

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

THOMAS J. SANDUSKI, INDIVIDUALLY
AND ON BEHALF OF ALL THOSE
SIMILARLY SITUATED,

Plaintiff,

v.

JOHN DOES,

Defendants.

Civil Action No. 1:18-cv-02552 (AT) (SN)

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

Plaintiff Thomas J. Sanduski (“Plaintiff”) files this civil action pursuant to Section 1 of the Sherman Act, Section 4 of the Clayton Act, the Commodity Exchange Act, and Rule 23 of the Federal Rules of Civil Procedure, for damages, costs of suit, injunctive relief and other relief as may be just and proper, on behalf of itself and classes of those similarly situated (“Class” as defined below) against John Does, for their illegal manipulation of the Chicago Board Options Exchange (“CBOE”) Volatility Index (“VIX”).

Based upon personal knowledge, information, belief, and investigation of counsel, Plaintiff specifically alleges as follows.

1. VIX is a widely-used measure of the stock market’s expectations as to volatility, derived from the market prices of certain S&P 500 index options (“SPX Options”). CBOE describes VIX as follows:

The Cboe Volatility Index[®] (VIX[®] Index[®]) is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. Since its introduction in 1993, the VIX Index has been considered by many to be the world's premier barometer of investor sentiment and market volatility. Several investors expressed interest in trading instruments related to the market's expectation of future volatility, and so VX futures were introduced in 2004, and VIX options were introduced in 2006.

Options and futures on volatility indexes are available for investors who wish to explore the use of instruments that might have the potential to diversify portfolios in times of market stress.¹

2. Since investors cannot invest directly in VIX, interest in financial instruments related to expected market volatility spawned the creation of VIX-linked futures (“VIX Futures”) in 2004 and VIX-linked options (“VIX Options”) in 2006. VIX Options trade on the CBOE. VIX Futures trade on the CBOE Futures Exchange (“CFE”). During the relevant period, trading in

¹ <http://www.cboe.com/products/vix-index-volatility/vix-options-and-futures/vix-index>.

VIX Futures and VIX Options grew exponentially, such that the daily trading volume for each is in the hundreds of thousands of contracts.

3. There has also been a proliferation of trading in VIX-linked Exchange Traded Products (“VIX ETPs”), a category that includes products such as exchange-traded funds (“ETFs”) and exchange-traded notes (“ETNs”), which are instruments that track VIX futures but are traded on public exchanges.

4. VIX estimates expected volatility in the S&P 500 by averaging the weighted prices of SPX Options over a wide range of strike prices. SPX Options are correlated with volatility. As investors’ expectation of volatility in the near future change, the price of SPX Options correspondingly change to reflect the risk of those options due to the size of expected fluctuations in the S&P 500.

5. CBOE describes the means by which it calculates VIX as follows:

The final settlement value [of VIX Derivatives] is calculated from actual opening prices of S&P 500 Index (SPX or SPX Weekly) options. . . . The final settlement value for VIX futures and options is a Special Opening Quotation (SOQ) of the VIX Index calculated using opening prices of constituent SPX or SPX Weekly options that expire 30 days after the relevant VIX expiration date. For example, the final settlement value for VIX derivatives expiring on January 21, 2016 will be calculated using SPX options that expire 30 days later on February 20, 2016. If there is no opening trade, the opening price is the average of an option’s bid and ask price determined at the open.

Opening Procedures for VIX Derivatives on Expiration Days

On expiration days for VIX derivatives, Cboe utilizes a modified Hybrid Opening System (HOSS) that facilitates a single-price open for SPX and SPX Weekly option series. . . . All orders (including customer and professional) are eligible to rest in the book in order to participate in the modified HOSS opening auction.²

² <http://cfe.cboe.com/cfe-products/vx-cboe-volatility-index-vix-futures/settlement-information-for-vix-derivatives>.

6. The SOQ is highly susceptible to manipulation for several reasons, including, but not limited to, the fact that it is calculated during a fixed, short window during non-trading hours. Over the past year, evidence has become publicly available that strongly suggests, if not establishes, manipulation of the VIX SOQ to influence the pricing of VIX Options, VIX Futures, and VIX ETPs (collectively, “VIX Instruments”).

7. In May 2017, Professor John Griffin of the McCombs School of Business at The University of Texas Austin published a research paper (the “Griffin Paper”) titled Manipulation in the VIX? According to the Griffin Paper, a trader could readily manipulate the VIX settlement by doing the following: (1) opening long positions in the VIX derivatives prior to settlement; (2) submitting aggressive buy or sell orders in the SPX options during the settlement auction, thereby causing the auction-clearing prices of SPX options, and by extension, the VIX settlement price to rise or fall; and (3) obtaining the higher or lower price desired for the VIX Futures or Options when they settle. Traders colluding with one another can manipulate the VIX either up or down without the risk that counteracting market movements will offset or negate their gains.

8. The VIX manipulation described herein is undertaken by certain financial institutions and trading firms with sophisticated, expensive technology, which allows Defendants to post offers and bids or enter into contracts on SPX Options collusively during the limited time window in which those options influence the SOQ settlement price of VIX Futures and VIX Options, and thereby generate supracompetitive profits for their much larger positions in VIX Futures and VIX Options.

9. Plaintiff cannot yet identify Defendants because CBOE is the exclusive provider of SPX Options and does not disclose the identities of traders. Plaintiff believes that Defendants also own a variety of VIX ETPs, the performance of which is directly tied to the VIX. The same

conduct by which Defendants manipulate the VIX generates supracompetitive profits for the Defendants in their respective VIX ETPs.

10. This manipulation of the VIX has caused billions of dollars in losses for other investors in VIX Instruments during the proposed Class Period.

JURISDICTION AND VENUE

11. This action arises under sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, and section 4 of the Clayton Act, 15 U.S.C. § 15(a), and the Commodity Exchange Act, 7 U.S.C. § 1 *et seq.*, and seeks to recover treble damages, costs of suit, injunctive relief, and reasonable attorneys' fees for the injuries sustained by Plaintiff and members of the Class resulting from Defendants' successful efforts to restrain trade in the United States. The Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1337(a), 1407, and 15 U.S.C. § 15.

12. Venue is proper in this District pursuant to 15 U.S.C. §§ 15(a), 22 and 28 U.S.C. §§ 1391(b), (c), and (d) because, during the Class Period, Defendants resided, transacted business, were found, or had agents in this District, and a substantial portion of their activity that affected the interstate trade and commerce discussed below has been carried out in this District.

13. During the Class Period, Defendants traded VIX-linked products in a continuous and uninterrupted flow of interstate commerce, including in this District. Defendants' conduct had direct, substantial, and reasonably foreseeable effects on interstate commerce in the United States, including in this District.

14. This Court has *in personam* jurisdiction over Defendants because they, either directly or through the ownership and/or control of their subsidiaries, *inter alia*: (a) transacted business throughout the United States, including in this District; (b) participated in trading VIX-linked products throughout the United States, including in this District; (c) had and maintained

substantial aggregate contacts with the United States as a whole, including in this District; or (d) were engaged in an anti-competitive and otherwise illegal conduct that was directed at, and had a direct, substantial, reasonably foreseeable and intended effect of causing injury to, the business or property of persons and entities residing in, located in, or doing business throughout the United States, including in this District. Defendants also conduct business throughout the United States, including in this District, and have purposefully availed themselves of the laws of the United States.

15. By reason of the unlawful conduct alleged herein, Defendants substantially affected commerce throughout the United States, causing injury to Plaintiff and members of the Class. Defendants, directly and through their agents, engaged in activities affecting all states, to restrict output and fix, raise, maintain and/or stabilize prices in the United States for VIX-linked products, which unreasonably restrained trade and adversely affected the markets for VIX-linked products.

16. Defendants' unlawful conduct described herein adversely affected persons and entities in the United States who traded VIX-linked products, including Plaintiff and the members of the Class.

PARTIES

17. Plaintiff Thomas J. Sanduski transacted in the iPath S&P 500 VIX ST Futures ETN (ticker symbol VXX) during the Class Period and has been injured in his business or property by reason of Defendants' violations of law as alleged herein.

18. Plaintiff does not know the precise number of Defendants but, based on the nature of the manipulative conduct alleged herein, believes that Defendants are a group of financial institutions, market makers, and/or traders on the CBOE. As a result, non-party Cboe Global

Markets, Inc. (“Cboe Global Markets”)—the publisher of VIX and operator of the CBOE and CFE exchanges—is in possession of information capable of specifically identifying Defendants and, thus, Plaintiff will be able to identify Defendants through discovery. Plaintiff will request leave to amend this complaint upon learning the identity of Defendants.

CLASS ALLEGATIONS

19. Plaintiff brings this action on behalf of himself and, pursuant to Federal Rules of Civil Procedure 23(a) and 23(b)(3), as representative of a class (the “Class”) defined as follows:

All persons or entities who transacted in VIX derivatives from January 1, 2010 through the present (the “Class Period”).

20. Excluded from the Class are Defendants; the officers, directors, or employees of any Defendant; any entity in which any Defendant has a controlling interest; any affiliate, legal representative, heir, or assign of any Defendant and any person acting on their behalf. Also excluded from the Class are any judicial officers presiding over this action and the members of his/her immediate family and judicial staff, and any juror assigned to this action.

21. The Class Members are so numerous and geographically dispersed that joinder of all members is impracticable.

22. The Class are readily ascertainable and are ones for which records should exist, including, specifically, Defendants’ records and transaction data.

23. Plaintiff’s claims are typical of the claims of the other Class Members. Plaintiff and other Class Members have all sustained damage in that, during the Class Period, they transacted in VIX ETPs at artificially maintained, non-competitive prices, established by Defendants’ actions in connection with the violations alleged herein.

24. Plaintiff will fairly and adequately protect the interests of all Class Members. Plaintiff has transacted in VIX ETPs. Plaintiff has retained counsel competent and experienced in class

action and antitrust litigation. Plaintiff's interests are coincident with, and not antagonistic to, the interests of the other Class Members.

25. Common questions of law and fact exist with respect to all Class Members and predominate over any questions solely affecting individual members. The common legal and factual questions, which do not vary among Class Members include, but are not limited to, the following:

- whether Defendants engaged in a conspiracy with each other to manipulate the prices of VIX Instruments;
- whether Defendants' conduct is a per se violation of Section 1 of the Sherman Act;
- whether Defendants' conduct constitutes manipulation under the Commodity Exchange Act ("CEA");
- the identities of the Defendants involved in the conspiracy; and
- the appropriate class-wide measure of damages.

26. A class action is superior to any other method for the fair and efficient adjudication of these issues, as joinder of all members is impracticable. The damages suffered by many Class Members are small in relation to the expense and burden of individual litigation, and therefore, it is highly impractical for such Class Members to individually attempt to redress the wrongful anticompetitive conduct alleged herein.

FACTUAL BACKGROUND

The VIX Benchmark

27. VIX is a benchmark index that measures the 30-day expected volatility of the S&P 500 Index for large-cap U.S. stocks. VIX is calculated and published by CBOE every fifteen

seconds during CBOE's regular and extended trading hours, based on the prices of certain "put" and "call" SPX Options traded during those time periods.

28. VIX relies on the price of SPX Options to predict near-term volatility because one component in the price of SPX Options is an estimate of how volatile the S&P 500 will be between the present and the option's expiration date, relying on the idea that the volatility the market expects in the S&P 500 over the next 30 days can be estimated from SPX Option prices settling around 30 days from the present. If expected near-term future volatility (and thus swings in the market price of the S&P 500) is high, SPX Options (which serve as a means to hedge against large swings in the price of the S&P 500) are more valuable and thus more expensive. If expected near-term future volatility is low, the benefits of holding SPX Options to hedge against swings in the S&P 500 is lower, and therefore the prices of SPX Options are also lower.

29. The data used for VIX calculation are trades of near- and next-term put and call SPX Options with more than 23 days and less than 37 days to expiration; if there is no traded price for a given SPX Option, the average of the bid and ask price of near- and next-term put and call options with more than 23 days and less than 37 days to expiration is used instead.

30. Once each week, the SPX options used to calculate VIX "roll" to new contract maturities in order to maintain the 30-day expectation of volatility measured by the index. For example, on the second Tuesday in September, the VIX index would be calculated using SPX options expiring 24 days later (i.e., "near-term") and 31 days later (i.e., "next-term"). On the following day, the SPX options that expire in 30 calendar days would become the "near-term" options and SPX options that expire in 37 calendar days would become the "next-term" options, thereby maintaining the "more than 23 days and less than 37 days to expiration" window.

31. Only “out-of-the-money” options that have non-zero bids are included. A put option is out of the money when the strike price of the option is lower than the market price of the underlying asset. A call option is out of the money when the strike price of the option is higher than the market price of the underlying asset.

32. The selection of strikes goes from the at-the-money strike up (for calls) and down (for puts), until two consecutive strikes with zero-bid prices are found in each direction. No other options beyond those strikes are included.

33. The means by which VIX is established is otherwise decidedly opaque. For example, with the exception of Goldman Sachs, CBOE has never disclosed the identities of the entities it consulted in either establishing or modifying the means by which VIX is established.

34. Moreover, CBOE does not disclose whether or when market-makers involved in the SOQ settlement process know the identities of the counterparties to their transactions. Those counterparties might be revealed concurrent with the initial “fills,” on a delayed basis, or never at all. They might be identified by name, or based strictly on a “customer type indicator.”

VIX Futures and VIX Options

35. Because investors cannot trade the VIX directly, CBOE was required to create VIX-related products if it wanted to monetize the VIX and utilize it as a directly traded benchmark. Futures and options are types of contracts that CBOE is authorized to create and offer as a board of trade designated as a contract market under the Commodity Exchange Act. However, CBOE can only list contracts “that are not readily susceptible to manipulation.” 7 U.S.C. § 7(d)(3).

36. VIX Futures are a type of futures known as financial futures. “Financial futures usually take the form of a contract that depends on the value of an index at some future date.” *Board of Trade of City of Chicago v. SEC*, 187 F.3d 713, 715 (7th Cir. 1999). The seller (known

as the “short” position) of a financial futures contract that is based on the value of a specified index might promise to sell 100 times the value of that index on a defined future date (the “settlement date”), and the buyer (known as the “long” position) will be offered that price on that date.

37. The parties may close their positions in the financial futures contract at any time before the settlement date by buying or selling an offsetting obligation. Alternatively, they can hold the financial futures contract through the settlement date, at which point the long position can either receive cash from, or pay cash to, the short position, depending on whether the price it agreed to pay for the financial futures contract is above or below the price of the specified index at the time of settlement (the “spot price”).

38. The price of a VIX Future will increase if market expectations for volatility increase above current expectations (as reflected by the current VIX price) and will decrease if market expectations for volatility decrease below current levels (as reflected by the current VIX price).

CBOE offers an explanation:

Assume, for example that today is August 10 and the VIX index is 20. If market expectations are for 30-day implied volatility to be higher than 20 in October and lower than 20 in December, then October VIX futures will be trading at a level above 20 and December VIX futures will be trading below 20.

39. Investors can also take positions that have exposure to underlying VIX Futures by trading VIX Options. VIX Options can be either call or put options.

40. A VIX call option gives the holder the right, but not the obligation, to buy a particular VIX Futures Contract at a specified price, known as the “strike price,” at some predetermined date in the future. The option to purchase the contract is said to “expire” upon the future date in question. An investor typically buys a VIX call option when he expects the price of the corresponding VIX Future to rise above the call’s strike price.

41. Conversely, a VIX put option gives the holder the right, but not the obligation, to sell a VIX Futures Contract at the strike price on the date it expires. The buyer of a VIX put option will be “in-the-money” if the price of the corresponding VIX Futures price drops below the put’s strike price.

42. CBOE launched VIX Futures in 2004 for exclusive trading on the CFE, and launched VIX Options in 2006 for exclusive trading on the Chicago Board Options Exchange. Both of those instruments remain exclusive to CBOE.

The Settlement of VIX Futures and Options

43. As discussed above, the final settlement value for VIX Futures and Options is not determined the same way as the standard VIX benchmark calculation. Rather, final settlements are derived from a modified calculation known as the Special Opening Quotation or SOQ. The SOQ is calculated using the auction clearing prices of SPX options.

44. The settlement of standard (i.e., 30-day) VIX Futures and Options contracts generally occurs on the third or fourth Wednesday of each month that is 30 days prior to the third Friday of the calendar month immediately following the month in which the contract expires. For example, July 2010 VIX Futures contracts settled on Wednesday, July 21, 2010, which was 30 days prior to Friday August 20, 2010.

45. CBOE’s proprietary auction mechanism, known as the Hybrid Opening System or HOSS, determines opening prices for an SPX option series used in calculating the SOQ of VIX Futures and Options. To determine the opening price, HOSS matches buy and sell orders residing on the electronic order book immediately prior to market open. The algorithm matches trades on a *pro rata* basis. The opening price for any option series in which there is no trade is the average of that option’s bid price and ask price as determined at the opening of trading.

46. During a 50-minute period prior to the opening of normal trading hours, SPX Options orders are included in the settlement calculation for VIX Options and Futures on the day of settlement of the underlying contract. Between 8:20 a.m. CST and 8:30 a.m. CST, strategy orders—defined as SPX option orders that are related to positions in VIX derivatives and span over a wide range of strikes with 30 days to maturity—can no longer be submitted or cancelled. Only orders unrelated to outstanding VIX positions can be submitted after 8:20 a.m. CST. At 8:30 a.m., the prices of SPX Options from this window that meet the criteria for involvement in the VIX calculation are used to determine the SOQ value.

47. The settlement price determined by the SOQ is based on a formula similar to the spot VIX benchmark. The forward SPX price is decided by the strike which has the smallest absolute difference in price between the calls and puts. It then selects strikes using the forward SPX level to determine which puts and calls are included in the calculation the same as with the spot VIX benchmark until it reaches two consecutive zero bid strikes (see paragraph 30, *supra*). Using just those strikes and forward level, the settlement price is determined through application of the same formula used to calculate the spot VIX index.

48. The settlement of VIX Futures and Options is, like the settlement of VIX itself, decidedly opaque. For example, the identities of Lead Market-Makers, Designated Primary Market-Makers, creation/redemption agents and specialists with respect to these products—titles which confer privileges above and beyond those available to other traders—are all unavailable to the general public.

VIX Exchange-Traded Products

49. Exchange-traded products (ETPs) are a type of security that is derivatively priced and trades intra-day on a national securities exchange. ETPs are “hybrid instruments” under the

Commodity Exchange Act (7 U.S.C. § 1(29)), priced so that their values are derived from other investment instruments, such as a commodities, currencies, share prices or interest rates.

Generally, ETPs are benchmarked to stocks, commodities, or indices. They can also be actively managed funds. ETPs include exchange-traded funds (ETFs), exchange-traded vehicles (ETVs), exchange-traded notes (ETNs) and certificates. ETPs are traded on exchanges (like the New York Stock Exchange), and thus can be bought and sold by individual investors as easily as any share of common stock. Exchange-traded funds and notes tied to the VIX are worth approximately \$3.5 billion.³

50. VIX trading grew substantially in the wake of the financial crisis of 2007-08. For example, between January 1, 2004 and December 31, 2006, the VIX never climbed above 24 at any time. However, while U.S. financial markets were generally declining at substantial rates during the financial crisis, the VIX was growing. Between January 1, 2007 and December 31, 2009, the VIX closed above 24 on nearly half of all trading days, closing at an all-time high of 80.86 on November 20, 2008.

51. Recognizing this as an opportunity, Barclays plc devised a product that was ostensibly more appealing to a wider investing audience. The bank created the first VIX ETP: an instrument that tracks VIX futures, but which trades on an exchange like any corporate stock. The Barclays iPath S&P 500 VIX Short-Term Futures ETN launched in 2009. That instrument, along with other VIX ETPs that quickly followed, attracted a massive influx of investors thanks to being readily available for trading on public exchanges.

³ See Nick Baker and Cecile Vannucci, “What If Someone Is Really Gaming the VIX?,” Bloomberg, Feb. 13, 2018, available at <https://www.bloomberg.com/news/articles/2018-02-14/billions-in-vix-rigging-profits-a-battered-index-takes-new-hit>.

Defendants Conspired to Fix the Prices of VIX Instruments

52. The method by which VIX is calculated is particularly vulnerable to manipulation. If a VIX trader is long VIX futures, he can push the VIX up by buying out-of-the-money SPX options. Likewise, if he is short VIX futures, he can push the settlement down by colluding with other VIX traders to sell or write out-of-the-money SPX Options. Moreover, the volume of trading in SPX Options is decidedly small as compared to trading in VIX Options and VIX Futures in general, and more so in that the trading by which VIX is set is limited to short time period. Although market participants can enter into trades of SPX options for legitimate purposes, a variety of emerging information indicates that such trades have often been executed manipulatively by the Defendants acting in concert.

53. Defendants use the access granted to them by CBOE as “market makers” in the S&P 500 options market to collude amongst themselves to affect the VIX Index calculation, resulting in the VIX settlement occurring at an artificial price.

54. In recent years, market participants, journalists, and academics have suggested that VIX is being manipulated by certain players to the detriment of others. Analyzing trade data from January 2008 through April 2015, the Griffin Paper’s findings suggest that traders deliberately engaged in trading activity directed at pushing the settlement price both up and down. For example, in months where the trading pushes the VIX settlement price up, the prevailing price of the VIX-influencing options will jump during the SOQ auction, peak at around 8:15 a.m. (i.e., the deadline for VIX-related bids to be accepted for the SOQ prior to January 2017), and then drop seconds after the auction ends, when SPX Options revert to normal trading patterns.

55. The Griffin Paper also found that that “at the exact time of monthly VIX settlement [for VIX Futures and VIX Options], highly statistically and economically significant trading volume spikes occur in the underlying SPX options” and that the “spikes occur only in the [out-of-the-money] SPX options that are included in the VIX [S]ettlement [Price] calculation and not in the excluded in-the-money (ITM) SPX options.”

56. Tellingly, the spike in out-of-the-money SPX Options during the settlement window occurs principally in rarely-traded SPX Options that are priced the furthest out of the money, and have a significant artificial impact on the VIX Settlement Price.

57. Strong evidence of collusion is reflected in fluctuations between (a) the VIX benchmark at the day’s prior close, (b) the SOQ settlement value, and (c) the VIX benchmark at the open of the day immediately following the SOQ calculation window – and, most importantly, through the direction in which the VIX was manipulated.

58. It would substantially more difficult for a single entity to manipulate the VIX downward independently because it requires selling out-of-the-money puts during the SOQ calculation window. Manipulators must use significant amounts of money and have sufficient margin limits to write and sell SPX Options cheaply themselves. Thus, doing so requires multiple large institutional players, and could only be achieved by SPX Options market makers and others acting in concert, where if any one of them was not cooperating, the entire enterprise would fail and the SPX Options market makers would incur significant losses.

59. During the relevant period, there are multiple instances of the SOQ having a lower value than both the previous day’s close of the VIX and the opening of the VIX immediately after the SOQ. Remarkably, in some instances, the SOQ was pushed lower right before the opening of the VIX even when the VIX opened higher than it closed at the day before. In

addition, the value of the SOQ, through the activity of SPX Options market makers and others, repeatedly settled at a value that was outside the entire range of the VIX both on the day before the SOQ and the same day of the SOQ. These repeated anomalous settlement values could have only occurred through multiple parties acting in concert to trade at artificial prices.

60. For example, on March 19, 2013, the VIX closed at 14.39. By the next day, based on activity in just the relatively illiquid SPX Options market, the SOQ was 12.64, a decrease of 12.16%. Upon the VIX opening immediately after the SOQ that same day, however, the VIX had returned to 13.18, representing a 4.27% increase from the SOQ value.

61. On April 20, 2016, there was similar behavior indicative of collusion to drive down the SOQ. On April 19, 2016, the VIX closed at 13.24. By settlement on the morning of April 20, 2016, the SOQ was 12.38, a decrease of 6.5%. Upon the opening of the VIX immediately after the SOQ, however, the VIX had jumped back up to 13.39, representing an 8.16% increase from the SOQ value, and higher than the previous day's close.

62. On September 20, 2016, the VIX closed at 15.92. By settlement the following morning, the SOQ was 14.92, a decrease of 6.28%. At the opening of the VIX immediately after, however, the VIX was 15.07, representing a 1.01% increase from the SOQ value.

63. On October 18, 2016, the VIX closed at 15.28. By settlement the following morning, the SOQ was 14.56, a decrease of 4.7%. At the opening of the VIX immediately after, however, the VIX had not only returned to its prior closing level, it was higher at 15.45, representing a 6.1% increase from the SOQ value.

64. Again, on December 19, 2017, the VIX closed at 10.03. By settlement the following morning, the SOQ was 8.75, a decrease of 12.76%. Upon the VIX opening immediately after the

SOQ that same day, however, the VIX had returned to 9.69, representing a 10.74% increase from the SOQ value.

65. Finally, on February 13, 2018, the VIX closed at 24.97. By settlement the following morning, the SOQ was 21.87, a decrease of 12.41%. Upon the VIX opening immediately after the SOQ, however, the VIX had moved upwards 23.48, representing a 7.36% increase from the SOQ value.

66. This type of manipulation, which is contrary to both the pre-SOQ period closing and post-SOQ opening VIX levels, requires multiple traders working in collusion, including at least some SPX Option market makers to drive down SPX options prices.

Investigations and Complaints

67. On February 5, 2018, the Dow Jones Industrial Average suffered its largest-ever one-day point decline. As a consequence, VIX increased 116% that day alone.

68. This dramatic increase in VIX led to massive losses in VIX ETPs, particularly inverse ETPs that are negatively correlated to the VIX. This VIX movement triggered rules that halted trading in nearly a dozen ETPs. For example, Credit Suisse's VelocityShares Daily Inverse VIX Short-Term ETN (trading under the symbol XIV) had an opening price on February 5, 2018 of \$108.37, representing a total value of at least \$1.63 billion (and perhaps as much as \$1.8 billion) according to contemporaneous reports. According to a February 9, 2018 Bloomberg article, "[o]ver the next two days [XIV's] value declined by 95 percent, to an indicative value of \$80 million at the close of trading on Tuesday [February 6]." This resulted from the above-mentioned 116% increase in the VIX on February 5, which caused a corresponding inverse decline in XIV, and led Credit Suisse to announce that it would liquidate XIV in a termination cash payout on February 21, 2018 at a price of \$6.04 per share, or about \$90 million in total

value. Taken together, this equates to a total decrease of at least \$1.54 billion in XIV's value, and an equivalent loss to investors.

69. On February 12, 2018, an anonymous whistleblower who "has held senior positions at some of the largest investment firms in the world," reported to the Commodity Futures Trading Commission and the Securities and Exchange Commission the widespread manipulation of VIX. The whistleblower asserted that a "pervasive flaw" permits "trading firms with sophisticated algorithms to move the VIX up or down by simply posting quotes on [SPX Options] and without needing to physically engage in any trading or deploying any capital." The whistleblower speculated that the collapse in certain VIX derivatives like XIV was partially the result of market manipulation of the VIX.

70. The whistleblower identified SPX Options market makers as the entities best positioned to employ these manipulative trading practices. This is the case not only because they have the resources necessary to engage in the sophisticated manipulation easily, but also because they are uniquely positioned to set prices on SPX Options used in the VIX settlement calculation. This effect is magnified when the opening price to determine the SOQ is not based on an actual trade, but rather a bid-ask spread.

71. The whistleblower's letter, along with the Griffin Paper and the above-referenced February 2018 market disruption, has spawned several investigations. Some of these investigations encompass not only specific ETPs or ETPs generally, but also broader inquiries into widespread manipulation of the VIX itself as alleged herein.

72. On February 13, 2018, both the Financial Times and the Wall Street Journal reported that the Financial Industry Regulatory Authority, a non-government entity which is overseen by

the Securities and Exchange Commission, is examining whether prices linked to the VIX have been manipulated.

73. On February 23, 2018, Bloomberg reported that both the Securities and Exchange Commission and the Commodities Futures Trading Commission “have been conducting a broad review of trading since February 5, 2018 when volatility spiked and investors lost billions of dollars.” Bloomberg further reported that because of the substantial investor losses arising from recent market events, “allegations of market manipulation are getting more attention and government watchdogs face questions about why small-time investors were permitted to buy such products in the first place.”

74. Former regulators from both the CFTC and the SEC have also weighed in, making public statements indicating their belief that the settlement of VIX Instruments has been, or is being, manipulated. Former CFTC Commissioner, Bart Chilton, was quoted by CNBC on February 14, 2018, saying that VIX manipulation “rings true to me” and that “there’s certainly enough smoke” to warrant scrutiny of possible VIX manipulation. On February 16, 2018, former SEC Chairman, Harvey Pitt, was quoted as saying that while “a product like VIX [Instruments] could be valuable to institutional investors who want to hedge against a precipitous drop in the market . . . it’s quite clear that these indexes’ options can be manipulated.”⁴

ANTITRUST INJURY

75. During the Class Period, Plaintiff and Class Members transacted in VIX-linked products. As a result of Defendants’ anticompetitive conduct, Plaintiff and Class Members paid

⁴ See Mark DeCambre, “Ex-SEC chairman says ‘it’s quite clear’ Wall Street’s ‘fear gauge’ can be manipulated,” MARKETWATCH (Feb. 16, 2018), <https://www.marketwatch.com/story/ex-sec-chairman-says-its-quite-clear-wall-streets-fear-gauge-can-be-manipulated-2018-02-16>.

more and/or received less for VIX-linked products than they would have absent that conduct, and thus suffered substantial damages. This is a cognizable antitrust injury and constitutes harm to competition under the federal antitrust laws.

76. Because Defendants' unlawful conduct has successfully restrained competition in the market, Plaintiff and Class Members have sustained, and continue to sustain, significant losses in the form of artificial, non-competitive prices for VIX-linked products. The full amount of such damages will be calculated after discovery and upon proof at trial.

77. No procompetitive justification or effects outweigh the anticompetitive effects of Defendants' conduct.

78. Plaintiff and Class Members are suitable plaintiffs for pursuing antitrust violations by Defendants, insofar as they transacted in VIX Instruments during the Class Period, and thus were harmed by Defendants' anticompetitive conduct.

79. As a direct, intended, foreseeable, and proximate result of Defendants' unlawful conspiracy and acts in furtherance of their conspiracy, Plaintiff and Class Members have been injured in their business and property, in violation of federal antitrust laws. The injury to Plaintiff and Class Members is the type the antitrust laws were designed to prevent and directly flows from Defendants' unlawful anticompetitive conduct.

DEFENDANTS FRAUDULENTLY CONCEALED THEIR MANIPULATION

80. Any applicable statute of limitations has been tolled by Defendants' knowing and active concealment of their manipulation of the prices of VIX Instruments. Through no fault or lack of diligence, Plaintiff and Class Members were deceived regarding Defendants' manipulation of the prices of VIX Instruments and could not reasonably discover the manipulation.

81. As alleged herein, Defendants' manipulation of the prices of VIX Instruments was material to Plaintiff and Class members at all relevant times. Within the time period of any applicable statutes of limitations, Plaintiff and Class members could not have discovered through the exercise of reasonable diligence that Defendants were manipulating the prices of VIX Instruments, in part because the trading records and roster of SPX market makers are concealed.

82. Plaintiff and Class members did not discover and did not know of any facts that would have caused a reasonable person to suspect that Defendants were manipulating the prices of VIX Instruments.

83. In June of 2017, CBOE issued a statement to the effect that Griffin and Shams' work was based on "fundamental misunderstandings" of VIX's mechanics; that patterns suggestive of manipulation are "entirely consistent with normal and legitimate trading behavior," and that the authors were not privy to all relevant data. CBOE added that it "takes seriously any market abuse, including manipulation of the VIX settlement process," and "maintains a regulatory program that surveils for violative activity, and takes appropriate disciplinary action when warranted."⁵

84. Defendants knowingly, actively, and affirmatively concealed the facts alleged herein, including their manipulation of the prices of VIX Instruments. Plaintiff and Class Members reasonably relied on Defendants' knowing, active, and affirmative concealment. Thus, all applicable statutes of limitation have been tolled based on the discovery rule and Defendants' fraudulent concealment, and Defendants are estopped from relying on any statutes of limitations.

⁵ David Floyd, "Is Someone Manipulating the VIX?," Investopedia, Feb. 15, 2018, available at <https://www.investopedia.com/news/someone-manipulating-vix-vxx/>.

FIRST COUNT
Violation of 15 U.S.C. § 1

85. Plaintiff re-alleges and incorporates by reference each of the allegations set forth above.

86. Defendants have conspired to fix prices in the relevant market in violation of Section 1 of the Sherman Act.

87. As alleged above, Defendants entered into agreements with each other with the purpose and effect of unreasonably restraining trade and commerce in the relevant market.

88. Defendants' conduct described above constitutes unlawful agreements, contracts, and concerted activity that unreasonably restrain trade in the relevant markets in violation of Section 1 of the Sherman Act.

89. Defendants' conduct has no procompetitive benefit or justification. The anticompetitive effects of their conduct outweigh any purported procompetitive justifications.

90. As a result of Defendants' conduct, and the harm to competition caused by that conduct, Plaintiff and Class Members have suffered substantial injuries to their business and property in an amount to be proven at trial and automatically trebled, as provided by 15 U.S.C. § 15.

91. Plaintiff and Class Members are also entitled to recover from Defendants the costs of suit, including reasonable attorneys' fees, as provided by 15 U.S.C. § 15.

SECOND COUNT
Manipulation in Violation of the Commodity Exchange Act

92. Plaintiff re-alleges and incorporates by reference each of the allegations set forth above.

93. Each Defendant, individually, in concert, and/or as one another's control persons or agents, through their acts alleged herein, specifically intended to and did cause unlawful and artificial prices of VIX Futures and Options contracts in violation of the CEA, 7 U.S.C. §1, et seq.

94. The Defendants' manipulative conduct and trading activity alleged herein constituted a manipulation of the prices of VIX Instruments in violation of Section 4b(a), 4c(a), 9(a) and 22(a) of the CEA, 7 U.S.C. §§6b(a), 6c(a), 13(a)(2), and 25(a). As a direct result of Defendants' unlawful conduct, Plaintiff and members of the proposed Classes have suffered actual damages and injury in fact due to artificial prices for VIX Instruments to which they would not have been subject but for the unlawful conduct alleged herein.

95. Plaintiff and members of the proposed Class were further legally injured and suffered injury in fact when they transacted VIX Instruments in an artificial and manipulated market operating under the artificial prices caused by the Defendants. Plaintiff and members of the proposed Class are each entitled to their actual damages for the violations of the CEA alleged herein.

THIRD COUNT

Aiding and Abetting Manipulation in Violation of the Commodity Exchange Act

96. Plaintiff re-alleges and incorporates by reference each of the allegations set forth above.

97. Defendants by, inter alia, the collusive posting of quotes and trading of SPX Options, knowingly aided, abetted, counseled, induced, and/or procured the violations of the CEA by other Defendants as alleged herein. Defendants further coordinated their trading and market activity for the purposes of manipulating VIX Instruments.

98. Each Defendant did so knowing of the other Defendants' manipulation of the prices of SPX Options underlying the prices of VIX Instruments. The conduct alleged herein demonstrates that Defendants substantially and willfully intended to assist these manipulations so as to cause prices of VIX Instruments to be artificial, in violation of Section 22(a)(1) of the CEA.

99. Under Section 13c(a) of the CEA, 7 U.S.C. §13, Defendants are liable for willfully intending to assist the manipulation.

100. Other persons willfully intended to assist these manipulations to cause VIX Instruments to trade at artificial levels – the agents and unnamed co-conspirators as alleged herein – in violation of §22(a)(1) of the CEA, 7 U.S.C. §25(a)(1).

101. Plaintiff and members of the proposed Class are each entitled to actual damages sustained for the violations of the CEA alleged herein.

FOURTH COUNT
**Manipulation by False Reporting and Fraud and Deceit in Violation
of the Commodity Exchange Act**

102. Plaintiff re-alleges and incorporates by reference each of the allegations set forth above.

103. Under Section 6(c)(1) of the CEA, as amended, codified at 7 U.S.C. §9, and Section 22 of the CEA, as amended, 7 U.S.C. §25, it is unlawful for any person, directly or indirectly, to use or employ, or attempt to use or employ, in connection with any swap, or a contract of sale of any commodity in interstate commerce, or for future delivery on or subject to the rules of any registered entity, any manipulative or deceptive device or contrivance, in contravention of such rules and regulations as the CFTC shall promulgate.

104. In July 2011, the CFTC promulgated Rule 180.1(a), 17 C.F.R. §180.1(a) (2011), pursuant to Section (6)(c)(1), which provides, in relevant part:

It shall be unlawful for any person, directly or indirectly, in connection with any swap, or contract of sale of any commodity in interstate commerce, or contract for future delivery on or subject to the rules of any registered entity, to intentionally or recklessly:

- (1) Use or employ, or attempt to use or employ, any manipulative device, scheme, or artifice to defraud;
- (2) Make, or attempt to make, any untrue or misleading statement of a material fact or to omit to state a material fact necessary in order to make the statements made not untrue or misleading;
- (3) Engage, or attempt to engage, in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person; or
- (4) Deliver or cause to be delivered, or attempt to deliver or cause to be delivered for transmission through mails or interstate commerce, by any means of communication whatsoever, a false or misleading or inaccurate report concerning crop or market information or conditions that affect or tend to affect the price of any commodity in interstate commerce, knowing or acting in reckless disregard of the fact that such report is false, misleading or inaccurate.

105. Unlawful manipulation under the CEA, as amended, and Rule 180.1 includes delivering, or causing to be delivered for transmission through the mails or interstate commerce, by any means of communication whatsoever, a false or misleading or inaccurate report concerning market information or conditions that affect or tend to affect the price of any commodity in interstate commerce, knowing, or acting in reckless disregard of the fact that such report is false, misleading, or inaccurate.

106. During the Class Period, Defendants used or employed manipulative or deceptive devices or contrivances, in connection with a contract of sale or purchase of SPX Options and VIX Instruments in interstate commerce. This conduct included the making of untrue, inaccurate, or misleading statements of material facts, or omitting material facts necessary to make the

statements made not misleading, such as the posting or bidding on of artificial prices for SPX Options in order to influence the prices of VIX Instruments, and failing to disclose that Defendants entered pre-arranged transactions to move the prices of VIX Instruments in a direction to benefit their own trading books.

107. Defendants' conduct caused injury to Plaintiff and other members of the Class who transacted in an artificial and manipulated market, at manipulated prices, and with artificial price trends, during the Class Period.

108. Plaintiff and other members of the Class are each entitled to damages for the violations of the CEA alleged herein.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff and Class Members demand judgment as follows:

- A. Certification of the action as a Class Action pursuant to Federal Rule of Civil Procedure 23, and appointment of Plaintiff as Class Representative and his counsel of record as Class Counsel;
- B. That acts alleged herein be adjudged and decreed to be unlawful restraints of trade in violation of the Sherman Act, 15 U.S.C. § 1 *et seq.*, and violate the Commodity Exchange Act, 7 U.S.C. § 1, *et seq.*;
- C. A judgment against Defendants for the damages sustained by Plaintiff and the Class defined herein, and for any additional damages, penalties, and other monetary relief provided by applicable law, including treble damages;
- D. By awarding Plaintiff and Class Members pre-judgment and post-judgment interest as provided by law, and that such interest be awarded at the highest legal rate from and after the date of service of the Complaint in this action;

- E. The costs of this suit, including reasonable attorney fees; and
- F. Such other and further relief as the Court deems just and proper.

JURY TRIAL DEMANDED

Plaintiff, on behalf of himself and others similarly situated, hereby requests a jury trial, pursuant to Federal Rule of Civil Procedure 38, on any and all claims so triable.

Dated: April 26, 2018

Respectfully submitted,

/s/ Linda P. Nussbaum

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