UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

IN RE: CHICAGO BOARD OPTIONS EXCHANGE VOLATILITY INDEX MANIPULATION ANTITRUST LITIGATION	No. 18 CV 4171 Judge Manish S. Shah

MEMORANDUM OPINION AND ORDER

Plaintiffs traded in options and futures contracts tied to the Chicago Board Options Exchange Volatility Index (VIX). VIX options and futures are cash-settled on designated dates. The price at which such an instrument settles is determined by a formula that Cboe designed. Plaintiffs allege that a group of anonymous traders used certain trading strategies to manipulate the process behind that formula, and, as a result, plaintiffs paid more or accepted less for their positions than they otherwise would have. They allege that Cboe knew that this manipulation was occurring, but allowed it to continue to increase profitability. Plaintiffs bring claims against Cboe and the unknown alleged manipulators (as Doe Defendants) under the Securities Exchange Act and Commodity Exchange Act. They also bring a negligence claim. Cboe moved to dismiss the complaint for failure to state a claim. I granted that motion and dismissed the complaint without prejudice as to all counts but the negligence count, which I dismissed with prejudice. Plaintiffs amended their complaint, and Cboe again moves to dismiss all counts against it. For the reasons discussed below, Cboe's motion is granted.

I. Legal Standards

To survive a motion to dismiss under Rule 12(b)(6), a complaint must state a claim upon which relief may be granted. Fed. R. Civ. P. 12(b)(6). The 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. 662, 678 (2009) (quoting *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 570 (2007)). In reviewing a motion to dismiss, a court must construe all factual allegations as true and draw all reasonable inferences in the plaintiff's favor. *Doe v. Columbia Coll. Chi.*, 933 F.3d 849, 854 (7th Cir. 2019); *Sloan v. Am. Brain Tumor Ass'n*, 901 F.3d 891, 893 (7th Cir. 2018).

When a plaintiff alleges fraud, heightened pleading requirements apply. The plaintiff "must state with particularity the circumstances constituting fraud or mistake." Fed. R. Civ. P. 9(b). A plaintiff must provide "precision and some measure of substantiation" to each fraud allegation. *Menzies v. Seyfarth Shaw LLP*, 943 F.3d 328, 338 (7th Cir. 2019) (quoting *United States ex rel. Presser v. Acacia Mental Health Clinic, LLC*, 836 F.3d 770, 776 (7th Cir. 2016)). This requires describing the "who, what, when, where, and how" of the fraud. *Id.* (quoting *Vanzant v. Hill's Pet Nutrition, Inc.*, 934 F.3d 730, 738 (7th Cir. 2019)). Ordinarily, "[m]alice, intent, knowledge, and other conditions of a person's mind may be alleged generally," Fed. R. Civ. P. 9(b). But securities-fraud complaints under the Private Securities Litigation Reform Act must "state with particularity facts giving rise to a strong inference that the defendant acted with the required state of mind." 15 U.S.C. § 78u–4(b)(2)(A); *Cornielsen v. Infinium Capital Mgmt., LLC*, 916 F.3d 589, 598–99 (7th Cir. 2019).

II. Background

A. Overview

Plaintiffs' claims involve options and futures contracts. An option contract gives the buyer the right, but not the obligation, to buy (a call option) or sell (a put option) a particular commodity or financial instrument at a predetermined price, generally known as the strike price, at a specific time, the expiry date. [271] ¶ 37.[1] A futures contract involves a promise to buy or sell a particular commodity or financial instrument at a predetermined price, also on the expiry date. [271] ¶ 42. VIX options and futures are cash-settled at expiration, meaning the holder of the derivative receives a cash payment (rather than a physical delivery of a stock or commodity). [271] ¶¶ 38, 42–43.

Whether the holder of an option contract exercises it depends on whether the option is "in the money" or "out of the money," compared to the prevailing market price of the option at the time of settlement (the at-the-money price). [271] ¶¶ 39, 41. If an option is in the money, the holder is entitled to a cash payment if she exercises the option. [271] ¶ 39. If an option is out of the money, the holder is not entitled to a cash payment. [271] ¶ 40.

Plaintiffs bring claims against three entities under the umbrella of the Chicago Board Options Exchange. Cboe Global Markets, Inc. (Cboe Global) was the holding

[1] Bracketed numbers refer to entries on the district court docket. Referenced page numbers are taken from the CM/ECF header placed at the top of filings.

company of Cboe Futures Exchange, LLC (Cboe Futures) and Chicago Board Options Exchange, Inc. (Cboe Options). [271] ¶¶ 28–30.

Cboe[2] owned the VIX, a published number that measured the expected volatility of the S&P 500 (SPX), a weighted index of 500 U.S. stocks. [271] ¶¶ 2, 44, 49. The number was higher when the market was expected to be more volatile in 30 days, and lower when the market was expected to be less volatile in 30 days. [271] ¶ 50. The VIX was sometimes known as Wall Street's "fear gauge." [271] ¶ 2.

Cboe calculated the VIX every 15 seconds throughout the trading day using the midpoint price of real-time SPX option contracts. [271] ¶¶ 50–51, 53. The calculation only used options that expired on Fridays and had more than 23 days and less than 37 days until expiration. [271] ¶¶ 51–52. To determine which SPX options went into the VIX, the calculation started from the strike price that was closest to the at-the-money value. [271] ¶ 53. It then moved in both directions (in and out of the money) until it reached two zero-bid strike prices in a row. [271] ¶¶ 53, 83. This was referred to as the "two-zero-bid rule." [271] ¶ 53.

B. The New VIX Formula

Replication is the ability to accumulate a portfolio of the components of an index in the same proportion that each component is represented in the index. [271] ¶ 66. The ability to replicate is important for liquidity providers, because it allows them to offset risk. [271] ¶ 53. Until 2003, only four SPX options series were used to calculate the VIX. [271] ¶ 67. All of the SPX options series used were at, or very close

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[2] Unless otherwise noted, all references to "Cboe" refer to one or more of the Cboe entities.

to, at-the-money. [271] ¶ 67–68. These series were the most liquid, and thus the most expensive, making it difficult to replicate the VIX. [271] ¶ 68. Cboe wanted to monetize and profit from the VIX. [271] ¶ 69. To that end, it consulted key market participants, who told Cboe that it needed to make the VIX replicable. [271] ¶ 71. In 2003, Cboe improved the VIX's replicability by expanding the number of SPX options series used in the calculation, from four to up to 130. [271] ¶¶ 69–71.

C. VIX Options and Futures

Until 2004, the VIX was just a published figure; investors could not take a position in it or trade on what they expected it to be. [271] ¶¶ 2, 56. In 2004, Cboe created VIX futures, and in 2006, it created VIX options, products that allowed traders and investors to speculate on the volatility of the stock market. [271] ¶¶ 2, 56.[3] Both VIX options and futures were cash-settled at expiration, which occurred every Wednesday. [271] ¶ 57.[4]

Cboe determined the settlement value of VIX options and futures by using a process known as the SOQ process. [271] ¶ 57. The settlement price was calculated before the market opened at 8:30 a.m. on expiration days. [271] ¶ 58. The SOQ used a similar formula to the VIX itself, and used the same expanded set of inputs used in the new VIX formula. [271] ¶¶ 57, 69–70. The SOQ formula relied heavily on thinly

[3] Shortly after creating VIX options, Cboe created products that allowed investors to purchase shares (ETFs) or notes (ETNs), the value of which were linked to the value of the VIX or related products, like VIX futures. [271] ¶ 65.

[4] VIX options and futures expired monthly until 2015, when Cboe changed the expiration to every Wednesday. [271] ¶ 57.

traded, illiquid, out-of-the-money SPX options that traded in lower volumes than VIX options and futures. [271] ¶¶ 5, 76.

The SOQ process differed from the VIX process in a number of ways: the VIX was calculated every 15 seconds during a trading day, while the settlement price was only calculated on the day that VIX options and futures expired; the VIX only used SPX options that expired within 23–37 days, while the SOQ process used SPX options that expired in exactly 30 days; and the VIX used the midpoint of bid and ask premiums of SPX options, while the settlement value used actual traded prices where possible. [271] ¶ 57 n.6.

D. Alleged Manipulation

Plaintiffs allege that Doe Defendants manipulated the SOQ settlement process in two ways: manipulating the two-zero-bid rule and employing a process analogous to "banging the close." [271] ¶¶ 77–78, 84, 120. Cboe began publishing information about SPX options at 7:30 a.m. on settlement days, and traders had to submit trades for relevant SPX options before 8:20 a.m. [271] ¶¶ 78–79. Traders could manipulate the market by trading certain SPX options (influential in the SOQ process) shortly before 8:20 a.m. on settlement days. [271] ¶¶ 77–79. Because SPX options trade in lower volumes than VIX futures and options, manipulators could move VIX-based settlement values by trading a small number of out-of-the money SPX options. [271] ¶¶ 77–79. Specifically, they could raise their bid premiums for SPX options at certain strike prices, which would increase the settlement price, or lower their ask premiums, which would decrease the settlement price. [271] ¶¶ 79–80.

Also, by spreading bids across strike prices, the manipulators prevented two zero bids from occurring in a row, causing the SOQ calculation to rely on strike prices that were further out of the money. [271] ¶¶ 84, 120. Out-of-the-money put options had a more significant impact on the settlement price than other, similar options. [271] ¶¶ 88, 91, 96, 108, 125. The more out of the money the option was, the more weight it was assigned in the SOQ formula. [271] ¶ 108. Thus, by avoiding the two-zero-bid rule and causing the SOQ to use deeper out-of-the-money put options, the manipulators were able to affect the settlement price. [271] ¶¶ 88–89, 125. The complaint does not explain whether manipulation of the two-zero-bid rule typically resulted in an increase or decrease of the settlement price, but I infer that the method could push the settlement values in either direction.

In May 2017, an academic paper concluded that, at the exact time of settlement every month, trading volume spiked, but only in out-of-the-money SPX options that were included in the settlement calculation. [271] ¶¶ 8, 91. Plaintiffs' data similarly shows that, on nonsettlement days, the ratio of put to call trades was similar, but on settlement days, and particularly during the settlement window, trading in put options increased much more than in call options. [271] ¶¶ 9, 97–99, 108. And trading in out-of-the-money options spiked on settlement days as compared to in-the-money options. [271] ¶¶ 9, 117. The more out of the money the SPX put option was, the more it was traded as compared to other options. [271] ¶¶ 107, 109, 111. Plaintiffs' data also show that the VIX itself—which used almost identical inputs as the SOQ—moved differently around the settlement window than it did at other times. [271] ¶¶ 128–

31. And, around the time of the settlement window, out-of-the-money SPX options were more likely to be eligible for inclusion in the VIX formula than that same option when considered on a nonsettlement day—because on other days the two-zero-bid rule would have excluded that option. [271] ¶¶ 126–27.

In 2018, a whistleblower contacted the SEC and the CFTC and alleged, among other things, that active manipulation was occurring in the VIX, and that Cboe was allowing pervasive flaws to persist. [271] ¶¶ 8, 93. In response to the academic paper and whistleblower complaint, Cboe officials denied that manipulation was occurring, claimed that internal regulators monitored for settlement manipulation, and said that safeguards were built into the VIX settlement calculation to prevent manipulation. [271] ¶¶ 226–27, 299–300.

That same year, the media reported that FINRA was investigating the manipulation of VIX pricing. [271] ¶¶ 8, 132. After that announcement, there was less of a discrepancy between the volume of trades in out-of-the-money SPX put options on nonsettlement Wednesdays versus settlement Wednesdays than there had been before the investigation was reported. [271] ¶¶ 10, 132–34. The media later reported that Cboe was making a series of changes to the settlement process. [271] ¶¶ 228–32.

Plaintiffs allege that the Does' manipulation benefited Cboe financially. [271] ¶ 152. Cboe collected a fee for every transaction, regardless of the value of the transaction. [271] ¶ 153. By increasing the number of SPX options series included in the VIX and SOQ formulas, Cboe increased its profits, because more transactions

occurred during the settlement window. [271] ¶ 154. Plaintiffs' analysis shows a 60% increase in fees on days when manipulation was stronger. [271] ¶¶ 157–59. According to plaintiffs' analysis, Cboe earned 753% more in fees on SPX options trades during the SOQ window from 2007 to 2018 than it would have under the VIX calculation that used only four SPX options series. [271] ¶¶ 155–56.

The market for VIX options and futures and SPX futures increased from $200 billion in 2006 to $1.6 trillion in 2016. [271] ¶ 187. Cboe's revenues grew with the market. [271] ¶ 188. Between 2010 and 2018, Cboe's stock price increased over 300%. [271] ¶ 191.

E. Cboe's Knowledge of Manipulation

To allege Cboe's knowledge of manipulation (either the potential for it to occur or actual knowledge that it occurred), the complaint includes several details. It asserts generally that Cboe knew that manipulation either could occur or was occurring. [271] ¶¶ 200–01. And it includes examples like a statement from Timothy Klassen, a member of the team that assisted Cboe with the new formula, who said that the SOQ formula could have been "easily improved." [271] ¶ 74. A former Cboe employee who was responsible for designing the VIX, Matthew Shapiro, said in a 2012 interview that traders could "crush the print" by selling "thousands and thousands of S&P options" during the SOQ process, or "bid the print up" by buying thousands of S&P options. [271] ¶ 81.

Because Cboe had data about its trades, plaintiffs say it knew that manipulation was occurring. [271] ¶¶ 119, 203. Cboe had several committees and

departments responsible for monitoring its products, and Cboe executives have stated that the regulatory group "actively surveils for potential VIX settlement manipulation." [271] ¶ 203. The complaint asserts that Cboe did not fix the SOQ process because it was collecting additional fees from the manipulation, and because acknowledging the flaws in the process would put Cboe's IPO at risk. [271] ¶¶ 172–74.

In 2013, the SEC found that Cboe had failed to detect, investigate, and discipline naked short selling in 2008 and 2009 by one of its member firms. [271] ¶¶ 194–99. Cboe settled those charges. [271] ¶¶ 194–99. Cboe imposed fines on three financial institutions for manipulating or attempting to manipulate Cboe's products, and imposed disciplinary actions on trading firms for disruptive trading. [271] ¶¶ 208–11, 233. As part of those disruptive-trading fines, Cboe identified two firms that had attempted to manipulate the two-zero-bid rule by utilizing "safety bids," bids that ensured that the settlement calculation included far out-of-the-money options series by avoiding triggering the two-zero-bid rule. [271] ¶¶ 11, 210–11, 216. Plaintiffs used the trading patterns that Cboe found sanctionable in other instances and applied those patterns to VIX-related data, finding similar patterns. [271] ¶¶ 212–22.

In 2014, Cboe gave a presentation to "potential European retail investors." [271] ¶ 164. A slide from that presentation stated that, "Since both long and short strategy orders are placed by firms at VIX settlements, there are frequently buy or sell imbalances to some degree." [271] ¶ 164. The slide stated that those "mismatches"

presented "compelling trading opportunities for liquidity providers," and noted that "[t]rading VXST settlements could present trading opportunities 52 times a year." [271] ¶ 164. The complaint alleges that this showed that Cboe both knew that the SOQ process was being manipulated, and was actively seeking to profit off of that manipulation. [271] ¶¶ 165–66. But the slides don't explicitly refer to banging the close or the two-zero-bid rule, and the complaint does not allege that those manipulative devices—the two ways plaintiffs allege the Doe Defendants manipulated the SOQ settlement process—are the same as the mismatches and trading opportunities referenced in the slide.

F. Cboe's Enforcement of its Rules

The Commodity Exchange Act requires boards of trade like Cboe to enforce compliance with the rules of the contract market. [271] ¶ 223; *see* 7 U.S.C. § 7(d)(2)(A). Cboe had rules to promote a fair market, and rules that prohibited fraud and manipulation of the market. [271] ¶ 224. Rule 601 required that no trader "engage or attempt to engage in" "any fraudulent act" or "scheme to defraud, deceive or trick." [271] ¶ 224(c). Rule 603 prohibited "[a]ny manipulation of the market." [271] ¶ 224(d). According to that rule, anyone who knowingly placed, or helped to place, an order with the purpose of "generating unnecessary volatility" or created a condition "in which prices do not or will not reflect fair market values" "engaged in an act detrimental to the Exchange." [271] ¶ 224(d).

G. Plaintiffs' Allegations of Harm

Plaintiffs lost money because they traded in SPX options, VIX options and futures, and VIX ETFs or ETNs that were mispriced, or settled at a manipulated price, because of manipulation. [271] ¶¶ 242–43. Plaintiffs relied on the VIX settlement process being fair. [271] ¶¶ 243–45.

Plaintiffs allege three theories of harm. First, that manipulation occurred only at the time of settlement, so plaintiffs who held their instruments to expiration were harmed by settling at manipulated settlement prices. [271] ¶ 255. Under this theory, those harms were not offset by artificial gains at the time the plaintiffs purchased their contracts, because manipulation was limited to a fleeting period of time (the settlement window). [271] ¶ 255.

To allege damages under this theory, plaintiffs identified days on which settlements were manipulated, and identified named plaintiffs who held VIX options or futures to settlement on those days. [271] ¶¶ 246–48. For example, on January 18, 2017 and October 18, 2017, plaintiff Richard Aaron held VIX put option positions to expiration. [271] ¶ 249. Since manipulation occurred on those days, Aaron either paid more or accepted less upon settlement. [271] ¶ 249. Similarly, on three dates in 2017, plaintiff Victor Choa held VIX futures positions to expiration. [271] ¶ 251. The settlement process was manipulated on each of those days, so Choa either paid more or accepted less at settlement than he would have absent manipulation. [271] ¶ 251; *see also* [271] ¶¶ 249–254. The complaint does not allege whether the manipulation moved the settlement price artificially higher or lower on any given settlement date.

Under plaintiffs' second theory of harm, plaintiffs suffered damages because manipulative trades had a lasting impact on the market. [271] ¶¶ 256–64. Under this theory, each manipulative event had a lingering impact—presumably (although not specifically alleged) in the direction targeted by the manipulators—that lessened over time. [271] ¶¶ 256–64. So the level of artificiality in the market at any given time was not the effect of the last instance of manipulation, but the cumulative effect of all prior manipulative events. [271] ¶¶ 256–64. Artificiality affected all VIX-related products, not just those held to settlement. [271] ¶ 266. And plaintiffs were affected both when they bought or sold the products and on settlement. [271] ¶¶ 270–71, 273. So, the theory goes, plaintiffs were harmed even when they didn't hold their instruments to expiration because prices were artificially high or low even outside the settlement window. [271] ¶¶ 273–74.

Plaintiffs developed a chart they call a lasting-impact artificiality ribbon to identify when prices were artificially high or low. [271] ¶ 264–65, 274. The ribbon does not specify how high or low the allegedly artificial prices were. Plaintiffs say they applied the artificiality ribbon to their trades to identify transactions in which they purchased when prices were artificially high, or sold when prices were artificially low. [271] ¶ 274. For example, plaintiffs identified 13 days between 2014 and 2017 when Aaron traded multiple VIX options; on each of those days, prices were artificially high or low, so Aaron sold for less or bought for more that he would have with legitimate pricing. [271] ¶ 276; *see also* [271] ¶¶ 277–79, 281–83. Likewise, plaintiffs identified multiple dates between 2015 and 2017 when Victor Choa bought

or sold VIX futures when prices were artificial, so Choa bought for more or sold for less than he otherwise would have. [271] ¶ 279; *see also* [271] ¶¶ 280, 282–83. Plaintiffs do not specify, for any given transaction, whether prices were artificially high or low, how high or low they were, whether the plaintiff bought or sold, whether the plaintiff accepted less or paid more for his or her position, or how much harm any plaintiff suffered by trading in an artificial market.

Finally, plaintiffs' third allegation of harm attempts to answer the argument that, under a lasting-impact theory, plaintiffs could not have been harmed because they would have benefited as much as they were damaged—in other words, that considering harm on a net basis, plaintiffs would have both gained and lost from manipulation and would have come out even. [271] ¶ 284. Plaintiffs allege that applying an artificiality ribbon to every step in a given contract for a sample of transactions establishes that they suffered more harm than they gained a benefit. [271] ¶¶ 285–93. The complaint does not specify how much net harm any particular plaintiff suffered.

H. Procedural History

Plaintiffs bring ten claims, five of which are against the various Cboe entities. The other five claims are against the Doe Defendants and are not at issue here. Plaintiffs allege that Cboe Global and Cboe Options violated the Securities Exchange Act, [271] ¶¶ 311–19 (Count One), and that all Cboe defendants—Cboe Global, Cboe Options, and Cboe Futures—failed to enforce Cboe's rules under the Commodity Exchange Act. [271] ¶¶ 320–27 (Count Two). They bring two secondary-liability

claims under the CEA; they bring a principal-agent claim against all defendants, including the Does, [271] ¶¶ 361–64 (Count Seven), and they allege aiding and abetting against all defendants except Cboe Futures. [271] ¶¶ 365–68 (Count Eight). Plaintiffs also bring a claim of ordinary negligence against all Cboe defendants. [271] ¶¶ 328–33 (Count Three).

This is Cboe's second motion to dismiss. Plaintiffs brought the same ten claims in their original complaint, and Cboe moved to dismiss for failure to state a claim. I dismissed the Securities Exchange Act claim and the CEA claims without prejudice, and the negligence claim with prejudice. *See generally* [245].[5] In their first complaint, plaintiffs failed to establish loss causation and scienter under the Private Securities Litigation Reform Act to state a claim for securities fraud. As to the CEA claims, plaintiffs plausibly alleged bad faith but failed to plead actual damages. I did not reach the issue of whether plaintiffs alleged manipulation. Plaintiffs amended their complaint, and Cboe again moves to dismiss all claims against it for failure to state a claim.

III. Analysis

Cboe argues that plaintiffs have again failed to state a securities-fraud claim because they have not adequately pleaded scienter or loss causation. Cboe also argues that plaintiffs have failed to state a CEA claim; it says plaintiffs have not plausibly

[5] Plaintiffs included the negligence claim in their amended complaint to preserve it for appeal. [271] at 118 n.101. It is dismissed for the reasons stated in the earlier opinion.

alleged bad faith, actual damages, or causation, and that plaintiffs have failed to sufficiently plead their CEA secondary-liability claims.

A. The Securities Exchange Act Claim

Section 10(b) of the Securities Exchange Act forbids: (1) the "use or employ[ment] … of any … manipulative or deceptive device," (2) "in connection with the purchase or sale of any security," and (3) "in contravention of" SEC "rules and regulations." 15 U.S.C. § 78j(b). Rule 10b–5 makes it unlawful for any person to: (a) "employ any device, scheme, or artifice to defraud," and (c) "engage in any act … which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security." 17 C.F.R. § 240.10b–5 (2004).

To state a claim for market manipulation, plaintiffs must allege that defendants engaged in manipulative conduct while buying or selling securities; defendants used the mail or any national securities exchange facility to do so; defendants acted with scienter; and plaintiffs relied on the assumption of a manipulation-free market and suffered damage as a result. *ATSI Commc'ns, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87, 101 (2d Cir. 2007).

Cboe argues that plaintiffs have failed to plead scienter and loss causation. It also renews its arguments that Cboe is immune from suit, that plaintiffs' claims are precluded, and that the five-year statute of repose bars plaintiffs' claims.

1. Standing

Cboe argues in reply that the named plaintiffs lack standing to bring claims on behalf of class members who traded on settlement days other than the ones plaintiffs

identify. [282] at 22–23. As an initial matter, "[a]rguments raised for the first time in a reply brief are waived." *Gonzales v. Mize*, 565 F.3d 373, 382 (7th Cir. 2009) (quoting *Simpson v. Office of the Chief Judge of Will Cty.*, 559 F.3d 706, 719 (7th Cir. 2009)). In any event, standing disputes over absent class members need not be resolved until after a class is certified; class-certification issues are "logically antecedent" to such standing issues. *Ortiz v. Fibreboard Corp.*, 527 U.S. 815, 831 (1999) (quoting *Amchem Products, Inc. v. Windsor*, 521 U.S. 591, 612 (1997)); *Payton v. Cty. of Kane*, 308 F.3d 673, 680 (7th Cir. 2002) (noting that courts should evaluate class-action standing "with reference to the class as a whole" only "once a class is properly certified"). A class has not been certified in this case. At this stage, I need not resolve standing issues implicating the class as a whole, and Cboe does not argue that any named plaintiffs lack Article III standing. There is a case or controversy here.

2. Scienter

The PSLRA requires plaintiffs to state with particularity both the facts constituting the violation and the defendant's intention "to deceive, manipulate, or defraud." *Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 313 (2007) (quoting *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 194 n.12 (1976)); *Cornielsen*, 916 F.3d at 601. To survive a motion to dismiss, plaintiffs must plead facts giving rise to a "strong inference" that the defendant acted with the requisite intent. *Tellabs*, 551 U.S. at 314 (quoting 15 U.S.C. § 78u–4(b)(2)). A strong inference is more than plausible or reasonable. *Id.* Rather, it must be "cogent and at least as compelling as any opposing inference of nonfraudulent intent." *Id.* In considering a motion to

dismiss a securities-fraud claim, a court must consider "plausible opposing inferences" and determine whether a reasonable person would "deem the inference of scienter at least as strong as any opposing inference." *Id.* at 323, 326; *Cornielsen*, 916 F.3d at 601.

A plaintiff may plead scienter by either presenting strong circumstantial evidence of conscious misbehavior or recklessness, or by showing that the defendants had both the motive and opportunity to commit fraud. *ATSI Commc'ns*, 493 F.3d at 99. Recklessness in this context is "an extreme departure from the standards of ordinary care … to the extent that the danger was either known to the defendant or so obvious that the defendant must have been aware of it." *Makor Issues & Rights, Ltd. v. Tellabs Inc.*, 513 F.3d 702, 704 (7th Cir. 2008) (quoting *In re Scholastic Corp. Secs. Litig.*, 252 F.3d 63, 76 (2d Cir. 2001)). Alleging that a defendant should have known about fraud is not enough to show that the defendant was reckless. *Abrams v. Baker Hughes Inc.*, 292 F.3d 424, 432 (5th Cir. 2002) ("A pleading of scienter may not rest on the inference that defendants must have been aware" or "should have known"); *Special Situations Fund III QP, L.P. v. Deloitte Touche Tohmatsu CPA, Ltd.*, 33 F.Supp.3d 401, 429 (S.D.N.Y. 2014) ("[I]t is well-established that an accusation that a defendant 'merely ought to have known' is insufficient to allege recklessness." (citation omitted)).

Cboe argues that plaintiffs have failed to plead either that Cboe had the motive and opportunity to commit fraud, or that Cboe acted recklessly.[6] Plaintiffs primarily focus on Cboe's alleged recklessness, both in changing the VIX formula and later allowing manipulation to continue. They also argue that Cboe had the motive and opportunity to commit fraud, which, they say, supports a strong inference of scienter.

Plaintiffs allege that when Cboe changed the VIX formula in 2003, it knew that the new formula would "exponentially increase the chance of manipulation." [281] at 28. But they do not plead sufficient facts allowing a strong inference that Cboe knew that the new VIX formula, and by extension the SOQ formula, were vulnerable to manipulation at the time of their design. To show knowledge, plaintiffs point to their allegations that key market participants told Cboe to make the VIX replicable in 2003, and that Cboe enjoyed more profits from increased trading than it would have if the pre-2003 formula remained in effect. [281] at 28 (citing [271] ¶¶ 69–71, 153–66). But neither of those allegations establish that Cboe knew the formula was vulnerable to manipulation. Nothing about making the VIX replicable in and of itself suggests manipulation could occur, let alone that Cboe knew manipulation would certainly happen. Replication is not synonymous with market manipulation, the expansion of inputs for the purpose of replication is not synonymous with an intent to foster a trader's manipulation of those inputs, and increased trading volume is not

[6] Cboe again argues that plaintiffs have failed to identify a particular corporate officer who acted with intent. [274] at 19. But it is possible to draw a "strong inference of corporate scienter" without naming specific individuals. *Makor Issues & Rights, Ltd. v. Tellabs Inc.*, 513 F.3d 702, 710 (7th Cir. 2008).

itself manipulative. Cboe's increase in profit is consistent with its decision to make the VIX replicable to attract liquidity providers. Plaintiffs argue that Cboe acted recklessly when it changed the VIX formula in 2003—but Cboe did not start using the formula that plaintiffs allege the Does manipulated, the SOQ process, until Cboe started offering cash-settled products in 2004. Though the VIX and SOQ formulas are similar, if not identical,[7] that the SOQ itself was temporally separate from the VIX redesign weakens plaintiffs' argument that, when Cboe changed the VIX formula in 2003, it knew that change would prompt manipulation of the SOQ calculation—a process that wasn't in operation yet.

To argue that Cboe knew that its SOQ process could be manipulated, plaintiffs identify a number of features of the process that they say made the SOQ vulnerable to fraud, such as disproportionately emphasizing the cheapest kind of trades, designing the settlement window to be relatively short, and setting up a two-zero-bid system. [281] at 29–30. But the mere existence of these features is not enough to suggest that Cboe knew they would lead to fraud. Plaintiffs do not plead any fact supporting the inference that Cboe knew that its design choices would expose the process to manipulation, let alone that Cboe deliberately made those choices because it intended the formula to be manipulated. Similarly, that one individual connected to the VIX design stated that traders could "crush the print" does not show that Cboe

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[7] It is unclear how similar the SOQ and VIX formulas are. In their complaint, plaintiffs allege that the SOQ and VIX processes are "similar, but not identical." [271] ¶ 57. And, they say the SOQ uses the same expanded set of option series as the post-2003 VIX in a "nearly identical fashion." [271] ¶¶ 70, 128. In their brief, plaintiffs assert both that the two formulas are "similar, even if not identical," and "identical." [281] at 12 n.4, 35. Since I must draw all inferences in plaintiffs' favor at this stage, I assume the formulas are the same.

knew its SOQ design was flawed at the time it designed it, as plaintiffs argue. [281] at 30. Shapiro made that statement in 2012, [271] ¶ 81, years after Cboe designed the SOQ, and it could just as easily have been an observation about the current state of affairs rather than a confession of what the designers knew and ignored when creating the formula years earlier.

Beyond the design phase, plaintiffs argue that Cboe acted recklessly when it allowed manipulation to continue over time and continued to promote its products. They note that Cboe oversaw all of its trades, had access to its own data, and reviewed that data for manipulation, as evidenced by its detection of some acts of manipulation. But none of these allegations support a strong inference that Cboe knew about the Does' manipulation of the SOQ settlement process. That Cboe had access to its own data means nothing in isolation. The complexity of plaintiffs' complaint establishes that the ongoing manipulation was not "so obvious" that Cboe "must have been aware of it." *See Makor Issues*, 513 F.3d at 704. Plaintiffs submit a variety of models, charts, and datasets that they say are evidence of manipulation. While those models may support the inference that manipulation occurred for purposes of the complaint, plaintiffs don't allege that Cboe ever ran the same tests and analyses that plaintiffs did. Cboe's access to information does not mean that Cboe analyzed that information the same way, or drew the same conclusion from the information. *See, e.g.*, *Special Situations Fund*, 33 F.Supp.3d at 429–30 ("[T]hat a person has broad access to every book in a library does not mean that the person has read and chosen to ignore facts contained in a particular book … Pleading the existence of red flags does not amount

to an allegation that the facts and circumstances at issue would have put a reasonable [defendant] on notice of potential fraud." (citation omitted)).

Nor does the placement of internal regulators screening for manipulation support the inference that Cboe knew about the Does' manipulation, as plaintiffs argue. There is no suggestion that those monitors detected the same manipulation that plaintiffs have. Likewise, that Cboe disciplined other trading firms for other manipulative acts doesn't mean that Cboe knew about the specific manipulation plaintiffs allege here. *See* [281] at 29. Rather, that Cboe disciplined some traders suggests that, when Cboe did detect manipulation, it stopped it. Thus, plaintiffs have failed to plead facts supporting a strong inference that Cboe knew about manipulation, either at the design phase or later.

Even if plaintiffs had sufficiently alleged that Cboe knew about the risk of manipulation, their complaint would still fall short of pleading scienter. Knowledge of the risk of fraud does not automatically mean that Cboe was severely reckless, or intended that fraud to continue. *See, e.g.*, *Mun. Emps.' Ret. Sys. of Michigan v. Pier 1 Imports, Inc.*, 935 F.3d 424, 432 (5th Cir. 2019) (upholding dismissal of securities-fraud complaint where plaintiffs alleged that defendants knew about circumstances that led to risk, but failed to plead that defendants had an intent to deceive or acted with severe recklessness by not disclosing it); *Maguire Fin., LP v. PowerSecure Int'l, Inc.*, 876 F.3d 541, 547 (4th Cir. 2017), *cert denied*, 138 S. Ct. 2027 (2018) (same, where inference that defendant "knew his statement was false" was insufficient to show that he "acted intentionally or recklessly to deceive, manipulate, or defraud");

Owens v. Jastrow, 789 F.3d 529, 545 (5th Cir. 2015) (same, where plaintiffs' "allegations of knowledge" did not support inference that defendants acted with "severe recklessness" but supported equally compelling inference that defendants acted only "negligently").

Plaintiffs' motive-and-opportunity argument does not push their scienter claim over the compelling-inference threshold. Plaintiffs argue that Cboe had the motive to commit fraud because the opportunity for manipulation attracted certain traders that Cboe found desirable, and Cboe was able to earn more fees than it would have if it used the same VIX formula that it had used in 2003. Plaintiffs also argue that once Cboe knew manipulation was occurring, it acted out of self-interest to keep it quiet, because publicly acknowledging the manipulation would "sabotage[] the whole enterprise." [281] at 37. They add that Cboe's stock price increased over 300% from 2010 to 2018.

Plaintiffs' complaint establishes that Cboe changed the VIX formula because it wanted to make its product replicable. But plaintiffs fail to plead that Cboe benefited from the manipulation itself. After making its product replicable, Cboe would have enjoyed increased trading (and thus increased fees) even if manipulation had never occurred. That Cboe had a profit motive does not suffice to establish that it had the motive to defraud its customers. *See Plumbers & Pipefitters Local Union 719 Pension Fund v. Zimmer Holdings, Inc.*, 679 F.3d 952, 956 (7th Cir. 2012) (upholding dismissal of securities-fraud complaint where plaintiffs' allegations that defendants sought to benefit from higher stock prices was "too generic to satisfy

Tellabs" because "that managers benefit from higher stock prices does not imply that any particular manager committed fraud"); *Defer LP v. Raymond James Fin., Inc.*, 654 F.Supp.2d 204, 217–18 (S.D.N.Y. 2009) ("[A]llegations of a generalized motive that could be imputed to any for-profit endeavor therefore are not sufficiently concrete for purposes of inferring *scienter*."); *cf. City of Providence v. Bats Glob. Markets, Inc.*, 878 F.3d 36, 51 (2d Cir. 2017), *cert. denied*, 139 S. Ct. 341 (2018) (finding exchange defendants benefited from third-party manipulation by receiving "hundreds of millions of dollars" for products specifically designed to benefit the manipulators, and the manipulation "substantially increased trading volume on their exchanges").

The Securities Exchange Act itself is, of course, instructive. There is no private cause of action under § 10(b) for aiding and abetting manipulation. *Cent. Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 177–78 (1994); *see also Santa Fe Industries*, *Inc. v. Green*, 430 U.S. 462, 473 (1977) ("The language of § 10(b) gives no indication that Congress meant to prohibit any conduct not involving manipulation or deception."). The statute does not create a private right of action for "giving aid to a person who commits a manipulative or deceptive act." *Cent. Bank*, 511 U.S. at 177. And the Supreme Court has declined to read the statute to create liability "for acts that are not themselves manipulative or deceptive within the meaning of the statute." *Id.* at 177–78. "[A]n entity that plays a secondary role in a securities fraud case may be held liable as a primary violator." *City of Providence*, 878 F.3d at 51. But the exchange itself must have "participated in a fraudulent scheme." *Id.* (quoting *Fezzani v. Bear, Stearns & Co.*, 716 F.3d 18, 26 (2d Cir. 2013)).

Plaintiffs here essentially bring an aiding-and-abetting claim against Cboe while framing it as a claim of direct liability (as they must to bring a § 10(b) claim). Their theory is that Cboe knew that its products were vulnerable to manipulation and, later, that manipulation was occurring. By failing to act, plaintiffs say, Cboe allowed the Doe Defendants to manipulate the market, which caused plaintiffs harm. That is secondary-liability reasoning. *See Damato v. Hermanson*, 153 F.3d 464, 471 n.8 (7th Cir. 1998) (noting that aiding-and-abetting liability "reaches persons who do not engage in the proscribed activities at all, but who give a degree of aid to those who do" (quoting *Central Bank*, 511 U.S. at 176)). If adopted, plaintiffs' theory of scienter would impose aiding-and-abetting liability when such liability is not allowed under § 10(b).

In re Barclays Liquidity Cross & High Frequency Trading Litig., 390 F.Supp.3d 432 (S.D.N.Y. 2019) (*Barclays II*), is not as persuasive as plaintiffs argue. [281] at 29, 43. In that securities-fraud case, the plaintiffs alleged that several exchanges had participated in a manipulative scheme by enabling high-frequency trading firms to exploit loopholes in return for directing their trading activity to the defendant exchanges. The exchanges developed specific order types for those firms and marketed them exclusively to the HFTs. *Barclays II*, 390 F.Supp.3d at 451–52. The district court initially dismissed the securities-fraud claims because plaintiffs had alleged only that the exchanges had aided and abetted the primary violators of the Exchange Act (the HFT firms). *In re Barclays Liquidity Cross and High Frequency Trading Litig.*, 126 F.Supp.3d 342, 353–54 (S.D.N.Y. 2015) (*Barclays I*), *vacated and*

remanded sub nom. City of Providence v. Bats Glob. Markets, Inc., 878 F.3d 36 (2d Cir. 2017). The district court did not reach the issue of scienter. *Id.* at 361 n.6. The Second Circuit reversed, finding that plaintiffs had alleged more than aiding and abetting because "the exchanges were co-participants with HFT firms in the manipulative scheme and profited by that scheme." *City of Providence*, 878 F.3d at 51. On remand, the district court found that plaintiffs adequately alleged scienter, because the exchanges acted with the specific knowledge that the HFT firms would manipulate prices. *Barclays II,* 390 F.Supp.3d at 451. The inference of scienter was at least as compelling as a general profit motive. *Id.* at 452.

Here, by contrast, plaintiffs do not plead that Cboe was a coparticipant in any manipulation. Cboe did not conspire with the Doe Defendants, develop its formula to assist the Does' strategy of manipulation, or market any particular product exclusively to the Does, so Cboe's relationship to the Does is not comparable to the *Barclays* defendants' relationship with the HFT firms. Plaintiffs do not plausibly allege that Cboe knew who the Does were, let alone that Cboe worked with them to develop specific, exclusive products. Rather, plaintiffs allege that Cboe's flawed design allowed anonymous third parties to manipulate the settlement process and Cboe failed to correct it.

Plaintiffs compare the special order types that the *Barclays* defendants created for the HFTs with the safety bids that two firms used to manipulate the two-zero-bid rule in 2017 and 2019; plaintiffs categorize both as "manipulative abuses" of "special tools." [281] at 29. But Cboe fined traders that it discovered using safety bids to

compromise the settlement process. And plaintiffs do not plead that only certain traders had the ability to use safety bids. Theoretically, anyone who understood how to manipulate the two-zero-bid rule could have done so.

And plaintiffs' insistence that Cboe "cater[ed]" to a "select clientele" and a "privileged, sophisticated few," as the exchanges did in *Barclays*, is not compelling. [281] at 29, 42–43. First, in *Barclays*, the alleged manipulators were unambiguously defined as HFT firms. Here, plaintiffs cryptically refer to a group of privileged traders, but don't explain who makes up the group that Cboe allegedly was courting, or what special access Cboe afforded them, other than to generally identify them as manipulators. For example, plaintiffs say Cboe catered to manipulators by expanding the VIX franchise and marketing VIX products as safe. Nothing about those actions affords any exclusive information or product to manipulators; those are actions that Cboe took to expand its general profitability.

Likewise, plaintiffs make much of a presentation that Cboe gave to potential investors that referenced "trading opportunities" on settlement days. [281] at 36, 68 (citing [271] ¶¶ 164–66). But the presentation plaintiffs reference appears to have been public, not exclusive. And the slides are not alleged to be about the Does' method of manipulation, much less encouraging of it. That is, plaintiffs argue that Cboe was promoting the opportunity to trade on the difference between the SOQ settlement price and the VIX when the market opened. Plaintiffs point to that deviation as a consequence of the Does' manipulation, and argue that Cboe's encouragement of trading opportunities on that deviation is proof of scienter. But the complaint does

not allege that deviation between the opening VIX and the SOQ could only have been caused by fraud such that Cboe's knowledge of deviation provides a compelling inference of scienter. The presentation does not suffice to show that Cboe was knowingly pushing its products to commit fraud.

To determine whether plaintiffs have established scienter, I must consider plausible opposing inferences. *Tellabs*, 551 U.S. at 323. The more compelling inference here is that Cboe pursued a profit motive by making the VIX replicable, and any manipulation that occurred was unintentional or negligent (from Cboe's perspective). *See Pension Tr. Fund for Operating Engineers v. Kohl's Corp.*, 895 F.3d, 933, 941 (7th Cir. 2018) (finding inference of "negligent oversight" or "some other breakdown" a more compelling inference than wrongdoing). Plaintiffs have not pleaded facts supporting a strong inference of scienter.

3. Loss Causation

To state a private claim for securities fraud, plaintiffs must allege a causal connection between Cboe's fraudulent conduct and plaintiffs' alleged losses. *Dura Pharma. v. Broudo*, 544 U.S. 336 (2005). For the reasons discussed in more detail below in the context of actual damages under the CEA, plaintiffs have not adequately pleaded loss causation under the Securities Exchange Act. Plaintiffs have not plausibly alleged that the Doe Defendants' manipulation caused them to lose money. More specifically, plaintiffs allege that they held options to settlement on days when the Does manipulated the settlement process. But they do not identify in which direction the manipulation occurred or how it harmed them in any specific trade. In

the alternative, plaintiffs allege that the market was constantly manipulated due to the cumulative aftereffects of prior manipulative acts. But they do not identify whether the market was suppressed or inflated during any given transaction, so they fail to plead that any manipulation caused them harm.[8]

4. Preclusion, Timeliness, Immunity

Finally, Cboe argues that it cannot be liable for the design of the SOQ process because it created the formula in 2003, outside the repose period. Cboe also argues that the SEC's approval of the formula would preclude liability for its design, and that Cboe is immune from suit because it was acting in its capacity as a self-regulatory organization. I adhere to my original rulings against Cboe on these points. [245] at 12–17.

The Securities Exchange Act has a five-year statute of repose. 28 U.S.C. § 1658(b); *China Agritech, Inc. v. Resh*, 138 S. Ct. 1800, 1804 (2018). While a statute of limitations runs from when the cause of action accrues, a statute of repose begins to run on "the date of the last culpable act or omission of the defendant." *China Agritech*, 138 S. Ct. at 1804 n.1 (quoting *Cal. Public Emps.' Ret. Sys. v. ANZ Secs., Inc.*, 137 S. Ct. 2042, 2049 (2017)). The complaint was filed in 2019, and Cboe argues that plaintiffs' securities-fraud claim largely revolves around actions Cboe took in 2003 and 2004. But plaintiffs need not plead around affirmative defenses, such as a statute of repose, at the pleading stage. *See O'Gorman v. City of Chi.*, 777 F.3d 885,

[8] Cboe also argues that plaintiffs have failed to plead manipulation at all, but I do not reach that argument.

889 (7th Cir. 2015). And while some of plaintiffs' allegations involve acts that Cboe took in 2003 and 2004, they also allege an ongoing pattern of conduct, including Cboe's failure to address manipulation that occurred within the repose period. Many of plaintiffs' allegations involve trades they say harmed them over the course of several years, beginning in 2014. At this stage of the case, there would be no basis to dismiss the claim on statute-of-repose grounds.

Nor is the claim precluded. Cboe argues that the SEC expressly approved the SOQ formula and determined that it would not be susceptible to manipulation. [274] at 46–47. When a plaintiff challenges actions of a self-regulatory organization that are in accordance with rules approved by the SEC, "the challenge may be precluded because it would conflict with 'Congress's intent that the SEC, with its expertise in the operation of the securities markets, make the rules regulating those markets.'" *City of Providence*, 878 F.3d at 50 n.5 (quoting *Lanier v. Bats Exch., Inc.*, 838 F.3d 139, 155 (2d Cir. 2016)). Generally, whether regulatory action precludes a private right of action depends on Congress's intent when passing the relevant statute. *See Stewart v. Parkview Hosp.*, 940 F.3d 1013, 1015 (7th Cir. 2019). Here, Congress implied a private right of action in the Securities Exchange Act. *Cent Bank*, 511 U.S. at 173 ("Of course, a private plaintiff now may bring suit against violators of § 10(b)."). Though Congress intended the SEC to also oversee and approve an exchange's proposed rule changes, that oversight does not supersede the private right of action. The two complement each other.

Cboe is immune from liability for conduct in its regulatory capacity to enforce its rules and regulations. *See Standard Inv. Chartered, Inc. v. Nat'l Ass'n of Secs. Dealers, Inc.*, 637 F.3d 112, 116 (2d Cir. 2011). But plaintiffs base their securities-fraud claim on different, nonimmune acts: namely, Cboe's designing the SOQ settlement process, creating and promoting VIX-related products, and listing those products on the exchange. Cboe took these actions in its private capacity, with the goal of generating profit. The claim would survive Cboe's immunity argument. *See Weissman v. Nat'l Ass'n of Sec. Dealers, Inc.*, 500 F.3d 1293, 1299 (11th Cir. 2007) (holding an exchange's advertisements promoting a certain stock were not entitled to immunity).

B. The Commodity Exchange Act Claims

Plaintiffs allege that Cboe violated Section 25(b) of the CEA by failing to enforce its rules and prevent price manipulation.[9] The CEA requires registered entities to "enforce any bylaw, rule, regulation, or resolution that it is required to enforce" by Section 7, 7a–1, 7a–2, 7b–3, or 24a of the statute. For example, Section 7 requires boards of trade to "establish, monitor, and enforce compliance with the rules of the contract market," including "rules prohibiting abusive trade practices." 7 U.S.C. § 7(d)(2)(A)(iii). If a board of trade fails to enforce its rules, it "shall be liable for actual damages" sustained by anyone who engaged in a transaction subject to those rules, "to the extent of such person's actual losses that resulted from such transaction and were caused by such failure to enforce." 7 U.S.C. § 25(b)(1)(A). Thus,

[9] Section 22 of the CEA corresponds to Section 25 of Title 7 of the U.S. Code.

to state a claim under the CEA, plaintiffs must establish that Cboe failed to enforce a rule that it was required to enforce, and that plaintiffs suffered "actual losses" that "were caused by such failure to enforce." 7 U.S.C. § 25(b)(1)(A). Section 25(b)(4) requires plaintiffs to establish that Cboe "acted in bad faith in failing to take action." *See Bosco v. Serhant*, 836 F.2d 271, 276 (7th Cir. 1987).

Plaintiffs allege that Cboe failed to enforce its required rules prohibiting manipulation. [271] ¶ 223–24. Cboe moves to dismiss on the basis that plaintiffs' amended complaint fails to establish that it acted in bad faith, that plaintiffs suffered actual losses, and that Cboe's failure to enforce caused any alleged losses.

1. Bad Faith

The pleading requirements for bad faith turn on whether Cboe was exercising a discretionary power. *Bosco*, 836 F.2d at 278. If an exchange has no discretion to apply the rule to the alleged facts, plaintiffs can establish bad faith by pleading that the exchange should have known that its rule was being violated and failed to act, a negligence standard. *Id.* However, if an exchange acts within its discretion, the pleading standard is higher—the plaintiff must show that the exchange acted "unreasonably" or that it had an "improper motivation." *Id.*[10]

Cboe contends that the heightened bad-faith standard applies because interpretation was required to distinguish between manipulation and legitimate

[10] In the Second Circuit, plaintiffs must plead bad faith by alleging "that the exchange acted or failed to act with knowledge," and "that the exchange's action or inaction was the result of an ulterior motive." *Ryder Energy Distribution Corp. v. Merrill Lynch Commodities, Inc.*, 748 F.2d 774, 780 (2d Cir. 1984). In *Bosco*, 836 F.2d at 278, the court held that negligence in failing to enforce a nondiscretionary rule constituted bad faith under the statute. *Bosco* sets a lower bar for the meaning of "bad faith."

replication activity. [274] at 58. Plaintiffs argue that nothing in their amended complaint undermines my prior holding that they had sufficiently pleaded bad faith. I agree with plaintiffs.

The CEA provides that Cboe "shall list on the contract market only contracts that are not readily susceptible to manipulation" and that it "shall have the capacity and responsibility to prevent manipulation." 7 U.S.C. § 7(d)(3), (4). "The word 'shall' generally imposes a nondiscretionary duty." *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354 (2018). Moreover, Cboe's Rule 601 reads, "Any manipulation of the market in any Contract is prohibited." Since the statute and Cboe's own rules unambiguously require Cboe to prevent manipulation, Cboe was not exercising discretion if it allowed manipulation to occur and continue. Thus, plaintiffs need only plead that Cboe was negligent to establish bad faith.

Plaintiffs have adequately pleaded that Cboe should have known that the anti-manipulation rules were being flouted. Plaintiffs allege irregular trading activity in a number of ways that occurred around the time of the SOQ settlement process. For example, every settlement day, sales spiked in illiquid, out-of-the-money SPX options—the type of option with a disproportionately significant impact on the SOQ settlement process. The patterns plaintiffs identify were detectable, and Cboe had a duty to investigate and ensure that it was running a manipulation-free market. Under the lower pleading standard, plaintiffs' allegations suffice to support the inference that Cboe was acting in bad faith when it should have known about manipulation and did not enforce its ban on it.

2. *Actual Damages*

To plead actual damages under the CEA, a plaintiff must plausibly allege "(1) that she transacted in at least one commodity contract at a price that was lower or higher than it otherwise would have been absent the defendant's manipulations, and (2) that the manipulated prices were to the plaintiff's detriment." *Harry v. Total Gas & Power N. Am., Inc.*, 889 F.3d 104, 112 (2d Cir. 2018).

Cboe argues that plaintiffs' allegations of actual damages are insufficient because the allegations do not identify specific transactions, the direction of manipulation, or whether the named plaintiffs paid more or accepted less upon settlement. I agree with Cboe.

Plaintiffs offer two theories of actual damages. First, they identify days on which their data show the settlement process was manipulated, and assert that, on those days, several named plaintiffs held futures contracts to expiration.[11] As a result, they paid more or accepted less than they otherwise would have. Second, they allege that manipulation cumulatively affected the market over time—rather than just at the fleeting moment immediately before each settlement—so they suffered harm by transacting in a manipulated market. They submit these theories in the alternative.

Beginning with the episodic manipulation, plaintiffs identify three named plaintiffs—Victor Choa, FTC Capital, and LRI Invest—and list dates on which those

[11] Plaintiffs' CEA claims only implicate transactions in VIX futures (not options). [271] ¶¶ 321, 362, 366.

three plaintiffs held VIX futures to settlement; plaintiffs allege that manipulation occurred on those settlement dates. As a result of settling based on a manipulated price, Choa, FTC Capital, and LRI Invest were "forced to pay more (or accept less)" than they otherwise would have. [271] ¶¶ 251–52, 254.

Considered in the light most favorable to plaintiffs, these allegations come closest to stating a claim for actual damages. When plaintiffs allege episodic manipulation, they "need only allege that they engaged in a transaction at a time during which prices were artificial as a result of defendants' alleged trader-based manipulative conduct, and that the artificiality was adverse to their position." *In re LIBOR-Based Fin. Instruments Antitrust Litig.*, 962 F.Supp.2d 606, 622 (S.D.N.Y. 2013) (*LIBOR I*). Plaintiffs have plausibly pleaded that they transacted when prices were manipulated. They identify specific dates on which named plaintiffs held futures to expiration, and they allege that the SOQ process was manipulated on those dates. But plaintiffs do not say in which direction the settlement price artificially moved on any given date, nor whether any plaintiff specifically accepted less or paid more on those days. By not addressing the direction in which the manipulation occurred, plaintiffs have not established that any manipulation was "to the plaintiff's detriment." *Total Gas*, 889 F.3d at 112. Put differently, where the market was being manipulated "in different directions on different days," plaintiffs must "provide details of their own positions in the market" to state a claim under the CEA. *In re LIBOR-Based Fin. Instruments Antitrust Litig.*, 27 F.Supp.3d 447, 461 (S.D.N.Y.

2014) (*LIBOR III*) (denying motion to reconsider dismissal of CEA claims). The lack of directionality is fatal to the complaint.

Plaintiffs' alternative lasting-impact theory suffers from the same defect. Plaintiffs argue that manipulative acts generally have a lasting impact on the market, so manipulated information is baked into prices, and all future movements are from a new, artificial "baseline." But plaintiffs do not allege in which direction the baseline moved at any particular time. Alleging that the market was constantly artificial is too ambiguous to show that plaintiffs suffered a loss. To adequately plead damages under a lasting-impact theory, they would need to specify whether the market was constantly suppressed or inflated. *See, e.g.*, *In re Platinum and Palladium Antitrust Litig.*, No. 1:14-CV-9391-GHW, 2017 WL 1169626, at *29 (S.D.N.Y. Mar. 28, 2017) (finding plaintiffs pleaded actual damages under lasting-impact theory where they sold derivatives on days when defendants "suppressed" prices, and prices were "artificially low" throughout the class period); *In re Commodity Exch., Inc.*, 213 F.Supp.3d 631, 650, 667 (S.D.N.Y. 2016) (same, where plaintiffs alleged that defendants "artificially suppressed" the market so plaintiffs had to sell at "artificially depressed prices"); *In re London Silver Fixing, Ltd., Antitrust Litig.*, 213 F.Supp.3d 530, 564 (S.D.N.Y. 2016) (same).

Without alleging directionality (or some degree of price inflation or suppression), plaintiffs may not have suffered any net loss, because they could have entered their positions at artificial prices in one direction and exited them at artificial prices in the same direction, meaning they suffered the same loss or made the same

profit as they would have under legitimate pricing. Moreover, there may have been days when plaintiffs were helped by manipulation instead of harmed. That is, a plaintiff who sold when the market was inflated, or bought when the market was suppressed, may have benefited from the lasting impact of manipulation. *See Nguyen v. FXCM Inc.*, 364 F.Supp.3d 227, 239–41 (S.D.N.Y. 2019) (dismissing complaint because, where there "might have been days" that plaintiffs were "actually helped" by manipulation, "it is insufficient to allege that losses are conceivable without more particularity"); *Harry v. Total Gas & Power N. Am., Inc.*, 244 F.Supp.3d 402, 416 (S.D.N.Y. 2017), *aff'd as modified*, 889 F.3d 104 (2d Cir. 2018) (same).

Plaintiffs attempt to answer this problem with their "lasting-impact netted" hypothesis. They built and applied models to measure the effect on all transactions (opening, closing, settlement, and expiration) in certain contracts. By alleging that prices were artificial both at the entrance and exit point of a certain contract, plaintiffs argue that they have plausibly pleaded harm on a net basis. For example, plaintiffs point to their allegation that, on September 27, 2016, plaintiff Aaron entered into 135 purchase contracts for put VIX options expiring on October 19, 2016 with a strike price of 14. [281] at 54. So, plaintiffs say, Aaron was harmed on a "net" basis. But the complaint doesn't explain how Aaron was harmed, whether he lost money, or whether the market was artificially high or low when he exited or entered his position. As another example, plaintiffs suggest that "a Plaintiff that purchased when prices were artificially high and sold when prices were artificially low" would be harmed on "both ends." [281] at 55. But plaintiffs do not specifically allege that

any named plaintiffs bought when prices were artificially high and sold when prices were artificially low. Combining surface-level information about a named plaintiff with more specific information about a hypothetical plaintiff does not get plaintiffs over the plausibility hurdle. Plaintiffs have failed to state that they suffered damages to their detriment.

Plaintiffs attempt to circumvent directionality with regard to episodic manipulation by claiming it is "obvious" that, for each settlement date on which they allege manipulation occurred, plaintiffs mean the manipulation was in the direction adverse to each plaintiff's position. [281] at 46. I disagree that directionality is obvious from the complaint. The complaint alleges that manipulation could either inflate or suppress the SOQ settlement value. [271] ¶¶ 79–80. "Manipulation" or "artificiality" cannot be a catch-all for directionality and still give defendants notice of how a particular plaintiff was harmed by the fraud. Plaintiffs also point to a "table of directionality" in the complaint. [281] at 45 (citing [271] ¶ 270). That table explains, hypothetically, who would be harmed if manipulation occurred in a given direction. For example, a plaintiff who held long positions of VIX futures would be harmed when the settlement price was suppressed, whereas someone who held short positions of VIX futures would be harmed on settlement when the VIX was inflated. But the table doesn't mention any particular plaintiff or transaction, or specify when the settlement price was suppressed or inflated. The table is another way of generally saying that plaintiffs were harmed when prices were artificially high or low, but it doesn't sufficiently allege that any plaintiff suffered any specific harm.

Regarding their lasting-impact theory, plaintiffs acknowledge they have not pleaded directionality; they argue that "a cataloguing of directionality is not a pleading prerequisite," and that listing the direction of manipulation "would have done nothing but distract, with no actual benefit." [281] at 55–56. But without identifying the direction of manipulation, plaintiffs cannot plausibly plead that the manipulation was to their detriment, under either an episodic or persistent theory of manipulation. Their damages allegations are insufficient. *See, e.g.*, *Braman v. The CME Grp., Inc.*, 149 F.Supp.3d 874, 892 (N.D. Ill. 2015) (dismissing CEA complaint where plaintiffs alleged that they "purchased and/or sold futures contracts" during times defendant allowed a manipulated marketplace because a "generic version of a damages allegation is not enough to tie a concrete loss to any manipulation"); *see also Nguyen*, 364 F.Supp.3d at 239–41 (same, where plaintiffs' "damages claims [we]re too generalized and hypothetical to establish the requisite indication of loss suffered"); *Total Gas*, 244 F.Supp.3d at 416 (same, where plaintiffs failed to allege "a single specific transaction that lost value as a result of the defendants' alleged misconduct"); *cf. In re Term Commodities Cotton Futures Litig.*, 371 F.Supp.3d 95, 100 (S.D.N.Y. 2019) (finding plaintiff sufficiently alleged actual losses from manipulation where he purchased 57 contracts, defendants artificially inflated prices, and he lost $289,520 on the contracts, "indicating the detrimental impact of the market manipulation").

The cases plaintiffs rely on to support their claim that they have pleaded actual damages are inapposite. [281] at 50, 54. For example, they point to *In re Foreign Exch. Benchmark Rates Antitrust Litig.*, 74 F.Supp.3d 581, 595 (S.D.N.Y. 2015) and *Alaska*

Elec. Pension Fund v. Bank of Am. Corp., 175 F.Supp.3d 44, 53 (S.D.N.Y. 2016) for the proposition that less detail about actual damages is necessary at the pleading stage. [281] at 54. But both of those cases discuss the injury requirement in the context of standing. The actual-injury requirement under the CEA "looks very similar" to the injury-in-fact analysis used to determine standing, and courts have historically framed the actual-damages requirement under the CEA as a standing issue. *Total Gas*, 889 F.3d at 111. But actual injury is an "element of a substantive cause of action," so "the pleading requirements differ." *Id.* at 112. Injury under the CEA must be plausible, not just colorable. *Id.* Likewise, plaintiffs rely on *In re Commodity Exch. Inc*, 213 F.Supp.3d at 650–51 and *In re London Silver Fixing*, 213 F.Supp.3d at 549. But, as noted above, those cases are distinguishable because they include allegations of directionality; plaintiffs in both cases pleaded that manipulators suppressed the respective markets, causing plaintiffs to sell at depressed prices.

Plaintiffs attach an appendix to their complaint that offers more details about their trades. [281–1]. That appendix is based on 4,000 pages of data that plaintiffs submitted as an exhibit to their amended complaint. [263–1]. In reply, Cboe argues that I should disregard the appendix because it is a backdoor attempt to amend the complaint.

A complaint "may not be amended by the briefs in opposition to a motion to dismiss." *Agnew v. Nat'l Collegiate Athletic Ass'n*, 683 F.3d 328, 348 (7th Cir. 2012) (quoting *Thomason v. Nachtrieb*, 888 F.2d 1202, 1205 (7th Cir. 1989)). But plaintiffs

have "flexibility in opposing a Rule 12(b)(6) motion." *Geinosky v. City of Chi.*, 675 F.3d 743, 745 n.1 (7th Cir. 2012). That is, "nothing prevents a plaintiff opposing dismissal from elaborating on the complaint or even attaching materials to an opposition brief illustrating the facts the plaintiff expects to be able to prove." *Defender Sec. Co. v. First Mercury Ins. Co.*, 803 F.3d 327 (7th Cir. 2015); *see also Phillips v. Prudential Ins. Co. of Am.*, 714 F.3d 1017, 1020 (7th Cir. 2013) (noting that courts may consider "additional facts" in a response brief); *Geinosky*, 675 F.3d at 745 n.1 (noting that a party opposing a Rule 12(b)(6) motion "may submit materials outside the pleadings"). "[T]he flexibility is not without limitations." *Heng v. Heavner, Beyers & Mihlar, LLC*, 849 F.3d 348, 354 (7th Cir. 2017); *Epstein v. Epstein*, 843 F.3d 1147, 1151 n.5 (7th Cir. 2016) ("[T]his latitude is not unlimited."). In particular, attachments to a plaintiff's response to a motion to dismiss must be "consistent with the pleadings." *Heng*, 849 F.3d at 354 (quoting *Geinosky*, 675 F.3d at 745 n.1).

Here, plaintiffs' appendix provides details about plaintiffs' trades that are absent from the complaint. Specifically, the appendix offers examples of directionality (i.e., specific days on which manipulation caused the SOQ settlement process or the VIX to be suppressed or inflated). For example, the appendix asserts that plaintiff Victor Choa held two VIX futures to expiration on April 19, 2017; manipulation inflated the settlement price on that day, so Choa paid more than he otherwise would have. [281–1] at 7. But the amended complaint itself does not rely on the exhibit that the appendix is based on, and the complaint fails to allege directionality at all. And since the manipulative scheme affected prices in both directions, there is no way for

a defendant to know from the complaint whether or how Choa was harmed. Plaintiffs' appendix is thus not consistent with the pleadings. *See Heng*, 849 F.3d at 354 (affirming district court's decision to strike exhibit to plaintiff's response brief that was not material to or consistent with the complaint). Plaintiffs knew that they needed to plead directionality to show actual damages. *See* [245] at 28 ("Because plaintiffs do not assert that the market was constantly suppressed or inflated, their general allegations that they must have been harmed at some point are insufficient to state a claim."). Plaintiffs chose not to specify when the market was suppressed or inflated in their amended complaint, and instead argued in their response brief that directionality was unnecessary. That they opted to omit directionality allegations from their complaint, despite having access to the relevant data, confirms that the allegations in the appendix are inconsistent with plaintiffs' theory of the case as pleaded in the amended complaint. *See, e.g.*, *Epstein*, 843 F.3d at 1151 n.5 (disregarding theory presented for first time on appeal where plaintiff "took the opportunity to amend his complaint" and "could have included" the new allegation in the amended complaint). I do not consider the appendix.

In any event, as explained below, plaintiffs have not plausibly pleaded that it was Cboe's failure to enforce its rules that caused plaintiffs' alleged damages. So even if the appendix rehabilitated plaintiffs' actual-damages allegations and I allowed plaintiffs to amend yet again to allege the details in the appendix, I would still dismiss the CEA claim.

3. Causation

"[I]t is not enough for a plaintiff to show a CEA violation and damages." *S&A Farms, Inc. v. Farms.com, Inc.*, 678 F.3d 949, 953 (8th Cir. 2012). Rather, a plaintiff must show "that the CEA violation proximately caused the damages for which the plaintiff seeks relief." *Id.* (emphasis omitted); *see Wigod v. Chi. Mercantile Exch.*, 981 F.2d 1510, 1521–22 (7th Cir. 1992).

Cboe argues that plaintiffs have failed to plead that it was Cboe's failure to enforce its rules that caused their damages. Plaintiffs argue that if Cboe had been enforcing its rules, "a demonstrably strong regulatory regime would have helped prevent manipulation in the first place" and "an honest CBOE would not have forced traders to settle based on calculations it knew to be rigged." [281] at 61. Plaintiffs assert that the market's reaction to the FINRA investigation is proof that, had Cboe made certain changes, manipulation would have stopped. They do not argue that a single disciplinary action would have had any wider effect (or that Cboe would have refunded victims of manipulation), but that Cboe had affirmative obligations to prevent manipulation from occurring in the first place.

Plaintiffs' allegations that enforcement would have stopped manipulation are too vague and speculative to be plausible. Plaintiffs do not explain what form enforcement would have taken other than broad allegations that Cboe should have prevented manipulation from occurring. Though they disclaim that their theory of enforcement is that Cboe should have disciplined individual traders, the rules they say Cboe should have enforced are disciplinary rules that generally apply to

individual contracts and traders. For example, Rule 601 prohibits manipulation in "any Contract." Presumably, Cboe would have enforced those rules by disciplining violators on a contract-by-contract or trader-by-trader basis. And without tying any particular enforcement mechanism to any particular act of manipulation, it is too speculative to infer that enforcement would have had any widespread effect or avoided the alleged losses of the named plaintiffs. Plaintiffs allege elsewhere that Cboe could have prevented manipulation by designing the SOQ process differently, such as making the settlement window longer or not giving disproportionate weight to one, inexpensive option. But there is no allegation that redesign is an enforcement tool under Cboe's rules. The design and existence of the SOQ formula themselves didn't violate any of Cboe's rules, and plaintiffs don't argue that Cboe's rules required it to redesign the settlement process entirely. Plaintiffs thus fail to link their damages to Cboe's inaction.

In *Braman*, 149 F.Supp.3d at 885, plaintiffs alleged that two exchanges created a two-tiered market that allowed HFTs to exploit a loophole in the market; plaintiffs were suing "to hold the defendants liable for creating the circumstances in which such activity flourished." *Id.* at 885. In considering the plaintiffs' manipulation claim against the exchange under the CEA, which includes as an element that "defendants caused the artificial price," the court held that plaintiffs had failed to state a claim. *Id.* at 88–89. Any artificiality was "caused by the HFTs, not by the Exchange Defendants." *Id.* "[H]ad the HFTs not traded, there would have been no fluctuation in price because of anything the defendants did or did not do." *Id.*

So too here, if plaintiffs suffered damages, it was the Doe Defendants' manipulation of the market that caused their harm. If the Does had not manipulated the market, plaintiffs would not have lost money. It was not anything that Cboe "did or did not do" in its rule enforcement. *Id.* The suggestion that Cboe could have prevented these damages by enforcing its rules is too speculative to be plausible. *See, e.g.*, *Wigod*, 981 F.2d at 1521–22 (affirming summary judgment for exchange defendant where plaintiff's alleged injuries were "not a result of nonenforcement" of exchange rules, so plaintiff "suffered no actual injury from nonenforcement"); *In re London Silver Fixing Ltd. Antitrust Litig.*, 332 F.Supp.3d 885, 923 (S.D.N.Y. 2018) (dismissing CEA manipulation claim where court was required to draw "numerous inferences" to "connect" defendants' "manipulative conduct to Plaintiffs' alleged injury"); *see also Troyer v. Nat'l Futures Ass'n*, No. 1:16-cv-00146-SLC, 2019 WL 4695524, at *16–18 (N.D. Ind. Sept. 26, 2019) (granting summary judgment for defendant in failure-to-enforce claim under the CEA on grounds that plaintiff failed to show that defendant's actions "proximately caused" plaintiff's losses).

Nor do the purported effects of the FINRA investigation prove that Cboe's failure to enforce its rules caused plaintiffs' injuries. Plaintiffs allege that, after the media reported that FINRA was investigating manipulation in 2018, data show that the irregular trading volume in certain options on settlement days lessened. [271] ¶¶ 132–40. But that manipulators reacted a certain way to a government investigation, or at least news reports of one, does not mean that manipulators would have reacted the same way to Cboe enforcing its rules against individual traders.

After all, plaintiffs do not allege that manipulative patterns changed after Cboe enforced its rules against other trading firms for disruptive trading.

Plaintiffs argue that to find no causation here would nullify the private right of action under the CEA. I disagree. The scope of the private right of action is set by the statute, and it requires the bad-faith failure to enforce rules to be the cause of plaintiffs' damages. Applying that causation requirement is entirely consistent with the private right of action.

4. Secondary-Liability Claims

Cboe also moves to dismiss plaintiffs' secondary-liability claims. In Claim VIII, plaintiffs allege aiding and abetting manipulation against all defendants (including the Does) except Cboe Futures. [271] ¶¶ 365–68. Plaintiffs argue that Cboe Global and Cboe Options are liable for the violation of Cboe Futures. [281] at 67.

The CEA provides that any person "who willfully aids [or] abets" a CEA violation "may be held responsible for such violation as a principal." 7 U.S.C. § 13c(a). To state a claim for aiding and abetting liability, plaintiffs must allege that Cboe Global and Cboe Options (1) knew of the principal's intent to violate the act, (2) intended to further that violation, and (3) committed some act in furtherance of the principal's objective. *Damato*, 153 F.3d at 473.

Plaintiffs do not adequately allege any of those elements. Plaintiffs' allegations that Cboe (treated collectively by the complaint without parsing Cboe Options's or Cboe Global's knowledge) knew that manipulation was occurring do not state a claim, because even if Cboe Options and Cboe Global knew about the Does' manipulation,

that does not suggest that they knew that Cboe Futures intended to not regulate that conduct. And as discussed above, plaintiffs have not plausibly alleged that Cboe derived any benefit from manipulation or had any interest in manipulation continuing. *See, e.g.*, *Nicholas v. Saul Stone & Co. LLC*, 224 F.3d 179, 189–90 (3d Cir. 2000) (upholding dismissal of CEA aiding-and-abetting claim where plaintiffs pleaded defendants' knowledge but failed to allege that defendants intended to further the violation). The complaint alleges that Cboe's interest and benefit derived from replicability, not manipulation, so it is not reasonably inferred that Cboe Options and Global intended to further the Does' manipulation or some purposeful regulatory abandonment by Cboe Futures. Finally, plaintiffs do not identify what act the alleged aiders and abettors took to further the principal's objective. Even drawing all inferences in plaintiffs' favor, Cboe's participation was at most knowingly allowing manipulation to continue; passive enabling is not an act in furtherance of the principal's objective.

Plaintiffs also bring a principal-agent claim under the CEA against all defendants (including the Does). [271] ¶¶ 361–64. The CEA provides that the "act, omission, or failure" of any "official, agent, or other person acting … within the scope of his employment or office" shall be considered "the act, omission, or failure of such individual, association, partnership, corporation, or trust, as well as of such official, agent, or other person." 7 U.S.C. § 2(a)(1)(B).

Plaintiffs argue that the VIX franchise operated as an "integrated whole," so all of the Cboe defendants were each other's agents. [281] at 67. They also argue that

Cboe entities are responsible for the acts of their employees. Cboe argues that these allegations are not sufficiently specific to put Cboe on notice of who is the principal and who is the agent. [282] at 33.

Plaintiffs need not specify at this stage which defendant was responsible for which acts. *See Jepson, Inc. v. Makita Corp.*, 34 F.3d 1321, 1328–29 (7th Cir. 1994). But a principal-agent claim is "viable only where an underlying primary violation of the CEA can survive a motion to dismiss." *Sonterra Capital Master Fund, Ltd. v. Barclays Bank PLC*, 366 F.Supp.3d 516, 554 (S.D.N.Y. 2018). Here, plaintiffs do not argue that the Cboe entities were agents of the Does, but that the Cboe entities were each other's agents. *See* [281] at 67. Since plaintiffs have not stated an underlying CEA claim against a Cboe entity, there can be no claim against another Cboe entity as an agent. The principal-agent claim is dismissed.

IV. Conclusion

Cboe's motion to dismiss, [273], is granted. All counts against Cboe are dismissed with prejudice.[12] A status hearing is set for February 6, 2020 at 11:00 a.m.

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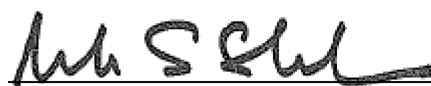

Manish S. Shah
United States District Judge

Date: January 27, 2020

[12] Leave to amend should be freely given, but plaintiffs have amended the complaint and marshaled significant resources to investigate the claims. There is no reason to think that plaintiffs could allege anything in a third complaint that would change the outcome of their case against Cboe.