 were often several days or even weeks removed from the Pricing Dates, the Court could not find that the FAC adequately pled the requisite proximity. (*Id.* at 67).

However, the R&R further found that—assuming a properly pled “formulaic” connection between the Pricing Dates and the sales price—“Plaintiff’s allegations regarding the 30 instances in its chart in which Spoofing Episodes occurred within an hour of the market’s close are sufficient to plead loss causation under the temporal proximity theory outlined in *Gamma Traders*.” (*Id.* at 70). That was not the case with respect to the other NWBO sales listed in Paragraph 289 that took place hours after alleged Spoofing Episodes. In light of *Gamma Traders*’ admonition that “[e]ven pleading same-day, post-spoof trades does not justify an inference of injury” absent additional factual allegations indicating that the effects of spoofing linger for that long, *Gamma Traders*, 41 F.4th at 80, the Court found these other sales were “too remote in time from alleged Spoofing Episodes to plead ‘close proximity’ under *Gamma Traders*.” (R&R at 71). The R&R thus concluded:

Accordingly, the Court finds that NWBO has sufficiently alleged loss causation based on the temporal proximity between the spoofing and stock sales in the case of the 30 asterisked transactions in the chart in Paragraph 289, provided it submits an amended complaint adequately explaining how the sales prices were “formulaically derived” from the relevant closing prices, but that NWBO has not otherwise adequately pled loss causation under this theory.

(*Id.* at 71-72).

The R&R then addressed whether the FAC adequately pled loss causation under a “long-term price impact” theory, *i.e.*, that the effects of Defendants’ spoofing “lasted for a protracted period so as to ‘justify an inference that the market price was still artificial’ when [NWBO] traded.” (*Id.* at 66 (quoting *Gamma Traders*, 41 F.4th at 80-81)). The Court found that the FAC’s allegations did not “plead ‘facts’ sufficient to justify an inference that the impact of Defendants’ spoofing extended to sales by NWBO not in close proximity to the spoofing,” rejecting Plaintiff’s theory that the spoofing affected NWBO’s stock price throughout the Relevant Period. (*Id.* at 72-79). “Even when viewed in the light most favorable to Plaintiff,” the R&R concluded, “the FAC’s allegations do not plausibly plead a ‘*factual*’ basis that would justify an inference’ that NWBO’s stock price was ‘still artificial’ when NWBO sold shares days, weeks, or months after the Spoofing Episodes.” (*Id.* at 78-79 (quoting *Gamma Traders*, 41 F.4th at 80)).

Having found that an amendment would not be futile, the R&R recommended that NWBO be given leave to file a further amended complaint to cure the deficiencies in the FAC’s loss causation allegations. (*Id.* at 84). Judge Woods

agreed with that recommendation, and directed NWBO to file its amended complaint within 30 days of his February 14, 2024 Order. (Dkt. No. 148 at 3-4).

B. The SAC's Loss Causation Allegations

NWBO filed the SAC on March 18, 2024,² limiting its amendments in the pleading's text to Plaintiff's allegations relating to loss causation. (Dkt. No. 150; Dkt. No. 152 at 1).³ Like the FAC, the SAC alleges that NWBO sold 274 million shares of its stock during the Relevant Period, purportedly all at share prices artificially depressed by Defendants' spoofing. (SAC ¶ 288). Also like the FAC, the SAC alleges that more than 40 million of these shares were sold where the sales price was "formulaically determined" from the closing price of NWBO stock on days when Spoofing Episodes occurred. (*Id.* ¶ 289).

Unlike the FAC, the SAC provides an explanation of how the sale prices for these 40 million shares were formulaically determined from the closing prices on dates when spoofing occurred. These sales took two forms: Cash Stock Sales and Exchange Agreement Sales. (*Id.*). "In Cash Stock Sales, Plaintiff sold shares in transactions that were executed at the secondary market closing price on a single given date . . . or at a price equal to the average secondary market closing price of NWBO's shares over one or more Pricing Dates." (*Id.* ¶ 290). For example, on October 12, 2020, NWBO sold approximately 12.2 million shares of newly-registered

² NWBO initially filed its Second Amended Complaint on March 15, 2024, but after consultation with the Clerk's Office, filed a corrected version on March 18, 2024. (Dkt. No. 152 at 2 n.1).

³ NWBO also submitted a corrected Exhibit 1 to the SAC. Exhibit 1 is a 214-page exhibit detailing each of the 2,849 Spoofing Episodes alleged by NWBO during the Relevant Period. (SAC Ex. 1).

common stock in connection with a financing transaction. (*Id.* ¶ 291). The price for those shares was based on the average 10-day closing price for NWBO stock ending on October 12, 2020. (*Id.*). Spoofing allegedly occurred on seven of those trading days, including on October 12, 2020 itself. (*Id.* ¶ 292).

“In Exchange Agreement Sales, Plaintiff sold shares to lenders in exchange for the extinguishment of debt obligations having an outstanding value equal to the market value of Plaintiff’s shares as determined by a standard pricing formula.” (*Id.* ¶ 297). The sale price in these transactions was determined by the following formula: (a) 85% multiplied by (b) the average of the five lowest closing prices of NWBO shares in the last twenty trading days immediately preceding the date of each exchange agreement. (*Id.*). For example, on January 11, 2018, Plaintiff entered into an exchange agreement with a lender, and one of five lowest closing prices in the 20 trading days preceding the transaction occurred on a date when spoofing took place. (*Id.* ¶¶ 298-99).

In certain instances, the terms of an Exchange Agreement provided that Plaintiff would sell additional shares of stock if NWBO’s share price declined following the date of the Exchange Agreement. (*Id.* ¶ 299 n.63). These “true up” provisions used a formula based on 85% of the average of the five lowest closing prices in the twenty trading days *after* the date of the Exchange Agreement. (*Id.*). This explains a seeming anomaly in the FAC noted in the R&R: namely, that it alleged Pricing Dates days or weeks *after* the date on which NWBO sold its shares. (R&R at 67).

Alleging that Defendants' spoofing artificially lowered NWBO's closing price on dates that factored into the formula used to determine the sales price in both Cash Stock Sales and Exchange Agreement Sales, the SAC claims that the sale price for those transactions "necessarily would have been higher" but for the spoofing. (SAC ¶¶ 293, 299; *see also id.* ¶¶ 290, 297 ("Because a decline in any component of an average mathematically leads to a decline in the average, a decline in the closing price of NWBO's shares on the days included in that average led to a decline in the price at which Plaintiff sold shares of stock.")). NWBO attaches charts to the SAC showing, for both Cash Stock Sales and Exchange Agreement Sales, the dates of transactions and number of shares sold where spoofing "in the final hour of a trading day" allegedly affected the sale price (*id.* ¶ 294 & Ex. 4 (Cash Stock Sales); *id.* ¶ 300 & Ex. 6 (Exchange Agreement Sales)), and where spoofing "between one hour and twenty-four hours before the close of trading" allegedly affected the sale price (*id.* ¶ 295 & Ex. 5 (Cash Stock Sales); *id.* ¶ 301 & Ex. 7 (Exchange Agreement Sales)).

In addition to explaining the formulas used to derive the prices at which NWBO sold its shares during the Relevant Period, the SAC adds allegations designed to beef up NWBO's claims that Defendants' spoofing "had both a temporary and long-term effect on the price of all of Plaintiff's sales, regardless of type, during the Relevant Period." (*Id.* ¶ 303). These include allegations relating to, *inter alia*, a chart showing the average price impact of Spoofing Episodes up to 400 minutes following each Spoofing Episode (*id.* ¶¶ 311-12); a chart showing the

average change in NWBO's share price from the two minutes prior to Spoofing Episodes to up to 60 trading days thereafter (*id.* ¶¶ 313-15); an expert report from Professor Paul Milgrom in an unrelated market manipulation case in this District (*id.* ¶¶ 316-17, 326); economic literature concerning securities markets (*id.* ¶¶ 317-19); and posts concerning NWBO on a popular investor message board, InvestorsHub (*id.* ¶¶ 323-25).

C. The Instant Motion to Dismiss

Defendants filed their motion to dismiss on May 1, 2024 (Dkt. No. 155), along with a supporting memorandum of law (Dkt. No. 156 (“Def. Br.”)) and a declaration from counsel with exhibits (Dkt. No. 157 (“Burck Decl.”)). On May 31, 2024, Plaintiffs filed their memorandum of law in opposition (Dkt. No. 160 (“Pl. Br.”)) and a declaration from counsel with exhibits (Dkt. No. 161 (“Posner Decl.”)). Defendants filed a reply brief on June 14, 2024 (Dkt. No. 162 (“Reply”)) and another declaration from counsel with exhibits (Dkt. No. 163). Both sides filed supplemental submissions in December 2024 concerning a recent decision by Judge Ho in *Phunware, Inc. v. UBS Securities LLC*, No. 23 Civ. 6426 (DEH), 2024 WL 4891891 (S.D.N.Y. Nov. 26, 2024). (Dkt. No. 166 (“Pl. Supp.”); Dkt. No. 167 (“Def. Supp.”)).⁴

LEGAL STANDARDS

A. Motion to Dismiss for Failure to State a Claim

Under Fed. R. Civ. P. 12(b)(6), a complaint may be dismissed for “failure to state a claim upon which relief can be granted.” “To survive a motion to dismiss, a

⁴ Defendants requested oral argument on the motion. (Dkt. No. 164). The Court has determined that oral argument is unnecessary and, accordingly, denies Defendants’ request.

complaint must contain sufficient factual matter, accepted as true, to ‘state a claim to relief that is plausible on its face.’” *Ashcroft v. Iqbal*, 556 U.S. 663, 678 (2009) (quoting *Bell Atlantic Corp. v. Twombly*, 550 U.S. 554, 570 (2007)). A claim is plausible “when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Iqbal*, 566 U.S. at 678. The factual allegations “must be enough to raise a right to relief above the speculative level.” *Twombly*, 550 U.S. at 555; *see also Iqbal*, 556 U.S. at 678 (complaint must raise “more than a sheer possibility that a defendant has acted unlawfully”).

In considering a motion to dismiss under Rule 12(b)(6), the Court must “accept[] all factual allegations in the complaint as true” and “draw[] all reasonable inferences in the plaintiff’s favor.” *Palin v. New York Times Co.*, 940 F.3d 804, 809 (2d Cir. 2019) (citation omitted). Courts need not, however, consider “conclusory allegations or legal conclusions couched as factual allegations.” *Dixon v. von Blanckensee*, 994 F.3d 95, 101 (2d Cir. 2021) (citation omitted); *see also Iqbal*, 556 U.S. at 678 (“Threadbare recitals of the elements of a cause of action, supported by mere conclusory statements, do not suffice.”).

Determining whether a plausible claim has been pled is “a context-specific task” that requires the court “to draw on its judicial experience and common sense.” *Iqbal*, 556 U.S. at 679; *Herrera v. Comme des Garçons, Ltd.*, 84 F.4th 110, 113 (2d Cir. 2023). However, “Rule 12(b)(6) does not countenance . . . dismissals based on a judge’s disbelief of a complaint’s factual allegations.” *Twombly*, 550 U.S. at 556.

The court's task "is to assess the legal feasibility of the complaint; it is not to assess the weight of the evidence that might be offered on either side." *Lynch v. City of N.Y.*, 952 F.3d 67, 75 (2d Cir. 2020).

B. Pleading Loss Causation

Loss causation "is the proximate causal link between the alleged misconduct and the plaintiff's economic harm." *ATSI Commc'ns, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87, 106 (2d Cir. 2007). Under the prevailing practice in this District, loss causation need not be pleaded with particularity. *Sharette v. Credit Suisse Int'l*, 127 F. Supp. 3d 60, 80, 102-03 & n.12 (S.D.N.Y. 2015). "A short and plain statement in accordance with Rule 8 of the Federal Rules of Civil Procedure is sufficient." *Id.* at 103; *see also Micholle v. Ophthotech Corp.*, No. 17 Civ. 210 (VSB), 2019 WL 4464802, at *18 (S.D.N.Y. Sept. 18, 2019) ("The question of whether Rule 9(b) applies to loss causation has not yet been definitively addressed by the Second Circuit, but the vast majority of courts in this district have required that loss causation only meet the notice requirements of Rule 8.") (quoting *Wilamowsky v. Take-Two Interactive Software, Inc.*, 818 F. Supp. 2d 744, 753 & n.7 (S.D.N.Y. 2011)).

"Under either standard, however, the securities fraud plaintiff's burden is not a heavy one." *Speakes v. Taro Pharm. Indus., Ltd.*, No. 16 Civ. 8318 (ALC), 2018 WL 4572987, at *10 (S.D.N.Y. Sept. 24, 2018); *see also Harrington Glob. Opp. Fund Ltd. v. CIBC World Markets Corp.*, 585 F. Supp. 3d 405, 419 (S.D.N.Y. 2022) ("A plaintiff's burden in alleging loss causation 'is not a heavy one.'") (quoting *Loreley*

Fin. (Jersey) No. 3 Ltd. v. Wells Fargo Sec., LLC, 797 F.3d 160, 187 (2d Cir. 2015)). “The complaint must simply give Defendants ‘some indication’ of the actual loss suffered and of a plausible causal link between that loss and the alleged misrepresentations,” *Loreley*, 797 F.3d at 187 (cleaned up), or, as here, the alleged manipulative acts. *See Sharette*, 127 F. Supp. 3d at 80, 102-03 (“While the term ‘loss causation’ is more frequently used with regard to claims of misstatements and omissions, all securities fraud claims made pursuant to the Exchange Act”—including market manipulation claims—“require plaintiffs to adequately allege and prove the traditional elements of causation and loss.”) (citation omitted); *In re Merrill Lynch Auction Rate Sec. Litig.*, 758 F. Supp. 2d 264, 278 (S.D.N.Y. 2010) (concept of loss causation “applies with equal force in a market manipulation case”).

In *Gamma Traders*, the Second Circuit considered what a plaintiff in a spoofing case must plead to adequately allege that it was harmed as a result of the spoofing. *See* 40 F.4th at 77-82. The court held that even assuming the plaintiff had traded on the same day (and after) the defendants spoofed the market and took a position opposite the defendants’ spoofing, that would be insufficient to plead actual injury. In the absence of factual allegations “that would justify an inference that the market price was still artificial by the time Gamma traded,” the court found, “we cannot reasonably infer that spoofing’s effects last throughout the day.” *Id.* at 80. Thus, “[e]ven pleading same-day, post-spoof trades does not justify an inference of injury without any factual allegations to support the inference that the effects of the spoof linger for the remainder of the trading day.” *Id.*

Gamma Traders further held, however, that “[e]ven without a factual pleading about how long the effects of spoofing last, Gamma might still be able to state a claim if it pleaded that its trades occurred so close in time to Defendants’ spoofing as to permit us to infer as a matter of common sense that the market prices were artificial when Gamma traded.” *Id.* The court had no occasion to elaborate on how “close in time” a plaintiff’s trades and a defendant’s spoofing needs to be to give rise to such an inference, as Gamma, which never actually alleged when its trades took place, came “nowhere close” to satisfying this test. *Id.* at 80-81. Because Gamma had not pled either “how long the effects of spoofing last, or that the trades happened so close in time to the spoofing episodes that we may reasonably infer price artificiality affecting Gamma’s trading,” the court affirmed the dismissal of Gamma’s complaint for failure to adequately plead actual damages resulting from the defendants’ spoofing. *Id.* at 81; *see id.* at 74.⁵

⁵ Strictly speaking, *Gamma Traders* does not address an issue of “loss causation.” Gamma’s manipulation claims were brought under the Commodity Exchange Act (“CEA”), 7 U.S.C. § 1 *et seq.*, not the Securities Exchange Act, *see id.* at 76, and as the district court’s decision noted, “the CEA does ‘not impose a loss causation requirement.’” *In re Merrill Bofa & Morgan Stanley Spoofing Litig.*, 19 Civ. 6002 (LJL), 2021 WL 827190, at *11 (S.D.N.Y. Mar. 4, 2021) (quoting *Harry v. Total Gas & Power N. Am., Inc.*, 889 F.3d 104, 113 n.4 (2d Cir. 2018)). However, the CEA’s “actual damages” requirement, 7 U.S.C. § 1, means that a plaintiff seeking relief under the CEA “must plausibly plead the defendant took an action that had an impact on the plaintiff’s position, and that that impact was negative.” *Gamma Traders*, 40 F.4th at 77 (cleaned up). Hence, the Second Circuit analyzed whether the plaintiff alleged “a plausible connection between their trading and Defendants’ spoofing” and whether it was “harmed as a result of Defendants’ spoofing.” *Id.* at 81 (cleaned up). Both NWBO and Defendants treat *Gamma Traders* as controlling authority on the issue of loss causation on this motion (*see* Pl. Br. at 14-15, 20; Def. Br. at 1, 9, 15-16), as they did in connection with the motion to dismiss the FAC (*see* Dkt. No. 115 at 32-34; Dkt No. 123 at 5-6, 35-36). This Court does likewise, given the close kinship between the Exchange Act’s element of loss causation, as relevant here, and the CEA’s actual damages element as analyzed in *Gamma Traders*.

DISCUSSION

Defendants argue that the SAC still fails to adequately allege loss causation, under either a temporal proximity theory or a long-term price impact theory. (Def. Br. at 8-23). Defendants also move for dismissal on the ground that the SAC's loss causation allegations undermine other elements of NWBO's market manipulation claims. (*Id.* at 23-25). Plaintiff responds that the SAC sufficiently pleads both temporal proximity and long-term price impact. (Pl. Br. at 6-24). Plaintiff also contends that Defendants' arguments regarding other elements of a market manipulation claim are contrary to the R&R. (*Id.* at 24-25). The Court addresses these issues in turn.

A. Loss Causation: Temporal Proximity

1. Formulaic Connection Between NWBO's Sales and Pricing Dates

As an initial matter, the Court takes up Defendants' argument that the SAC fails to cure the basic pleading deficiency identified by the R&R: the absence of a demonstrated "formulaic connection" between NWBO's sales of its shares and the closing prices allegedly affected by Defendants' spoofing. (Def. Br. at 22-23; R&R at 66-67).

Defendants primarily argue that the formulas pled in the SAC "do not plausibly connect NWBO's sale prices to the purported spoofing." (Def. Br. at 22). Using the October 12, 2020 Cash Stock Sale as an example, Defendants note that of the ten closing date prices used to calculate the sale price of \$0.82 per share, three involved alleged Spoofing Episodes during the final hour before the market's close.

(*Id.*). According to Defendants' reading of the SAC's allegations, these Spoofing Episodes depressed NWBO's stock price on the three dates in question by \$0.025, \$0.01, and \$0.01, respectively. (*Id.* (citing SAC Ex. 1 at 14-15, 172)). Defendants argue that, if the formula is re-run with the closing prices on those dates raised by these amounts, "NWBO would have sold its shares *for the same \$0.82 price,*" thus demonstrating that "NWBO suffered no loss." (*Id.*; emphasis in original).

Mathematically speaking, Defendants' argument does not add up. Although Exhibit 4 to the SAC reflects that the average closing price for the ten trading days ending on October 12, 2020 was \$0.82, this is a rounded figure. (*See* SAC Ex. 4). Elsewhere the SAC alleges with greater precision that the sale price was \$0.816 per share. (SAC ¶ 291 (alleging that shares in relevant offering were priced "at \$0.816 per share based upon the average 10-day closing price ending on October 12, 2020"); *id.* Ex. 2 (listing price per share for shares sold on October 12, 2020 as \$0.8160)). If the closing prices on the three dates referenced by Defendants had been higher by \$0.025, \$0.01, and \$0.01, respectively, the average 10-day closing price ending on October 12, 2020 would have been \$0.820 per share.⁶ Thus, for purposes of determining the effect of the alleged spoofing, the relevant comparison is not between \$0.82 and \$0.82, as Defendants erroneously contend, but between \$0.816

⁶ This calculation itself reflects some rounding. If the closing prices for the ten days in question as they appear in Exhibit 4, adjusted as Defendants propose for the three dates in question, are added up, the result is \$8.195, which, divided by ten, is \$0.8195 (rather than \$0.82). Without the adjustments, the total is \$8.15, which, divided by ten, is \$0.815, rather than \$0.816, as alleged in Paragraph 291. The Court assumes that this slight difference is due to the fact that the closing prices for each of the ten dates as shown in Exhibit 4 are rounded to the second decimal point. Whatever the precise difference in the prices with and without spoofing, there clearly is a difference, belying Defendants' argument that there is none.

and \$0.820. That difference of approximately \$0.004 per share, spread across the approximately 12.2 million shares sold in the October 12, 2020 offering, results in an approximate loss of \$48,800.

Moreover, Defendants' argument assumes that NWBO's per-share loss would be measured by the difference between the "Best Offer (Calculated)" price and the "Executing Purchase" price for a particular Spoofing Episode as reflected in Exhibit 1 to the SAC. (*See* SAC Ex. 1 at 14-15, 172). But that assumption is not necessarily correct. The SAC does not allege that Plaintiff calculates loss on this basis. Nor is it evident to the Court that the calculation of Plaintiff's per-share loss would be limited to these two data points. To the contrary, the SAC explains that the "best offer" prices are calculated "using data available from OTC Link" and indicates that other data could affect the calculation. (SAC ¶¶ 75, 83 & nn.14, 16). Similarly, NWBO explains that the SAC presents only "one Executing Purchase per Spoofing Episode" but Defendants "often purchased multiple times at artificially depressed prices per Spoofing Episode." (*Id.* ¶ 68 n.12). NWBO "is not required to calculate damages at the pleading stage," *Bell Semiconductor, LLC v. Broadcom Corp.*, No. 24 Civ. 156 (ER), 2024 WL 51118494, at *7 (S.D.N.Y. Dec. 16, 2024) (citing *Total Gas*, 889 F.3d at 115), and it is premature for the Court to make specific assumptions about how NWBO will or must calculate its damages.

Equally unavailing is Defendants' argument, with respect to the Exchange Agreement Sales, that "the SAC fails to provide the closing prices or 'Pricing Dates' involved, making it impossible to assess how the alleged spoofing impacted the sales

prices.” (Def. Br. at 22). The SAC pleads the dates of each Exchange Agreement transaction and the specific Pricing Date, or Dates, when Spoofing Episodes allegedly took place during the final hour or up to 24 hours before the market close. (SAC Exs. 6, 7). Based on that information, the twenty trading days before (and, in the case of true-ups, after) the transaction date, as well as NWBO’s closing price on those days, should be readily ascertainable by Defendants.⁷

Accordingly, the Court concludes that the SAC sufficiently pleads the formulaic connection between NWBO’s stock sales, the Pricing Dates, and Defendants’ spoofing, thus “complet[ing] the circle of causation” as required by the R&R. (See R&R at 70-71).

2. Spoofing During the Final Hour of Trading

Defendants advance a full-throated challenge to the R&R’s conclusion that when viewed in the light most favorable to Plaintiff—assuming a properly pled formulaic connection—“Plaintiff’s allegations regarding the 30 instances in its chart in which Spoofing Episodes occurred within an hour of the market’s close are sufficient to plead loss causation under the temporal proximity theory outlined in *Gamma Traders*.” (R&R at 70; see Def. Br. 9-15; *id.* at 10 n.13 (inviting the Court to “reconsider” this decision)). The Court is unpersuaded by Defendants’ arguments.

⁷ Defendants also question how Exchange Agreement Sales could have “*different* sale prices on the same day for transactions that were supposedly based on the *same* ‘single formula.’” (Def. Br. at 22 & n.30; emphasis in original). Plaintiff’s opposition brief, however, explains that this is because the “true-up” obligations of Exchange Agreement Sales “varied from purchaser to purchaser” as they were “based on each purchaser’s prior transaction history.” (Pl. Br. at 20 n.23).

At the outset, the Court notes that NWBO is not the archetypal victim of an alleged spoofing scheme. An archetypal victim in this case would be a trader who sold NWBO shares during the trading day, in the interval between the placement of Baiting Orders and the cancellation of those orders.⁸ NWBO does not allege it ever sold its shares at an intraday trading price, let alone while a Spoofing Episode was ongoing. Rather, for all 40 million shares whose sale price was affected by a closing price on a day when Spoofing Episodes occurred, the sales price was determined exclusively by closing prices on the relevant Pricing Dates for Cash Stock Sales and Exchange Agreement Sales. (See SAC ¶ 289 & Ex. 2).⁹ This does not mean that NWBO could not have been harmed by Defendants' spoofing. But it does mean that, to plead loss causation, NWBO must sufficiently allege a causal connection between those closing prices and Defendants' spoofing.

Defendants contend that “[t]he only reasonable inference to be drawn from NWBO’s own allegations” in the SAC, as well as from a review of the academic literature and court decisions, is that “spoofing’s effects last seconds” only and, thus,

⁸ For examples of government enforcement actions and private lawsuits identifying losses from spoofing during this interval, see *United States v. Smith*, No. 19 Cr. 669 (N.D. Ill.), Dkt. No. 828-3, Declaration of Kumar Venkataraman (government expert) (Posner Decl. Ex. 6) ¶ 23 (quantifying harm caused by spoofing by calculating losses incurred by market participants who bought or sold while Defendants' spoof orders were “active”); SEC, Release Nos. 33-10094, 34-78043, IC-32144, AP-3-16978, *In the Matter of Behruz Afshar, et al.*, ¶¶ 79-81 (June 13, 2016) (identifying as a victim a market participant who traded after spoofed orders were placed but before they were cancelled); *HTG Cap. Partners, LLC v. Doe(s)*, No. 15 C 2129, 2015 WL 5611333, at *2 (N.D. Ill. Sept. 22, 2015) (plaintiff trader alleged it was counterparty to spoofers' “flipped” trades at end of spoofing cycle at prices artificially raised or lowered by spoofed orders).

⁹ Indeed, this appears to be the case for all 274 million shares sold by NWBO during the Relevant Period. (See SAC Ex. 2 (describing all sales as either Cash Stock or Exchange Agreement Sales)).

Defendants' spoofing could not have affected NWBO's closing price on any day. (Def. Br. at 9-10). These contentions are addressed below.

a. Alleged Inconsistency with Efficient Market Hypothesis

First, Defendants point to NWBO's allegations that its shares traded in an efficient market that "promptly digested current information regarding NWBO from all publicly available sources and reflected such information in the price of NWBO's shares." (*Id.* at 10 (quoting SAC ¶¶ 331-32)). "In an efficient market," Defendants contend, "the alleged spoofing would cause mispricing for seconds at most, not the hours or days NWBO claims." (*Id.*). Thus, according to Defendants, NWBO's claim (and the R&R's conclusion) that Spoofing Episodes during the final hour of trading satisfy *Gamma Traders'* temporal proximity test "cannot be reconciled" with NWBO's additional claim (and the R&R's additional conclusion) that, for purposes of pleading reliance, NWBO's shares traded in an efficient market. (*Id.* at 8; *see* R&R at 79-84).

Defendants cite no cases adopting the über-robust hypothesis of market efficiency they espouse. A considerable body of authority refuses to be constrained by it. The Supreme Court has repeatedly made clear that, in recognizing the "fraud on the market" presumption of reliance premised on the efficient market hypothesis, it was not endorsing "any particular theory of how quickly and completely publicly available information is reflected in market price." *Halliburton Co. v. Erica P. John Fund, Inc.*, 573 U.S. 258, 271-72 (2014) (quoting *Basic Inc. v. Levinson*, 485 U.S. 224, 248 n.28 (1988)); *see also id.* at 272 ("*Basic* recognized that

market efficiency is a matter of degree and accordingly made it a matter of proof”). “The Second Circuit, too, has ‘repeatedly—and recently—declined to adopt a particular test for market efficiency.’” *In re Teva Sec. Litig.*, No. 3:17-cv-558 (SRU), 2021 WL 872156, at *8 (D. Conn. Mar. 9, 2021) (quoting *Waggoner v. Barclays PLC*, 875 F.3d 79, 94 (2d Cir. 2017)).

Consistent with that fact-based approach, courts applying the *Basic* presumption of reliance have recognized that while “temporal proximity is an important factor in analyzing price impact under an efficient market presumption, that one factor cannot be as rigidly applied” as many securities defendants contend. *Allegheny Cnty. Empl. Ret. Sys. v. Energy Transfer LP*, 623 F. Supp. 3d 470, 485 (E.D. Pa. 2022); *see also In re DVI, Inc. Sec. Litig.*, 639 F.3d 623, 635 (3d Cir. 2011) (explaining that “because a perfectly efficient market is not attainable, we do not require that public information be absorbed ‘instantaneously’”) (quoting *In re Merck & Co. Sec. Litig.*, 432 F.3d 261, 269 (3d Cir. 2005)) (additional citation omitted); *Sjunde AP-Fonden v. Goldman Sachs Grp., Inc.*, No. 18 Civ. 12084 (VSB) (KHP), 2024 WL 1497110, at *18 (S.D.N.Y. Apr. 5, 2024) (“A review of the case law makes clear that there is no bright line legal rule as to when within a trading day there must be a decline in stock price to infer causation or price impact.”); *In re California Micro Devices Sec. Litig.*, 965 F. Supp. 1327, 1336 (N.D. Cal. 1997) (“While the efficient market hypothesis posits that information spreads instantaneously, this is a counter-factual simplification created for theoretical purposes. The reality is that information transfer requires time.”).

Accordingly, courts in this District and elsewhere have consistently rejected the argument that, where a plaintiff contends it took the market days to fully absorb information into the price of a security, that contention is irreconcilable with an efficient market presumption. *See, e.g., Sjunde*, 2024 WL 1497110, at *19-20 (“Defendants argue that, in an efficient market, a stock would not continue to incorporate new value relevant information for a second trading day. . . . This argument is unpersuasive because there is no bright line rule that price impact is confined to one trading day. . . . Courts in this District routinely find that an event window of at least two days can be appropriate.”); *Allegheny Cnty.*, 623 F. Supp. 3d at 485-86 (rejecting defendants’ arguments that “price impact under an efficient market presumption must take place almost instantaneously with the disclosure of the new information to the market” and that “Plaintiffs must be able to show a statistically significant price decline within a same-day or next-day window,” and noting that courts have “allowed plaintiffs to show price impact beyond a one-day or same-day window,” citing, *inter alia*, three decisions from this District so holding); *Cross v. 21st Century Holding Co.*, No. 00 Civ. 4333 (AGS), 2002 WL 31158901, at *7 (S.D.N.Y. Sept. 27, 2002) (rejecting defendants’ argument that “a fraud-on-the-market theory must fail where a relatively brief period of price stability follows a public disclosure, especially where the few days of price stability is followed by a relatively steady decline in share price”).

To be sure, none of these cases examine the price impact of spoofing under conditions of market efficiency. Misrepresentations by securities issuers about the

company's financial performance and prospects may well operate differently for loss causation purposes than a spoofing scheme. Corrective disclosures concerning the former could be expected to take longer for securities analysts and other market participants to digest than the time it takes algorithmic trading programs to adjust to the "corrective" information released to the market when a spoofer reverses position and drives the stock price in the opposite direction. Given the particular characteristics of spoofing, expert testimony might ultimately substantiate Defendants' view that its effects on a stock price last mere seconds. But on this motion to dismiss, the issue is not whether Defendants have articulated a plausible claim that this is so, but whether the Court should conclude that Plaintiff's competing contention is implausible. NWBO's allegation at the pleading stage that its shares trade in an efficient market does not compel that conclusion.

b. Alleged Inconsistency with Charged Spoofing Scheme

Defendants further contend that a causal connection between NWBO's stock sales and Spoofing Episodes during the final hour of trading "cannot be reconciled" with NWBO's allegations of the spoofing scheme. (Def. Br. at 8, 11-12). This is so, Defendants say, because Plaintiff alleges they began cancelling Baiting Orders within seconds of the Executing Purchase, "eliminating the artificial sell-side imbalance" within two minutes of the Executing Purchase. (*Id.* at 11 (quoting, as examples, SAC ¶¶ 102, 260)). Defendants also point to Plaintiff's allegations that, in certain Spoofing Episodes, Defendants sold shares within seconds after making an Executing Purchase, at a price above the pre-spoofing price. (*Id.*). Further,

Defendants state that in 17 of the 31 (or 55%) of the “last hour” Spoofing Episodes, “NWBO specifically alleges price reversion to or above the pre-spoofing level before the close.” (*Id.* at 12; *see also id.* at 20-21).

This argument likewise falls short. That Plaintiff alleges that the Spoofing Episodes lasted only two minutes does not mean that the *effects* of the spoofing lasted for only seconds beyond that. Moreover, while Defendants highlight two examples where a Defendant’s “Next Sale” after a Spoofing Episode in the final hour of trading is alleged to have taken place within 20 seconds and 6 seconds, respectively, after the corresponding Executing Purchase, there are numerous examples where the Next Sale did not take place until *the next trading day*, including “last hour” Spoofing Episodes on December 19, 2017, August 1, 2018, March 28, 2019, October 1, 2020, October 8, 2020, and October 12, 2020, and, in the case of October 27, 2020, two trading days later. (Burck Decl. Ex. 9). In certain of those instances, the Next Sale was at a price that was *below* the pre-spoofing level as measured by the calculated Best Offer (albeit above the price of the corresponding Executing Purchase), including the last-hour Spoofing Episodes on December 19, 2017, October 1, 2020, and October 27, 2020. (*Id.*).

Similarly, in arguing that NWBO’s closing stock price reverted back to the pre-spoofing price in about half of the last-hour Spoofing Episodes,¹⁰ Defendants

¹⁰ The more detailed stock price charts submitted by Defendants on this motion indicate that for two of the 17 Spoofing Episodes it relies on, the closing price did not fully revert to the pre-spoofing price. (*See* Burck Decl. Ex. 10 at 1-2 (showing that NWBO’s stock price closed at \$0.215 on August 1, 2018, whereas the pre-spoofing Best Offer was \$0.22); *id.* at 3-4 (showing that price closed at \$0.2798 on March 28, 2019, compared to a pre-spoofing Best Offer of \$0.18)). It thus appears that the stock price closed at or above the pre-spoofing price in only 15 of the 31 Spoofing Episodes.

tacitly acknowledge that, in the other half, the stock price did *not* revert back. For example, the pre-spoofing Best Offer for the Spoofing Episode at 3:22:03 pm on December 19, 2017 was \$0.25, but the stock closed at \$0.22 that day; the pre-spoofing Best Offer for the Spoofing Episode at 3:57:56 pm on October 1, 2020 was \$0.75, but the stock closed at \$0.73; the pre-spoofing Best Offer for the Spoofing Episode at 3:20:55 pm on October 8, 2020 was \$0.81, but the stock closed at \$0.79; the pre-spoofing Best Offer for the Spoofing Episode at 3:11:25 pm on October 12, 2020 was \$1.13, but the stock closed at \$1.12; the pre-spoofing Best Offer for the Spoofing Episode at 3:07:40 pm on October 27, 2020 was \$1.27, but the stock closed at \$1.13; the pre-spoofing Best Offer for the Spoofing Episode at 3:47:35 pm on January 26, 2021 was \$1.51, but the stock closed at \$1.50; and the Best Offer prices for the five Spoofing Episodes that took place between 3:00:05 pm and 3:52:49 pm on December 10, 2021 (\$0.69, \$0.64, \$0.69, \$0.68, and \$0.61) were all above the closing price on that day of \$0.60. (*Id.*).¹¹

It is, of course, possible that the stock price could have rebounded to the pre-spoofing Best Offer level before the market close, only to dip back below that level by the time of the close. That happened, for example, with the January 26, 2021 Spoofing Episode at 3:42:43 pm: the associated Next Sale was at 3:43:45 at the same price as the pre-spoofing Best Offer (\$1.52), but the stock then fell and closed at \$1.50. (*Id.*). However, this is *not* the case with any of the Spoofing Episodes

¹¹ The Court relies on the closing prices for NWBO stock shown on Yahoo Finance. *See, e.g., SEC v. Passos*, No. 22 Civ. 3156 (GHW), 2024 WL 5203022, at *7 (S.D.N.Y. Dec. 21, 2024) (taking judicial notice of historical price information listed on Yahoo Finance).

referred to in the prior paragraph. For each of them, not only did NWBO's stock price close below the pre-spoofing level, but there is no indication that the price reverted to the pre-spoofing level at any time before the close. In certain instances, the Next Sale did not take place until the next day; in others, there is no Next Sale listed; and in still others, there was a Next Sale on the same day as the Spoofing Episode, but at a price below the pre-spoofing Best Offer price (but above the Executing Purchase price). Defendants do not explain how these allegations are consistent with their argument that the spoofing scheme pled by NWBO necessitates that the stock price rebound to the pre-spoof level prior to the close.

Plaintiff's allegations concerning the spoofing during the final hour of trading on December 10, 2021 are particularly damning to Defendants' argument. (See SAC ¶¶ 305-06). As explained in the R&R, NWBO alleges that it sold just over 1.9 million shares on Sunday, December 12, 2021, at a price equal to the closing price of NWBO on December 10, 2021. (SAC ¶ 305; R&R at 69). On December 10, 2021, NWBO alleges, Defendants engaged in five Spoofing Episodes during the final hour of trading, and NWBO's stock price fell by 12% during that hour, even though "[t]here was no negative news issued that day regarding NWBO" and the OTCQB index, where NWBO is listed, fell by only 0.5% that day. (SAC ¶¶ 305-06; R&R at 69).

Defendants' only response is that NWBO does not allege a "Next Sale" for any of the five December 10, 2021 Spoofing Episodes, "so they are not spoofing episodes at all." (Def. Br. at 21). But that is not so. As alleged by NWBO, and defined by

Defendants themselves, a spoofing cycle consists of three parts: (1) the placement of Baiting Orders; (2) the placement of Executing Purchases to take advantage of the lower price resulting from the Baiting Orders; and (3) the cancellation of the Baiting Orders. (SAC ¶¶ 61-64; Dkt. No. 134 at 7-10). A sale by the spoofer of the stock purchased at the artificially lower price is not a part of this cycle. Nor would the absence of a realized profit to the spoofer mean that there was no loss to someone who sold the stock at a time when the price remained artificially depressed due to the spoofing. Further, the fact that NWBO has not identified a Next Sale associated with the December 10, 2021 Spoofing Episodes does not mean that Defendants did not sell or profit from the stock they acquired that day at allegedly manipulated prices. NWBO's Exhibit 1 specifically defines "Next Sale" to mean a sale attributable to the Defendant in question at a price higher than the Executing Purchase only "within a three-day window" after the Executing Purchase. (SAC Ex. 1 at 1 n.2). Defendants' attempt to recharacterize NWBO's spoofing allegations related to December 10, 2021 as "not spoofing episodes at all" therefore fails.

In addition to these 31 last-hour Spoofing Episodes, Exhibit 1 to the SAC lists approximately 179 other Spoofing Episodes that took place in the final hour of trading, but not on a Pricing Date. A review shows that following 89 of those 179 Spoofing Episodes—or 49.7%—NWBO's stock price closed *below* the pre-spoofing Best Offer price. (SAC Ex. 1). Moreover, while in many of those 89 instances, the Defendant in question did effectuate a Next Sale prior to the market close at a price at or above the pre-spoofing level, in dozens of instances that was not the case.

Specifically, by the Court's count, Exhibit 1 describes (in addition to the 11 Pricing Date Spoofing Episodes discussed above) 43 last-hour Spoofing Episodes in which either there was no Next Sale until the next trading day, or there was no Next Sale within the three-day window at all, or the Defendant's Next Sale took place on the same trading day as the Spoofing Episode, but at a price below the pre-spoof level (albeit above the Executing Purchase price). (*See id.*).

Defendants offer no convincing explanation as to why the data points that favor them (last-hour spoofing followed by price reversion before the close) should be given more weight than the data points that contradict their argument (last-hour spoofing without price reversion before the close). In the context of a motion to dismiss, it is evident that they should not be. Accordingly, Defendants' argument that "[t]he only plausible inference" that can be drawn from NWBO's own allegations is that the impact of spoofing during the final hour of a trading day must be measured in seconds, and thus cannot have affected the closing price of NWBO stock (Def. Br. at 14), must be rejected.

c. Academic Studies

Next, Defendants claim that "[a]cademics uniformly conclude that spoofing's price effects are 'very brief'" and that "[i]n modern markets, 'brief' means seconds or less." (Def. Br. at 13 (citation omitted)). Defendants' cited sources, however, do not back up their claim.

For instance, Defendants argue that "[s]poofing literature shows the market reacts within 13 seconds on average" (*id.* (citing Nikolaus Hautsch & Ruthong

Huang, *The market impact of a limit order*, 36 J. Econ. Dynamics & Control 501, 511 (2012)), but the cited article does not mention spoofing. Moreover, although the study shows that the price change induced by limit orders (placed within the bid-ask spread) stops *increasing* after about 13 seconds, it also shows the new price level *continuing* thereafter. 36 J. Econ. Dynamics & Control at 515. Defendants cite another study, which did examine spoofing, albeit on a Korean exchange in 2002, for the proposition that spoofing's effects are "short-lived." (*Id.* (quoting Eun Jung Lee, Kyong Shik Eom & Kyung Suh Park, *Microstructure-Based Manipulation: Strategic Behavior and Performance of Spoofing Traders*, 16 J. of Fin. Mkts. 227, 237 (2013))). But that study did not find that those effects last seconds only; as Plaintiff notes, it found that spoofing generates extra returns for spoofers "over the course of approximately 45 minutes." (Pl. Br. at 16 n.17 (quoting 16 J. of Fin. Mkts. at 229); emphasis omitted).

For its part, NWBO cites a more recent study showing at least a five-minute price impact from spoofing "in the form of return volatility" and claims that this finding can be extrapolated to show a price impact continuing (albeit diminishing over time) for 10 minutes, 30 minutes, and 60 minutes. (Pl. Br. at 16-17 n.21 (citing Jonathan Brogaard, Dan Li & Jeffrey Yang, *Does High Frequency Market Manipulation Harm Market Quality?*, (posted Nov. 22, 2022) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4280120)). Defendants dispute Plaintiff's interpretation of this study (Reply at 4), but they have not come close to

establishing that the academic literature renders implausible a claim that spoofing during the last hour of a trading day may affect the closing price.

Equally unavailing is Defendants' reliance on declarations submitted by Professor Kumar Venkataraman, a government-retained expert in criminal spoofing cases, that calculate victim losses solely by looking at trades made while the spoofing orders were "active," *i.e.*, before they were cancelled. (Def. Br. at 13-14; *see United States v. Smith*, No. 19 Cr. 669 (N.D. Ill. Dec. 22, 2022), Dkt. No. 828-3 ("*Smith Decl.*"), and *United States v. Bases*, No. 18 Cr. 48 (N.D. Ill. Mar. 6, 2023), Dkt No. 725-1 ("*Bases Decl.*").¹² Despite limiting his analysis to that window, Professor Venkataraman's declarations expressly state that "even after a Spoof Order is canceled, it can take time for the market to return to its prior state," that "the Spoof Orders may have had a lasting impact on market dynamics even after they were canceled," and that his analysis thus "likely understates the true effect of the Spoof Orders." (*Smith Decl.* ¶¶ 23 n.21, 49.a; *Bases Decl.* ¶¶ 22 n.15, 45.a).¹³

In short, while, as the Court previously noted, the literature indicates that the effects of spoofing are relatively brief, *see R&R* at 76-77, the studies cited by the parties are inconclusive as to how long these effects may endure.

¹² Defendants also rely on the declaration of a *defense* expert in the *Smith* case, but do not explain how the Court could credit the view of a defense expert on a motion to dismiss. (Def. Br. at 13).

¹³ Defendants' further assertion that Professor Venkataraman found in the *Bases* case that "99% of the unadjusted market loss occurs within the first five seconds after the placement of the Spoof Order" (Def. Br. at 14 (citation omitted); Reply at 4 & n.5) is therefore misleading. Venkataraman was measuring the five-second loss as a percentage of the total unadjusted market loss *he calculated* which, as noted above, was limited to the period before the spoofing orders were cancelled. *Bases Decl.* ¶ 35). He was *not* asserting that 99% of *all* losses from the spoofing in that case (let alone generally) occurred during the first five seconds after placement of the spoofing orders; as noted above, he affirmatively stated that there may be additional losses after the orders were cancelled which he was not asked to analyze and therefore were not part of his calculation.

d. Phunware

Finally, Defendants rely on Judge Ho's two loss causation rulings in the *Phunware* spoofing case. (Def. Br. at 1-2, 13; Reply at 2-4; Def. Supp. at 1-6). In his first ruling, granting the defendants' motion to dismiss Phunware's complaint on loss causation grounds, Judge Ho held that Phunware had adequately alleged only one day in which it sold stock on the same day as defendants' spoofing activity, and its allegations as to that one day were insufficient "because the Complaint does not sufficiently plead that the immediate price impact of spoofing lasts for almost two hours." *Phunware, Inc. v. UBS Sec. LLC*, No. 23 Civ. 6426 (DEH), 2024 WL 1465244, at *7 (S.D.N.Y. Apr. 4, 2024) ("*Phunware I*"). In his second ruling, Judge Ho upheld the sufficiency of the loss causation allegations in Phunware's proposed amended complaint, and therefore granted Phunware's motion for leave to amend. *Phunware, Inc. v. UBS Sec. LLC*, No. 23 Civ. 6426 (DEH), 2024 WL 4891891 (S.D.N.Y. Nov. 26, 2024) ("*Phunware II*"). The amended complaint alleged instances of sales "within seconds of Defendant's spoofing activity," and these allegations, Judge Ho found, "are sufficient to plead loss causation under the temporal proximity theory using a common-sense inference." *Id.* at *2.

Defendants argue that *Phunware II* "affirms" their contention that the effects of spoofing last for "seconds" only. (Def. Supp. at 2). But *Phunware II* does no such thing. To the contrary, the court explicitly relied on what it referred to as the R&R's "holding" that "the 30 instances of trading *within an hour* of the spoofing activity were temporally proximate enough to justify a common-sense inference that

[NWBO's] stock sales occurred at an artificially depressed price.” *Phunware II*, 2024 WL 4891891, at *2 (citing *Nw. Biotherapeutics*, 2023 WL 9102400, at *30) (emphasis added); see R&R at 70. Moreover, the court did not rule that Phunware could *only* plead loss causation for sales occurring “within seconds” of a spoofing episode. Indeed, it did not find any of Phunware’s loss causation allegations in its amended complaint to be deficient. Rather, having found that Phunware sufficiently pled loss causation under the temporal proximity theory as to the sales that took place within seconds of the alleged spoofing, the court found it “unnecessary to determine,” in the context of Phunware’s motion for leave to file its amended complaint, whether Phunware adequately pled loss causation for its other sales. *Phunware II*, 2024 WL 4891891, at *3.

* * *

Accordingly, the Court rejects Defendants’ argument, at the pleading stage, that the impact of their alleged spoofing on NWBO’s stock price could have lasted only for mere seconds, and adheres to the R&R’s determination that NWBO has adequately pled loss causation under a temporal proximity theory based on spoofing that occurred within the last hour of trading on a Pricing Date. In so doing, the Court emphasizes that this conclusion is not a matter of “common sense” inference alone. In *Gamma Traders*, the Second Circuit considered temporal proximity solely “as a matter of common sense” because the plaintiff had not pled any facts to support its allegation that it was injured by the spoofing. 41 F.4th at 80; see *also id.* (“Even pleading same-day, post-spoof trades does not justify an inference of injury

without any factual allegations to support the inference that the effects of the spoof linger for the remainder of the trading day.”).

Here, by contrast, NWBO does, in the words of *Gamma Traders*, make “factual allegations to support the inference that the effects of” Defendants’ spoofing during the final hour of trading “linger[ed] for the remainder of the trading day.” *See id.* Those factual allegations include, as discussed above, that NWBO’s stock price did not revert back to its pre-spoof price before market close in about half of the last-hour Spoofing Episodes that took place on Pricing Dates; that in many of those instances Defendants themselves did not sell any of the NWBO shares they allegedly acquired at artificially depressed prices until the next trading day; that, in the case of the December 10, 2021 Spoofing Episode, NWBO’s stock price fell dramatically during the final hour of trading, coincident with Defendants’ spoofing, and closed well below the pre-spoofing price for the vast majority of shares Defendants acquired during the final hour of trading; and that, in the other last-hour Spoofing Episodes in Exhibit 1, NWBO’s stock price closed below its pre-spoofing level roughly half the time, and on dozens of occasions appears to have never reverted to the pre-spoofing level prior to the market close.

Taken as true and taken together, these allegations, coupled with common sense, support a plausible inference that Defendants’ spoofing during the last hour of trading on Pricing Dates affected the closing price. NWBO has thus sufficiently pled loss causation with respect to the 67 stock transactions, aggregating approximately 22.5 million shares, listed in Exhibits 4 and 6 to the SAC in which

the sale price was tied to a Pricing Date on a day when NWBO alleges Defendants spoofed its stock during the final hour of trading.

3. Same Day Spoofing

NWBO claims it also has adequately pled loss causation on a temporal proximity theory with respect to its other sales where spoofing occurred during the same day as a Pricing Date, but not during the final hour of trading. (Pl. Br. at 14-15). These sales, effectuated in 27 transactions aggregating approximately 18 million shares, are listed in Exhibits 5 and 7 to the SAC.¹⁴ Here, it is NWBO that asks the Court to depart from the R&R. The R&R, citing *Gamma Traders'* teaching that “we cannot reasonably infer that spoofing’s effects last throughout the day,” 41 F.4th at 80, found that NWBO stock sales not linked to last-hour spoofing “are too remote in time from alleged Spoofing Episodes to plead ‘close proximity’ under *Gamma Traders.*” (R&R at 71; see also *Phunware I*, 2024 WL 1465244, at *7 (finding no temporal proximity “because the Complaint does not sufficiently plead that the immediate price impact of spoofing lasts for almost two hours.”)).

The question is whether the SAC now contains “factual allegations to support the inference that the effects of the spoof linger for the remainder of the trading day” so as to justify an inference of injury for “same-day, post-spoof trades.” *Gamma Traders*, 41 F.4th at 80. The SAC pleads no facts specific to the Spoofing

¹⁴ The Court ignores the January 2, 2020 transaction in Exhibit 5. According to Exhibit 5, the sale price for that transaction was impacted by spoofing that took place on December 31, 2019. (SAC Ex. 5). A review of Exhibit 1, however, reveals no Spoofing Episode on December 31, 2019. The most recent Spoofing Episode prior to that date was on December 16, 2019, some ten trading days before. (*Id.* Ex. 1 at 202).

Episodes related to the 27 stock sales in question to indicate that those Spoofing Episodes affected the closing price. For example, there is no analogue to NWBO's allegations about the final-hour spoofing on December 10, 2021, which raise an inference that the fall in NWBO's stock price in the final hour of trading on that day was related to the spoofing rather than to market conditions or news about NWBO.

Further, a review of the 205 Spoofing Episodes in Exhibits 5 and 7 provides but weak support for the inference NWBO asks the Court to draw. Unlike the situation for the last-hour Spoofing Episodes, in the vast majority of these Spoofing Episodes—in excess of 80%—Exhibit 1 (coupled with publicly available closing price data) shows that NWBO's stock price rebounded, prior to the close, to a level at or above the pre-spoofing Best Offer price. (SAC Ex. 1). Exhibit 1 further shows that for the vast majority of these Spoofing Episodes, the spoofing took place in the morning, anywhere from four to six hours ahead of the close. (*See* R&R at 71).

NWBO's position is that whether the stock price did or did not rebound to its pre-spoof level is immaterial, because damages are measured by “the difference between the manipulated artificial price and the price that would have existed *but for* defendants' manipulation.” (Pl. Br. at 9; emphasis in original). According to NWBO, while the stock price may have rebounded to its pre-spoof level before the market close, it is possible that it would have risen even higher “but for” Defendants' spoofing: “a post-spoof price increase may reflect only a *partial* reversion of the total downward trend caused by Defendants' spoofing activity.” (*Id.* at 11 (emphasis in original); *see also* SAC ¶¶ 321-22). That mere possibility,

however, is insufficient to justify an inference of loss causation premised on spoofing, a form of manipulative trading that “depend[s] for [its] profitability on a reversion of prices to the market-level.” *Merrill*, 2021 WL 827190, at *13 (citation omitted; emphasis added). A spoofing plaintiff must plead *facts* plausibly suggesting that what appears to be a full reversion was only, in fact, a partial one.¹⁵

The SAC does plead some facts (not contained in the FAC) suggesting this was the case for same-day spoofing. First, the SAC contains a chart that purports to show “the average price impact of Spoofing Episodes over the minutes following each Spoofing Episode.” (SAC ¶ 311). The chart depicts the average movement of NWBO’s stock for 400 minutes (roughly equivalent to one trading day) following Spoofing Episodes. According to the chart, NWBO’s stock price (on average) generally fell for the first two or three hours after Spoofing Episodes, then rebounded, but only partially, during the remaining interval. (*Id.* ¶¶ 312-13).¹⁶

Defendants assail NWBO’s chart as “unexplained” and “mysterious,” declaring that it “strains credulity” because it shows “NWBO’s price *never reverting to the pre-spoofing price*” and “careen[ing] from steep declines . . . to sudden later spikes and renewed plunges.” (Def. Br. at 16-17; emphasis in original). While NWBO certainly could have done a better job articulating how this chart was

¹⁵ NWBO argues that *Phunware II* adopted its “partial reversion” theory (Pl. Supp. at 3-4), but this is incorrect. The court in *Phunware II* considered this issue only in the context of deciding whether Phunware’s stock sales within seconds of defendant’s spoofing justified a common-sense inference of injury. See *Phunware II*, 2024 WL 4891891, at *2-3.

¹⁶ The chart also shows the average price change for the Nasdaq Biotech Index and the Nasdaq Composite Index during the same time interval. (*Id.* ¶ 311). It indicates that those indices (on average) remained relatively flat during the 400-minute period, which Plaintiff contends means the decline in NWBO’s stock price could not have been the result of market-wide conditions. (*Id.*).

prepared and what it shows, much of Defendants' critique is wide of the mark. As NWBO notes, the chart depicts the *average* movement of NWBO's stock price following Spoofing Episodes. Thus, it does not suggest that the stock price *never* reverted to its pre-spoofing level after individual Spoofing Episodes, or that, as to any individual Spoofing Episode, the price "careen[ed]" in the manner depicted. (Pl. Br. at 21 & n.26). Viewed in Plaintiff's favor, the chart provides some, if scant, indication that the effects of Defendants' spoofing may have lasted for hours.¹⁷

Second, based on Plaintiff's examination of hundreds of thousands of posts on the investor message board InvestorsHub, the SAC alleges that Defendants' spoofing "often occurred during periods when there was increasing investor enthusiasm concerning NWBO's stock price." (SAC ¶¶ 323-24). The SAC includes another chart showing the proportion of positive posts about NWBO in the 60 minutes before and up to 360 minutes after Spoofing Episodes. (*Id.* ¶ 324). According to NWBO, the chart shows that "Defendants tended to engage in Spoofing Episodes during periods of time when investor enthusiasm over NWBO was rising" and that Spoofing Episodes "cut off" investor enthusiasm, "preventing NWBO's share price from rising even further." (*Id.* ¶ 325).

Defendants attack this chart too, arguing that the SAC "does not explain how unspecified 'discussion' about NWBO" on InvestorHub shows how NWBO's stock

¹⁷ For the reasons discussed below (*see infra* Section B), the SAC's similar 60-day price impact chart (SAC ¶ 313) fails to plausibly support Plaintiff's long-term price impact theory. While some of those reasons may also pertain to the chart discussed above, it is not as clear that they undermine Plaintiff's claim of a spoofing-related decline over the course of a single day (as opposed to its claim of a permanent decline).

price would have risen even further, claiming that InvestorHub posts “are rife with false and misleading information,” and labeling NWBO’s investor sentiment analysis “junk science.” (Def. Br. at 18-19). While these arguments may ultimately prove convincing, they raise issues of fact that are not suitable for resolution on a motion to dismiss. As noted in the R&R, “if a statistical analysis is pled with the requisite specificity, it must be accepted as true on a motion to dismiss.” (R&R at 49 (citing *Dover v. Brit. Airways, PLC (UK)*, No. 12 Civ. 5567 (RJD) (MDG), 2014 WL 317845 at *2 (E.D.N.Y. Jan. 24, 2014)). Although lacking in fulsome detail, this chart plausibly suggests that NWBO could prove, at least in some individual instances, that Defendants’ same-day spoofing arrested positive momentum in NWBO stock that would have led to a higher closing price but for the spoofing (although the SAC gives no examples of a day where this occurred).

In addition, NWBO points out that most of the 27 stock transactions in this category involve a Spoofing Episode within either two hours or three hours of the close. (Pl. Br. at 15 n.15). At the motion to dismiss stage, it is difficult to draw a bright line between Spoofing Episodes that took place during the final hour of trading and those that took place earlier in the afternoon.

Given that the burden to plead loss causation is “not a heavy one,” *Loreley*, 797 F.3d at 187, and that the effects of spoofing generally “pose questions of fact,” *Gamma Traders*, 41 F.4th at 80, the Court finds that NWBO has pled enough facts to support a plausible inference that the closing prices of NWBO stock were

adversely affected by Defendants' same-day spoofing even when there were no Spoofing Episodes during the final hour of trading.

B. Loss Causation: Long-Term Price Impact Theory

NWBO also challenges the R&R's rejection of its theory that Defendants' spoofing had a persistent, long-term impact on NWBO's stock price such that *all* stock sales made by NWBO during the Relevant Period, no matter how distant in time from Spoofing Episodes, were at artificially depressed prices. (Pl. Br. at 20-24; *see* R&R at 72-79; *see also Phunware I*, 2024 WL 1465244, at *7 (similarly rejecting plaintiff's allegation that defendants' spoofing had a "persistent and long-lasting" impact" on its stock price)). Here, neither the allegations in the SAC nor NWBO's arguments in its opposition brief persuade the Court to change its conclusion.

1. Price Impact of Baiting Orders and Cancellations

The SAC recycles the FAC's conclusory allegations that Defendants' spoofing had a long-term impact on NWBO's stock price. (*See, e.g.*, SAC ¶ 304 (alleging that effects of Defendants' spoofing "did not fully reverse over time"); *id.* ¶ 309 (alleging that "[w]hen spoofing events occur continuously throughout the day and continue without interruption over a protracted period of time, it can have a long-term impact on the price of a stock"); *id.* ¶ 310 ("Because the price impact of Defendants' spoofing activity was not limited to the time period immediately following each individual Spoofing Episode, the prices at which Plaintiff sold all of its stock throughout the Relevant Period were negatively affected by Defendants' spoofing that occurred prior to Plaintiff's sales, regardless of whether those Spoofing

Episodes occurred on a Pricing Date.”)). As explained in the R&R, these allegations do not meet Plaintiff’s pleading burden under *Gamma Traders*. (R&R at 72-73; see also *Phunware I*, 2024 WL 1465244, at *7 (describing similar allegations as “conclusory statements that are insufficient on a motion to dismiss”).

In attempting to buttress these allegations, the SAC primarily contends that the price impact of spoofing does not “fully reverse” because “peer-reviewed research demonstrates that order cancellations drive the price *up* by *less* than new orders drive the price *down*.” (SAC ¶ 317; emphasis in original). As NWBO explains in its opposition brief, “[e]ven *after* a spoofer cancels an order, the fake Baiting Order does not disappear from the market’s memory—instead, the cancelled order remains part of the historical record of order flow in the security that determines the share price.” (Pl. Br. at 7; emphasis in original). According to NWBO, the “missing information—that the cancelled order was fake—is never revealed, so the price artificiality created by the fact that the order was not intended to be fulfilled remains even after the order was cancelled.” (*Id.* at 8).

This argument has an obvious and fatal flaw: it completely ignores the spoofer’s other actions to drive the market in the opposite direction following the placement of the Baiting Orders. Those actions—including the placement of buy-side (or sell-side) orders to take advantage of the artificially depressed (or inflated) price—are an integral and indispensable part of a spoofing scheme. Unless the price moves back in the opposite direction of the artificial price resulting from the spoofed orders, the spoofer would be unable to profit from the spoofing. No

trader would place fake Baiting Orders and then immediately cancel them just for the fun of it. Such conduct would be economically irrational. Yet NWBO's myopic analysis of the price effect of spoofing asks the Court to consider only those two aspects of the scheme: the placement and cancellation of the Baiting Orders.

That, of course, is not the scheme alleged in the SAC. As noted above, the SAC alleges that Defendants' scheme included, in addition to the placement and canceling of Baiting Orders, the placement of "Executing Purchases on the opposite side of" the trading book. (SAC ¶¶ 61-64; emphasis added). For the 16 Example Episodes, NWBO alleges that: (1) the Defendant's cancellation of the Baiting Orders "eliminat[ed] the artificial sell-side imbalance" and (2) after cancelling the Baiting Orders, the Defendant's order book "dramatically revers[ed]" direction and typically favored the buy-side, and lopsidedly so. (*Id.* ¶¶ 88, 102, 116, 130, 144, 158, 171, 184, 191, 205, 218, 232, 239, 246, 253, 260). And the SAC further alleges that each Defendant succeeded in selling the stock it acquired for a profit within minutes or hours after the Spoofing Episode, and almost always at or above the prevailing market price prior to the Spoofing Episode. (*Id.* ¶¶ 89, 103, 117, 131, 145, 159, 172, 185, 192, 206, 219, 233, 240, 247, 254, 261). That same pattern—a sale of shares on the same day as the Spoofing Episode at a price at or above the pre-spoofing level—characterizes a considerable majority of the 2,879 Spoofing Episodes. (*Id.* Ex. 1; see Def. Br. at 15 (stating that Exhibit 1 shows "prices reverting to or above pre-spoofing levels before market close in 1,867 of 2,849 alleged Episodes (66%)").

Accordingly, the peer-reviewed research that Plaintiff cites, showing that the price impact from the placement of an order exceeds the impact of an order cancellation, is beside the point here. See Jonathan Brogaard, Dan Li & Jeffrey Yang, *Price Discovery without Trading: Evidence from Limit Orders*, 74 J. Fin. 1583, 1635 (2019). The cited article did not examine spoofing and does not mention spoofing. (Cf. Pl. Br. at 16 (criticizing Defendants' reliance on an article that "is not a study of spoofing")). According to studies of spoofing, the security's price returns quickly to the pre-spoofing level once the temporary artificiality injected by the spoofed orders dissipates. See, e.g., Merritt B. Fox, Lawrence R. Glosten & Sue S. Guan, *Spoofing and Its Regulation*, 2021 Colum. L. Rev. 1244, 1288-89 (2021) (stating that spoofing "will only directly affect prices for a very brief period of time" and "[v]ery short run distortions in price of the kind that will typically occur with spoofing will not seriously undermine the role that share prices play in guiding the real economy"); Alvaro Cartea, Sebastian Jaimungal & Y. Wang, *Spoofing and Price Manipulation in Order Driven Markets* (posted August 2, 2019), available at <https://ssrn.com/abstract=3431119> ("The effects of manipulating the price with spoof LOs are expected to subside, so the price of the asset will return to fundamental value."); HaoHang Li & Steve Y. Yang, *Impact of False Information from Spoofing Strategies: An ABM Model of Market Dynamics*, 2022 IEEE Symposium on Computational Intelligence for Financial Engineering and Economics (stating that after the spoofing orders are cancelled, "[t]he price correction exerted by

fundamentalists agents will initiate the price recovery process” and, “[i]n the end, the price gradually enters equilibrium and returns to normal market conditions”).¹⁸

2. Professor Milgrom’s Report

For the same reasons, the Court continues to find Plaintiff’s reliance on Professor Milgrom’s expert report in *Alaska Electrical Pension Fund v. Bank of America*, No. 14 Civ. 7126 (JMF) (S.D.N.Y. Jan. 22, 2018), Dkt. No. 557-7 (“Milgrom Report”), misplaced. (See R&R at 73-75). A review of Professor Milgrom’s report confirms the Court’s understanding at the time of the R&R: the report does not mention spoofing or the spoofing literature. Instead, the report addresses the market microstructure literature relevant to the type of manipulative trading at issue in *Alaska Electrical Pension Fund*, namely, manipulation of the daily ISDAfix benchmark interest rate.¹⁹ That alleged scheme, as discussed in the R&R, is critically different from a spoofing scheme, in that once the manipulator has succeeded in manipulating the ISDAfix rate to a level that suits its trading positions, the scheme is complete. The manipulator has no reason to then try to

¹⁸ In a footnote, NWBO claims that another article “specifically addresses spoofing and explains how spoofing undermines long-run price accuracy.” (Pl. Br. at 22 n.29 (citing Basil Williams & Andrzej Skrzypacz, *Spoofing in Equilibrium*, available at SSRN: <https://ssrn.com/abstract=3742327> (posted Feb. 1, 2021)). This statement from the article does not appear in the SAC, however, and the Court cannot find such a statement in the article. The article indicates that spoofing inhibits price discovery at “date 2,” defined as when the “opposite order” is placed (akin to the Executing Purchase here). Williams & Skrzypacz, *supra*, at 4, 16. The article also states that “spoofers’ canceled orders move prices away from the true value, and *such movements are reversed* when the asset value is revealed at the last date.” *Id.* at 4 (emphasis added).

¹⁹ Professor Milgrom’s report addressed a dispute between the plaintiffs’ expert, Dr. Craig Pirrong, who asserted that defendants’ alleged manipulation of the ISDAfix rate likely had a permanent price impact on swap rates, and the defendants’ expert, Dr. Lawrence R. Glosten, who asserted it did not. (Milgrom Report ¶¶ 1-2). Dr. Pirrong’s expert report specifically stated he was opining on “whether *the types of manipulation alleged by Plaintiffs* would be likely to have persistent and cumulative effects on market swap rates.” (*Alaska Elec. Pension Fund*, Dkt. No. 503-4 ¶ 6; emphasis added).

push the rate in the opposite direction, as does a spoofer. Thus, the market never receives information correcting the misimpression left by the manipulative trade.

In opining that manipulative trading can have a permanent price impact, Professor Milgrom relied on the following principle from the market microstructure literature: “*conditional on all the publicly available information at the time of any trade*, including the price at which the trade takes place, the expected value of the price for the next transaction, and for any future transaction, is equal to the current price.” (Milgrom Report ¶ 16; emphasis omitted in part). In NWBO’s alleged spoofing scheme, the Baiting Orders (to the extent they drove down NWBO’s stock price) were followed in quick succession by the cancellation of the Baiting Orders, the placement of Executing Purchases, and the reversal of the Defendant’s order book to the buy side. All of this constituted “publicly available information” that added to the market’s knowledge at the time of subsequent trades and offset the impact of the Baiting Orders.

Nothing in the Milgrom report supports NWBO’s hypothesis that the downward pressure from Baiting Orders will eclipse the upward pressure from this buy-side trading activity and lead to a permanent, negative price impact. Although the report states that there is “no symmetry in the manipulative trade and its unwinding” (Milgrom Report ¶ 31; *see* SAC ¶ 326), that is because, in the context of the type of manipulative trading relevant in that case, “when unwinding the trade, [the manipulative] trader will seek to *minimize* the price impact to avoid losses.” (Milgrom Report ¶ 31; emphasis in original). This principle does not apply in the

context of spoofing: the profitability of Defendants' spoofing activity depended on maximizing the impact of their buy-side trading activity, not minimizing it.

Attempting to fit within Professor Milgrom's construct, NWBO alleges that "Defendants engaged in asymmetric behavior that yielded an asymmetric price impact between manipulative Spoofing Episodes and the unwinding of their manipulative conduct." (SAC ¶ 327). As a result, it claims, "the downward pressure exceeded the upward pressure applied by buy-side order. (*Id.*). But the two "asymmetries" NWBO alleges fall short of adequately pleading such an effect.

First, NWBO notes that the SAC alleges that Defendants placed sell-side Baiting Orders for a total of 30.4 million shares during the Relevant Period, but placed buy-side Executing Purchases for only 19.3 million shares. (*Id.*). However, this is not an apples-to-apples comparison, because the Baiting Orders were cancelled almost immediately and the Executing Purchases were completed trades.²⁰ NWBO's comparison also fails to take into account the additional buy-side orders Defendants placed when they reversed direction after making the Executing Purchases. Moreover, the SAC itself acknowledges that the 19.3 million figure undercounts Defendants' Executing Purchases. (SAC ¶ 68 n.12 (stating that the SAC and Exhibit 1 "only include and discuss one Executing Purchase per Spoofing

²⁰ The Court also notes, but does not rely on, market microstructure studies finding that executed trades generally have a greater price impact than orders. Brogaard, et al., *supra*, 74 J. Fin. at 1635 ("[t]rades that move the NBBO have the highest price impact"); Hautsch & Huang, *supra*, 36 J. Econ. Dynamics & Control at 515 ("We observe that the resulting long-run effect of trades is significantly greater than that of an equal-size limit order.").

Episode, but Defendants often purchased multiple times at artificially depressed prices per Spoofing Episode”).

Second, NWBO notes that “[t]he median share volume of new sell-side orders exceeded the median share volume of new buy-side orders placed during Spoofing Episodes.” (*Id.* ¶ 327 (citing SAC ¶¶ 82, 96, 138, 199, 226)). But this imbalance, as alleged, took place during *Baiting Periods*, when Defendants were looking to drive NWBO’s stock price down. (*See, e.g.*, SAC ¶ 82 (“Over Baiting Periods, Defendants posted a median of 106% more new sell-side orders than new buy-side orders.”)). The SAC goes on to allege that, when Defendants reversed direction and sought to push the price up, their order books contained a disproportionate volume of *buy-side* orders in relation to sell-side orders. (*See, e.g.*, ¶ 88 (860% more); ¶ 102 (126% more); ¶ 144 (445% more); ¶ 205 (1,117% more); ¶ 232 (444% more)). NWBO offers no justification for focusing solely on the first half of the spoofing episode while ignoring the second, and thus fails to allege any meaningful asymmetry.

The same myopia undermines NWBO’s additional allegation that the price impact of Defendants’ spoofing did not fully reverse because their Baiting Orders “induce[d] other market participants to sell shares at artificially depressed prices.” (SAC ¶ 317). Here again, Plaintiff’s analysis entails—but ignores—that Defendants’ Executing Purchases and buy-side orders likewise would have induced market participants to bid *up* the price of NWBO stock.

Nowhere does NWBO plead or argue that, taking into account *all* components of the spoofing scheme as alleged, there was an asymmetry or other basis for

claiming that the downward pressure exerted on NWBO's stock price by the scheme exceeded the upward pressure. In the absence of such allegations, NWBO does not plausibly plead a permanent, persistent, or long-term negative impact on NWBO's stock price resulting from the alleged spoofing.

3. NWBO's 60 Trading Day Price Impact Chart

Finally, NWBO points to the charts in the SAC in support of its long-term price impact theory. (Pl. Br. 21, 23). Two of those charts—the one depicting the average price change measured in minutes since the Spoofing Episode (SAC ¶ 311) and the one showing the portion of positive InvestorHub posts in the minutes prior to and following Spoofing Episodes (*id.* ¶ 324)—only cover the span of a single trading day and thus do not support NWBO's long-term price impact claim. But the SAC includes another chart showing “the average change in NWBO's share price from the 2 minutes prior to Spoofing Episodes to [up to 60] trading days thereafter.” (*Id.* ¶ 313). The chart indicates that, on average, NWBO's stock price declined during the first 5, 10, and 20 trading days following a Spoofing Episode and then stabilized at that level over the next 40 days. (*Id.* ¶¶ 313-14).

Although NWBO claims the chart “demonstrat[es]” a causal connection between Defendants' spoofing and long-term declines in NWBO's stock price (Pl. Br. at 5), that is not so. Plaintiff's chart does not purport to demonstrate such causation, because it makes no attempt to control for negative performance or news about NWBO that may have caused its stock price to fall irrespective of any spoofing. Rather, the chart only purports to show a correlation between Spoofing

Episodes and declines in NWBO's stock price. And the SAC pleads no other nonconclusory facts plausibly suggesting that any long-term declines in NWBO's stock price were the result of Defendants' spoofing rather than other factors.

This is not enough. "The case law requires loss causation; loss correlation does not suffice." *In re IPO Sec. Litig.*, 297 F. Supp. 668, 672 (S.D.N.Y. 2003) (rejecting, on motion to dismiss, plaintiff's reliance on a chart showing that the securities at issue experienced larger losses than in other IPOs); *see also In re Nvidia Corp. Sec. Litig.*, No. 08-CV-4260-RS, 2010 WL 4117561, at *12 (N.D. Cal. Oct. 19, 2010) (finding loss causation insufficiently pleaded where plaintiffs pointed to "a correlation and not a causation" between alleged misrepresentation and subsequent stock price drop) (emphasis in original); *In re Platinum & Palladium Antitrust Litig.*, No. 14 Civ. 9391 (GHW), 2017 WL 1169626, at *24 (S.D.N.Y. Mar. 28, 2017) ("correlation does not necessarily imply causation").

It would be particularly inappropriate to sustain Plaintiff's long-term price impact theory here on the basis of the mere correlation shown in Plaintiff's chart. The chart presents a crude undifferentiated average of all 2,849 Spoofing Episodes in an attempt to allege long-term price impact over the entire nearly five-year Relevant Period. But a review of NWBO's stock price history, together with the Spoofing Episodes listed in Exhibit 1, shows there were periods when NWBO's stock price *rose* even when Defendants allegedly were spoofing the stock heavily. In particular, one of the highest-intensity spoofing periods, as alleged, was from October 12, 2020 through the end of 2020. Exhibit 1 lists approximately 666

Spoofing Episodes during that time, or nearly *twelve episodes* per trading day on average. (See Ex. 1 at 1-5, 14-39, 61-68, 72-77, 84-86, 204-08). Yet NWBO's stock price climbed steadily throughout this period, increasing by more than 84% from October 9, 2020 (the trading day immediately prior to October 12) to December 31, 2020.²¹

To be sure, notwithstanding the rise in NWBO's stock price in the trading days following these Spoofing Episodes in the last three months of 2020, the *average* price movements reflected in Plaintiff's chart reflect declines. But that appears to be because the bulk of the 2,879 Spoofing Episodes—approximately 60% of the total—took place in 2021, when NWBO's stock price was falling. (See Ex. 1 at 5-6, 39-53, 68-70, 77-79, 86-159, 172-202, 208-10). Because the 2021 Spoofing Episodes represent a disproportionate share of the total, their contributions to the average overshadow those from the 2020 Spoofing Episodes and skew the overall results—simply because there were more of them. But in the absence of any supporting facts pled in the SAC, no reasonable inference can be drawn from Plaintiff's price chart that NWBO's stock price was falling in 2021 *because* of the spoofing.²²

²¹ By contrast, according to Yahoo Finance data, the Nasdaq Biotech Index (NBI) increased by only 6.2% during the same period and the Nasdaq Composite Index (IXIC) increased by 11.3%.

²² NWBO's long-term loss causation theory suffers from another serious flaw. The overwhelming majority of the 274 million shares that NWBO claims to have sold at artificially depressed prices were sold during the first three years of the Relevant Period. Specifically, more than 82% of the 274 million shares were sold from the beginning of the Relevant Period in December 2017 through August 2020. (See SAC Ex. 2). Yet during that time period, Plaintiff alleges relatively few Spoofing Episodes: only 62 (about 2% of the total). (See *id.* Ex. 1 at 1, 8-11, 60, 203). This amounts to about one episode every 12 trading days (assuming 252 trading days in a year, see *Merrill*, 2021 WL 827190, at *12). NWBO's own theory is that “[w]hen spoofing events occur continuously throughout the day and continue without interruption over a protracted period of time, it can have a long-term impact on the price of a stock.” (SAC ¶ 309; see *id.* ¶313 (alleging the “sustained, repetitive, and continuous stream of Defendants’ spoofing had a persistent long-term negative impact on the price of NWBO shares”). That characterization rather clearly does not apply to the period from December

As before, the Court thus concludes that Plaintiff's long-term price impact theory rests on speculation rather than plausible nonconclusory factual allegations. Plaintiff's theory remains fundamentally incompatible with Plaintiff's own allegations that NWBO's stock price repeatedly reverted to the pre-spoofing market level on the same day as Spoofing Episodes. *See* R&R at 76; *Phunware I*, 2024 WL 1465244, at *7 (rejecting plaintiff's long-term price impact theory as "at odds with the Complaint's allegations of how Defendant profited from its spoofing activity during the episodes (i.e., by executing sales after the alleged spoofing episodes)"); *In re London Silver Fixing Ltd., Antitrust Litig.*, 332 F. Supp. 3d 885, 899 (S.D.N.Y. 2018) (allegation of manipulative trading tactics "dependent on a reversion in prices" post-manipulation is "inconsistent with a conspiracy persistently to depress prices").

Accordingly, the Court adheres to its prior determination that Plaintiff has failed to sufficiently plead loss causation under a long-term price impact theory.

C. Other Elements

Defendants' remaining objections to the sufficiency of the SAC may be swiftly dispatched.

As an initial matter, Defendants' arguments that NWBO fails to plead the elements of a market manipulation claim other than loss causation—including a manipulative act, scienter, and reliance—were addressed and rejected in connection with their first motion to dismiss. (*See* R&R at 29-64, 79-84). The SAC amended

2017 to August 2020. Thus, even if taken at face value, NWBO's long-term price impact theory would not plead loss causation for the overwhelming majority of the stock sales at issue.

NWBO's loss causation allegations only. The SAC does not present an opportunity for Defendants to relitigate the adequacy of Plaintiff's (unchanged) pleading with respect to other elements. *See, e.g., Falcon v. City Univ. of N.Y.*, No. 15 Civ. 3421 (ADS) (ARL), 2016 WL 3920223, at *13 (E.D.N.Y. July 15, 2016) (amended complaint does not allow defendant "to challenge the sufficiency of the amended complaint with arguments that were previously considered and decided by the court in the first motion to dismiss," "[n]or may defendant advance arguments that [it] could have [] made in the first motion to dismiss but neglected to do so") (quoting *Sears Petroleum & Transp. Corp. v. Ice Ban Am., Inc.*, 217 F.R.D. 305, 307 (N.D.N.Y. 2003)).

In any event, Defendants' arguments are without merit. Defendants first argue that, even if the SAC adequately pleads loss causation under a temporal proximity theory, it fails to state a claim because "no alleged Spoofing Episode satisfies all of the elements of a market manipulation claim, particularly given the 'heightened' pleading requirements imposed on such claims." (Def. Br. at 23 (quoting *ATSI*, 493 F.3d at 87)). Defendants characterize the R&R as finding only that "the 16 'example' spoofing incidents pled in the FAC were sufficiently particularized to allege 'manipulative acts,'" and argue that since none of the Example Episodes involved spoofing during the final hour of trading on a Pricing Date, NWBO has failed to satisfy the loss causation element as to those episodes. (*Id.* (citation omitted)).

The R&R, however, did not rule that NWBO had adequately pled the elements of a manipulative act, scienter, and reliance only with respect to the 16 Example Episodes. Rather, applying the relevant pleading standards under the PSLRA and Rule 9(b)—including the Second Circuit’s instruction that a plaintiff “need not plead [market] manipulation to the same degree of specificity as a plain misrepresentation claim,” *ATSI*, 493 F.3d at 102—the Court upheld the sufficiency of NWBO’s pleading as to the entire scheme. The Court treated the Example Episodes as just that—examples, which could be used as a benchmark to evaluate NWBO’s pleading as a whole, without requiring NWBO to plead each of the 2,849 Spoofing Episodes with the same level of granularity. (See R&R at 45 (citing *Harrington Glob. Opp. Fund, Ltd. v. CIBC World Markets Corp.*, No. 21 Civ. 761 (LGS), 2023 WL 6316252, at *6 (S.D.N.Y. Sept. 28, 2023), for the proposition that “[i]t would be both unwieldy and unreasonable to require Plaintiff to proffer detailed descriptions of each alleged episode”)).

Next, Defendants argue that NWBO’s loss causation arguments, “if credited, would refute its conclusory market efficiency allegations” and hence negate the element of reliance. (Def. Br. at 24-25). As discussed above (*see supra* Section A.2.a), the Court rejects the premise underlying this argument—that there is an irreconcilable contradiction between NWBO’s loss causation arguments and the efficient market hypothesis. This argument, too, therefore fails.

Finally, Defendants argue that if NWBO’s loss causation arguments are credited, scienter is lacking because “the spoofers would have lost money.” (Def. Br.

at 25). This is simply untrue. Based on Exhibit 1, Defendants regularly were able to earn profits when they sold NWBO shares purchased at an allegedly depressed price after the stock price rebounded to or above its pre-spoofing level. Plaintiff has not denied this (nor could it). (See Pl. Br. at 25). Defendants' ability to earn such profits is not necessarily inconsistent with Plaintiff's theory that the spoofing had a persistent, long-term negative price impact. Regardless, the Court has rejected Plaintiff's long-term price impact theory as insufficiently pled. The Court thus reaffirms that the SAC, like the FAC, adequately pleads scienter.

* * *

In sum, the Court concludes that: (1) the SAC sufficiently pleads loss causation with respect to the approximately 40 million shares of stock sold by NWBO at prices derived from closing prices on dates when Spoofing Episodes occurred; (2) the SAC fails to sufficiently plead a long-term, persistent negative impact on NWBO's stock price, requiring dismissal of Plaintiff's claims relating to the approximately 234 million other shares of stock sold during the Relevant Period; and (3) the SAC sufficiently pleads the elements of a manipulative act, scienter, and reliance.

CONCLUSION

For the reasons set forth above, the Court recommends that Defendants' motion to dismiss be **GRANTED IN PART** and **DENIED IN PART**.

Dated: New York, New York
January 27, 2025



The Honorable Gary Stein
United States Magistrate Judge

**NOTICE OF PROCEDURE FOR FILING OBJECTIONS
TO THIS REPORT AND RECOMMENDATION**

Pursuant to 28 U.S.C. Section 636(b)(1) and Fed. R. Civ. P. 72(b), the parties shall have fourteen days, inclusive of weekends and holidays, from the date of this Report and Recommendation to file written objections thereto. *See also* Fed. R. Civ. 6(a), (b), and (d). Any such objections shall be filed with the Clerk of Court. Any request for an extension of time to file objections must be directed to Judge Woods. A failure to file timely objections will preclude appellate review. *See Thomas v. Arn*, 474 U.S. 140 (1985); *Wagner v. Wagner, LLP v. Atkinson, Haskins, Nellis, Brittingham, Gladd & Carwile, P.C.*, 596 F.3d 84, 92 (2d Cir. 2010).