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

ATLANTIC TRADING USA, LLC, individually and on behalf of all others similarly situated, Plaintiff, v. DOES 1-100, Defendants.	Case No. **CLASS ACTION COMPLAINT** **JURY TRIAL DEMANDED**

Plaintiff Atlantic Trading USA, LLC ("Plaintiff") brings this action individually and on behalf of all those similarly situated, as defined below, based on knowledge as to itself and its own acts, and on information and belief as to all other matters, against Does 1-100, who are traders currently unknown to Plaintiff who manipulated the final settlement price of VIX futures and options ("Defendants"), as follows:

NATURE OF THE ACTION

1. This action arises from Defendants' manipulation of the final settlement price of futures and options contracts linked to the Chicago Board Options Exchange ("CBOE") Volatility Index ("VIX contracts"), products traded on the CBOE and the CBOE Futures Exchange ("CFE"), an affiliate of the CBOE. (The CFE and CBOE are sometimes referred to collectively as the "CBOE".)

2. The final settlement price for VIX contracts is based on a limited subset of CBOE SPX options orders during a narrow auction window from 7:30 a.m. to 8:30 a.m. CST on the settlement day for the contract. At least one settlement occurs each month. For example, a March

VIX contract settles in March. The March VIX contract settlement price is based on the price of April SPX options that settle exactly 30 days from the settlement day.

3. During the period 2011 to the present, Defendants caused the monthly final settlement price of expiring VIX contracts to be artificial. They did so by placing manipulative SPX options orders that were intended to cause, and at minimum recklessly caused, artificial VIX contract settlement prices in the expiring contracts. As a result, the VIX settlement price spiked dramatically up or down from the prior day's close. The manipulative scheme also impacted non-expiring VIX contracts and the VIX itself, however, the scheme's impact dissipated shortly thereafter following a period of trading. Dramatic price moves and reversions back, such as those exhibited in VIX contracts are a sign of manipulation.

4. Defendants' misconduct violated the anti-manipulation provisions of the Commodity Exchange Act ("CEA").

5. Several regulators, including the Commodity Futures Trading Commission ("CFTC"), the Securities Exchange Commission ("SEC") and the Financial Industry Regulatory Authority ("FINRA") have recently announced that they are investigating the manipulation of VIX contract prices.

6. Several former regulators, including Bart Chilton (former CFTC Commissioner) and Harvey Pit (former SEC Chairman) have made public statements indicating that VIX contract settlement prices have been, or are being, manipulated.

7. The CFE recently sanctioned at least one trading firm, DRW Trading Securities LLC ("DRW Trading"), for engaging in a very similar manipulative scheme involving contracts tied to three other volatility indices during the period 2014-2015. The CFE-DRW Trading consent letter does not identify VIX contracts as among the contracts manipulated by DRW Trading, but

it also does not suggest that the CFE's investigation into DRW's activities is complete or that the CFE found no misconduct relating to VIX contracts.

8. The identity of the Defendants is not publicly known or knowable to Plaintiff at this time. The manipulative orders at issue were placed electronically. Electronic trading on the CFE and the CBOE is conducted anonymously. Only the CBOE and the Defendants know the identities of the parties entering the manipulative orders at issue here. The CBOE and CFE are central repositories for such information. They collect a range of information in connection with orders, including Order Entry Operator identifications ("OEO IDs"), Tag 50 IDs, User Assigned IDs and Clearing Info. In addition, reports are automatically generated at these exchanges following the occurrence of certain trading volumes and trading at certain strike prices, particularly during the auctions that lead to VIX contract settlement prices.

9. Accordingly, it will be necessary for Plaintiff to subpoena third parties (such as the CBOE and the CFE) to obtain information concerning the identity of the Defendants.

JURISDICTION AND VENUE

10. This action arises under Section 22 of the CEA, 7 U.S.C. § 25.

11. VIX contracts are "contracts for future delivery" as that term is used in Section 1a(9) of the CEA, 7 U.S.C. § 1a(9), and are a "contract of sale of [a] commodity for future delivery" as that term is used in Section 22(a)(1)(B) of the CEA, 7 U.S.C. § 25(a)(1)(B).

12. VIX options are "options on" a "contract of sale of any commodity for future delivery"—namely VIX futures—as those terms are used in Sections 2(c)(2)(A)(i) and 22(a)(1)(B) of the CEA, 7 U.S.C. §§ 2(c)(2)(A)(i) and 25(a)(1)(B).

13. This Court has jurisdiction over this action pursuant to Section 22 of the CEA, 7 U.S.C. § 25, and 28 U.S.C. §§ 1331.

14. Venue is proper in the Northern District of Illinois, pursuant to Section 22 of the CEA, 7 U.S.C. § 25(c) and 28 U.S.C. § 1391(b)-(d). A substantial part of the events or omissions giving rise to the claims occurred in this District—including the trading and manipulation of the VIX contracts at issue.

PARTIES

A. Plaintiff

15. Atlantic Trading USA, LLC ("Plaintiff") is an Illinois limited liability company with its principle place of business in Chicago. At all material times, Atlantic Trading was a proprietary trading firm that traded in a variety of financial instruments. During the Class Period, Atlantic Trading regularly traded VIX contracts, held the contracts through settlement, and suffered financial losses as a result of the manipulation alleged herein.

B. Defendants

16. Defendants, Does 1-100, are persons and entities that directly or indirectly inappropriately influenced or attempted to influence the settlement price of VIX contracts.

C. Relevant Non-Parties

1. Cboe Global Markets, Inc.

17. Cboe Global Markets, Inc., f/k/a CBOE Holdings, Inc. ("CBOE Holdings"),[1] is the publicly-traded holding company of, among other entities, the CBOE Futures Exchange, LLC (the "CFE") and Chicago Board Options Exchange, Inc. (the "CBOE"). Its offices are located at 400 South LaSalle Street, Chicago, Illinois.

18. Unless otherwise specified, references to CBOE Holdings include its subsidiaries and its officers and directors.

[1] CBOE Holdings, Inc. changed its name to Cboe Global Markets, Inc. on October 16, 2017.

2. Cboe Futures Exchange, LLC

19. The CFE, a Delaware limited liability company with its principal place of business in Chicago, is an exchange founded in 2004. It became a wholly-owned subsidiary of CBOE Holdings in June 2010.

3. Chicago Board Options Exchange, Inc.

20. The CBOE, a Delaware corporation with its principal place of business in Chicago, and is an exchange founded in 1973. It became a wholly-owned subsidiary of CBOE Holdings in 2010.

SUBSTANTIVE ALLEGATIONS

II. BACKGROUND

A. The VIX Index

21. The CBOE Volatility Index ("VIX Index") is an index that attempts to measure the 30-day implied volatility of the S&P 500 Index (or, perhaps, the stock market more broadly), and is often referred to as a market "fear-gauge."

22. According to CBOE, it "is based on the S&P 500® Index (SPX), the core index for U.S. equities, and estimates expected volatility by averaging the weighted prices of SPX puts and calls over a wide range of strike prices." In particular,

> The VIX calculation measures 30-day expected volatility of the S&P 500 Index. The components of the VIX calculation are near- and next-term put and call options with more than 23 days and less than 37 days to expiration. These include SPX options with "standard" 3rd Friday expiration dates and "weekly" SPX options that expire every Friday, except the 3rd Friday of each month. Once each week, the SPX options used to calculate VIX "roll" to new contract maturities. For example, on the second Tuesday in October, 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 be the "next-term" options.

B. VIX derivatives

23. VIX contracts are derivative financial instruments, the value of which are ostensibly linked to the VIX Index. CBOE introduced VIX futures and options contracts in 2004 and 2006, respectively.

24. As the CBOE explains:

> On March 24, 2004, CBOE introduced the first exchange-traded VIX futures contract on its new, all-electronic CBOE Futures Exchange℠ (CFE®). Two years later in February 2006, CBOE launched VIX options, the most successful new product in CBOE history. In just ten years since the launch, combined trading activity in VIX options and futures has grown to over 800,000 contracts per day.

1. VIX futures

25. "A futures contract, roughly speaking, is a fungible promise to buy or sell a particular commodity at a fixed date in the future. Futures contracts are fungible because they have standard terms and each side's obligations are guaranteed by a clearing house. Contracts are entered into without prepayment, although the markets and clearing house will set margin to protect their own interests. Trading occurs in 'the contract,' not in the commodity." *Chicago Mercantile Exchange v. SEC*, 883 F.2d 537, 542 (7th Cir. 1989).

26. "The classic futures contract involves a commodity such as wheat, but in principle any measure of value can be used. Financial futures usually take the form of a contract that depends on the value of an index at some future date. Thus, for example, the buyer (the 'long') of a futures contract based on the Standard & Poor's 500 Index future might promise to pay 100 times the value of that index on a defined future date, and the seller (the 'short') will receive that price. Either side may close the position by buying or selling an offsetting obligation before the expiration date of the contract." *Bd. of Trade of City of Chicago v. S.E.C.*, 187 F.3d 713, 715 (7th Cir. 1999)

27. Alternatively, the holder of a futures contract can also hold the contract through the time of expiration. If the contract expires on March 30, for example, then on that day a settlement occurs. The holder of the contract can choose to "take delivery" of the commodity, such as by accepting delivery of wheat, natural gas, etc., or it can choose to "cash settle" the contract, whereby it will either receive or pay cash to the short position, depending on whether the price it agreed to pay for the contract is above or below the price of the commodity, or the "spot price," at the time of settlement.

28. Thus, for example, if on January 30 the long position agreed to pay $3,000 for contract for the delivery of 50 barrels of oil on March 30, and on March 30 the spot price of 50 barrels of oil is $2,000, the long position can either choose to pay $3,000 to receive the 50 barrels of oil, or it can choose to simply pay $1,000 to the short position to "cash settle" the contract without any physical delivery taking place.

29. A VIX futures contract is like the foregoing example except it has two distinct features. First, it can only be cash settled, because the underlying commodity is the VIX Index itself, which is just a mathematical number, such that there is nothing to take delivery of. Second, unlike the oil futures contract described above, where the reference price at expiration is the spot price of oil that day, the reference price for VIX futures at expiration is *not* the spot price of the VIX Index that day, but is rather a price determined by a special auction held by CBOE, as explained further below.

2. VIX options

30. An option contract is an agreement that gives the buyer, or "option holder," the right, but not the obligation, to either buy or sell something at a specified price during a specified time period. For a "European" style option, that time period is limited to the expiration date. For an "American" style option, that time period is any time up to the expiration date.

31. "Call" options confer upon the buyer the right, but not the obligation, to buy the asset at the specified price (the "strike" price). Call options confer upon the seller, or "option writer" the obligation to sell the asset at the strike price.

32. "Put" options confer upon the buyer the right, but not the obligation, to sell the asset at the strike price, and they confer upon the seller the obligation to buy the asset at the strike price.

33. Exchange-traded options, or listed options, are standardized option contracts that specify the quantity of the underlying asset, the expiration date, and the strike price.

34. VIX options are European-style options for which the underlying asset is a VIX futures contract, described above. Moreover, like the VIX futures contract itself, VIX options can only be cash settled. The reference price for determining whether VIX options expire in or out of the money is the same price used to determine the settlement value for VIX futures, which, as explained above, and as set forth in more detail below, is determined by a special auction.

C. The popularity and importance of VIX contracts

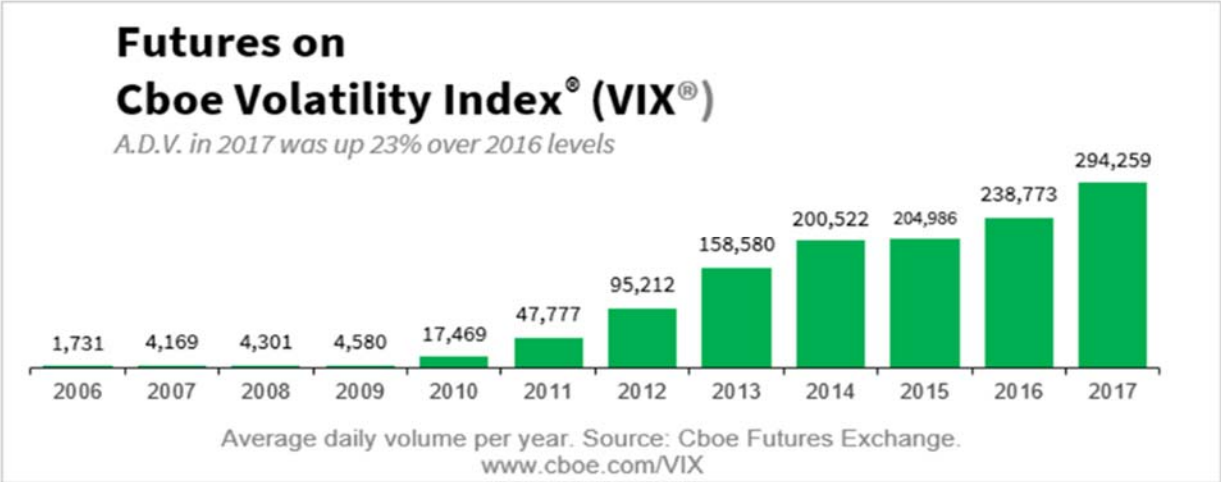
35. Trading in VIX contracts has increased dramatically since VIX futures were first introduced in 2004. According to the CBOE, 2017 saw record-setting trading volumes in both products:[2]

[2] Matt Moran, *Nine Charts Highlight Nine New Records for Cboe Products in 2017*, (Jan. 5, 2018), *available at* http://www.cboe.com/blogs/options-hub/2018/01/05/nine-charts-highlight-nine-new-records (last accessed February 18, 2018).

RECORD #3 – HIGHEST VOLUME FOR VIX FUTURES

In 2017 investors engaged in record amounts of both buying and selling of VIX futures, as the average daily volume for the contract rose to more than 294,000 contracts, up 23% over the 2016 levels. www.cboe.com/VIX

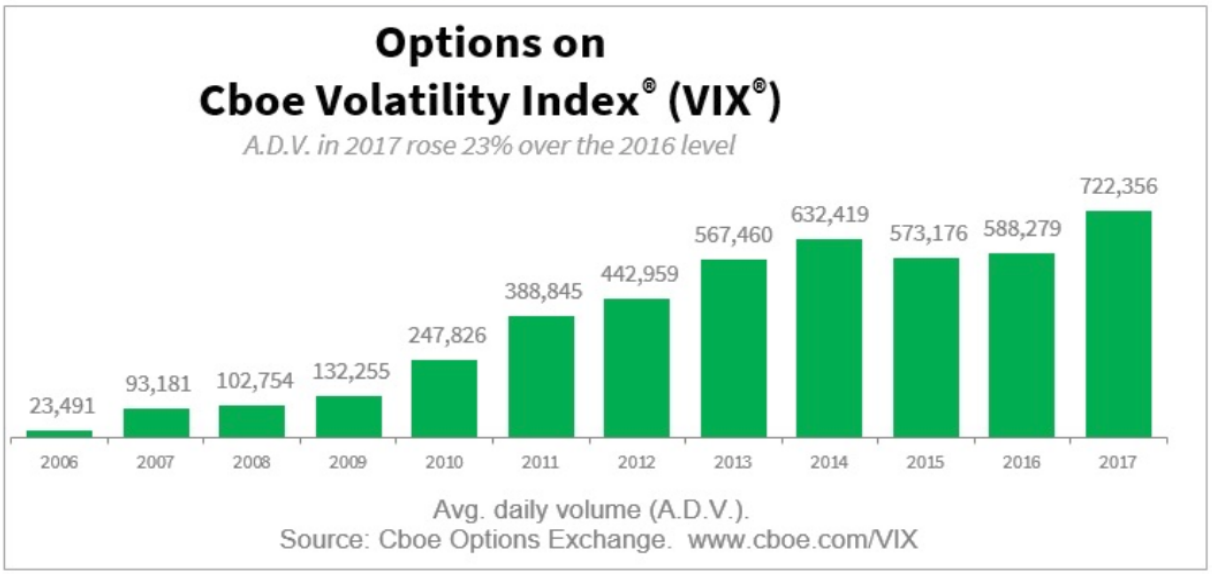
#3 - Record Volume for VIX Futures



RECORD #2 – HIGHEST VOLUME FOR VIX OPTIONS

In 2017 the average daily volume for options on the VIX Index rose to 722,356 contracts, up 23% over the 2016 levels. www.cboe.com/VIX

#2 - Record Volume for VIX Options



III. THE SETTLEMENT PRICE OF VIX CONTRACTS IS HIGHLY SUSCEPTIBLE TO MANIPULATION

A. Settlement procedures for VIX contracts

36. When a futures or option contract expires, the settlement price—*i.e.*, the reference price against which the futures or option contract is measured, and that therefore determines their value—is a critical variable. If the settlement price can be readily manipulated, then so too can the value of the derivatives at settlement. Accordingly, the procedures for determining the settlement price should be designed so as not to enable manipulation.

37. For example, E-mini S&P 500 futures, offered by CME Group, expire on the third Friday of the contract month—the March 2018 contract expires on March 16, 2018. Upon expiration, the settlement price will be "based on the opening prices [on March 16, 2018] of the component stocks in the [S&P 500] index."[3] Because of the sheer number of component stocks in the S&P 500 index and the high volume of trading in those stocks, the value of E-mini S&P 500 futures at settlement cannot be readily manipulated. Also, the settlement price is based on the spot price of the underlying assets, the component stocks.

38. The settlement price for VIX contracts, by contrast, is not based on the spot price of the asset underlying the VIX futures, namely the VIX Index. Instead, the settlement price is determined by an auction yielding a price quoted using the ticker symbol VRO.

39. Every month, VRO is determined through an auction conducted using a "Hybrid Opening System," or "HOSS," in which market participants transact S&P 500 Index ("SPX")

[3] CME Group, *Standard and Poors 500 Futures Final Settlement Procedure*, *available at* https://www.cmegroup.com/confluence/display/EPICSANDBOX/Standard+and+Poors+500+Futures#StandardandPoors500Futures-FinalSettlement (last accessed February 14, 2018).

options—listed by the CBOE—which yields an opening price for such options from which VRO is calculated, which in turn determines the final settlement value of VIX derivatives.

40. According to CBOE and CFE:

> The final settlement value [of VIX contracts] 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.[4]

41. The auction begins at 7:30 a.m. Chicago time:

> Beginning at approximately 7:30 a.m. Chicago time, Cboe starts disseminating messages approximately every 30 seconds that contain certain information about the opening of individual series via the Cboe Streaming Markets (CSM) data feed. … On expiration days for VIX derivatives, this information is additionally published on the CFE website.[5]

42. The auction ends when trading on non-expiring VIX futures and options begins, *i.e.*, 8:30 a.m. Chicago time, as "[a]ll … orders for participation in the modified opening procedure, and any change or cancellation to such orders, must be received prior to the opening of the series."[6]

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[4] CBOE, *Settlement Information for VIX Derivatives*, *available at* http://cfe.cboe.com/cfe-products/vx-cboe-volatility-index-vix-futures/settlement-information-for-vix-derivatives (last accessed February 14, 2018).

[5] CBOE, *Cboe Volatility Index® (VIX® Index®) FAQs*, *available at* http://www.cboe.com/products/vix-index-volatility/vix-options-and-futures/vix-index/vix-faqs (last accessed February 18, 2018).

[6] *Id.*

43. Put more simply, an auction is held between 7:30 a.m. and 8:30 a.m. every month on the day VIX futures and options expire, during which traders submit bids and offers for SPX put and call options, the auction matches those bids and offers to determine clearing prices for those options, and those clearing prices are used to compute the settlement price for VIX futures and options.

B. The unusual settlement procedure for VIX contracts renders their settlement price extremely susceptible to manipulation

44. In May 2017, two academics at the University of Texas-Austin, Professor John M. Griffin and Ph.D. candidate Amin Shams, published a paper entitled "Manipulation in the VIX?"[7] in which they discuss the susceptibility of the foregoing final settlement procedure to manipulation.

45. Griffin and Shams begin by observing that "[f]air and accurate market prices are fundamental building blocks for efficient capital markets. Yet, market participants have substantial incentives to manipulate these very same financial prices on which our economic system relies." G&S at 1. They note that manipulation "should be relatively rare," but that "[n]evertheless, there has recently been a flurry of ostensible manipulation, most notoriously in LIBOR and FX, but also allegations in gold, silver, and oil." *Id.* One proposal for reducing manipulation, they note, "is to use benchmark prices set in the open market." *Id.* Yet, under certain conditions, such markets "may not fully eliminate the potential for manipulation." *Id.* They explain that the VIX is such "a market with features that might leave it open to manipulation: multiple connected markets with different price-order elasticities, cash settlement, and a finite window to manipulate." *Id.*

46. Specifically, they note that "[t]he VIX setting is one with two markets with different liquidities and transactions costs: SPX options market with large bid-ask spreads that make it

[7] John M. Griffin and Amin Shams, *Manipulation in the VIX?* (May 23, 2017), *available at* https://ssrn.com/abstract=2972979 (last accessed February 18, 2018) ("G&S")

difficult to arbitrage away price deviations, and large and liquid VIX derivative market tied to it that translates such deviations into sizable potential payoffs." *Id.* at 1-2. They then explain that they "refer to the SPX contracts as 'lower-level' contracts because they are the base level option contracts that serve as inputs for calculating the value of the VIX, through which the 'upper-level' VIX futures and options values are ultimately determined at the settlement." *Id.* at 2.

47. Griffin and Shams describe three features of the VIX settlement process that make it particularly susceptible to manipulation. "First, the upper-level VIX market is large and liquid, enabling a trader to invest a sizeable position in VIX derivatives. In contrast, many of the lower-level SPX options, where the VIX values are derived from, are illiquid." *Id.* at 9. As a result, a relatively small number of trades in illiquid, deep out-of-the-money options can move the price of those options significantly, with corresponding and disproportionately large effect on the VIX. *See id.*

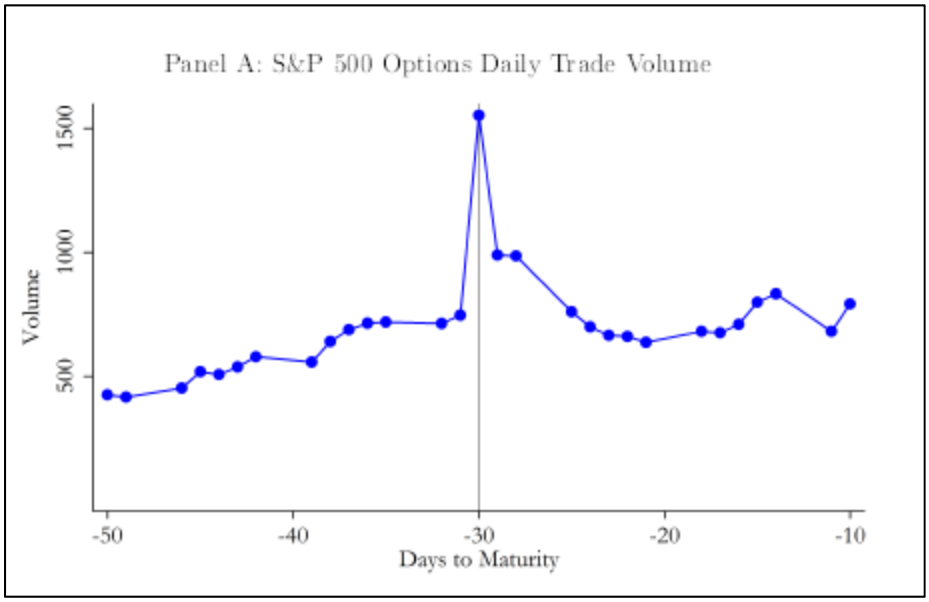
48. "Second, the VIX derivatives are cash settled. Therefore, if the VIX settlement value deviates from its true value, the VIX position will automatically be cashed out at the deviated price." *Id.* By contrast, if an asset with physical settlement is trading at an anomalous price when the relevant futures settle, a would-be manipulator simply takes possession of a physical asset at an inflated price. That price may in turn revert to a normal value before the manipulator can sell the asset. By contrast, if the VIX is artificially inflated at settlement, a would-be manipulator can cash out his position "at the deviated price." *Id.*

49. "Third, the settlement occurs within a short period of time based on the SPX options pre-open auction." *Id.* Thus, a would-be manipulator need not intervene over a long period of time to keep option prices artificially high; instead, he may simply manipulate the settlement price once a month during the pre-opening auctions. Griffin and Shams conclude that though "not all three

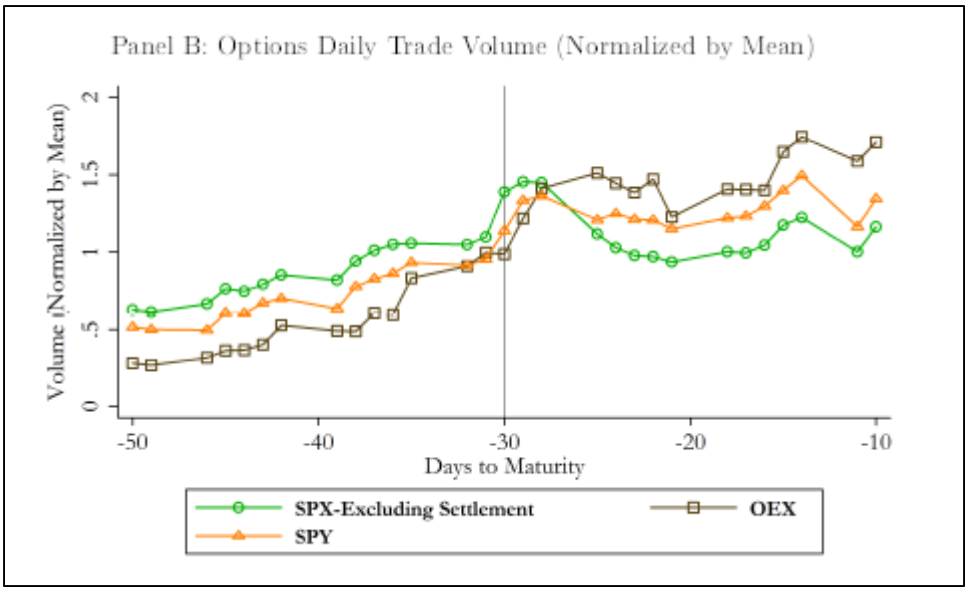
conditions may be simultaneously needed for manipulation, the occurrence of all three potentially provides a ripe setting for profitable manipulation." *Id.* at 9-10.

50. Griffin and Shams explain that the "basic steps that a manipulator needs to take include: 1) opening long positions in the VIX derivatives prior to settlement, 2) submitting aggressive buy orders in the SPX options during the settlement auction, and thereby causing the auction-clearing prices of SPX options, and as a result, VIX settlement price to rise, and 3) obtaining the higher price for the upper-level futures or options when they settle." *Id.* at 11. Griffin and Shams note that such trading will "leave patterns in the data that can be examined." *Id.* Griffin and Shams accordingly examine "volume spikes in the SPX options[,]" comparing the trading volumes in SPX options to trading volumes in other categories of options. *Id.*

51. Panel A of Griffin and Shams' Figure 1 reveals a volume spike in the average daily trade volume for SPX options thirty days prior to maturity. *Id.* at 40. This spike is not attributable to "any kind of obvious S&P 500 market-related event" but is instead "the date that the VIX settles." *Id.* at 13.

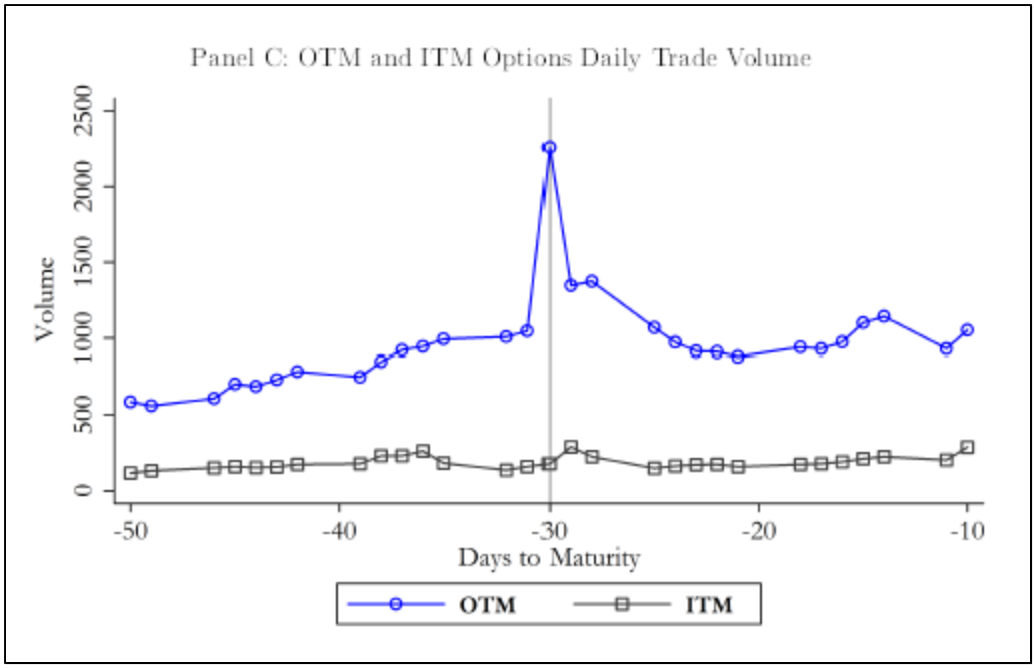


52. Panel B of Griffin and Shams' Figure 1 shows the "average daily trade volume calculated in the same way as Panel A for S&P 500 options excluding the trades occurring at the reopening settlement (green circles), S&P 100 options (brown squares), and SPY options (orange triangles)." *Id.* at 40. These trading volumes "exhibit no major movement thirty days prior to maturity." *Id.* at 13.

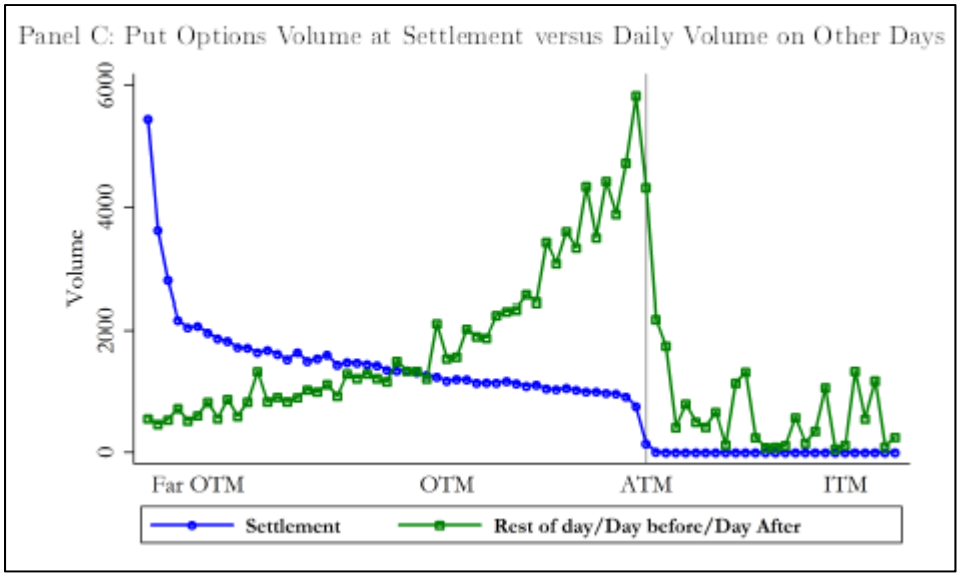


53. Panel C of Griffin and Sham's Figure 1 shows no volume spike in ITM options trading thirty days prior to their expiration, indicating "that the volume spike is entirely driven by the OTM options[.]" *Id.* at 13, 40.[8]

[8] The VIX formula uses OTM options, not ITM options.



54. Griffin and Shams further explain that "someone wishing to manipulate the index should submit increasing volume as [the] sensitivity [of the VIX to price changes of individual put options] increases." *Id.* at 14. And indeed, the data show that "[v]olume does increase [at strike prices] with VIX sensitivity, and the relationship is highly statistically significant." *Id.* This relationship is likewise "economically significant, with over half of the variation in settlement volume explained by the VIX sensitivity measure and the date fixed effects." *Id.* at 14-15. Panel C of Figure 2 bears this out by showing that "the positive relationship between VIX sensitivity and volume is only confined to the settlement." *Id.* at 15. On other days, "put options with higher VIX sensitivity trade significantly less." *Id.*



55. Finally, Griffin and Shams show that certain options given disproportionately high weight in the VIX settlement formula exhibit volume spikes at settlement that are not present at other times. *See id.* at 15-16.

56. Simply put, Griffin and Shams demonstrate a pattern of a dramatic increase in trading of SPX options at the time of the VIX settlement. This pattern of trading spikes at settlement is not observable "in nearly identical OEX or SPY options" nor in "ITM options that are excluded" from the VIX settlement calculation. *Id.* at 16. Moreover, Griffin and Shams show a "strong and statistically significant increase in volume" of trading at settlement of the class of OTM options to which the VIX is particularly sensitive. Griffin and Shams conclude that this "evidence is consistent with attempted manipulative activity[.]" *Id.*

57. Griffin and Shams consider whether alternative phenomena could be driving SPX option trading volume spikes at settlement. *See id.* at 17-25. They note that deep OTM options are normally illiquid and expensive to trade and consider whether "the VIX settlement auction … provides an opportunity for those who have pent-up demand to trade deep OTM options." *Id.* at 17. However, OTM call options, though included in the special settlement procedure, exhibit lower

trading volume at the time of settlement. The fact that comparable OTM options trade at lower volumes at settlement contravenes the pent-up liquidity hypothesis but is compatible with traders deliberately gaming the VIX settlement formula. *See id.* at 17-18. Regression analysis further reveals an inverse relationship between pre-settlement liquidity and settlement volume for put options. *See id.* at 18-19. Griffin and Shams additionally compare the VIX to the analogous European index, the VSTOXX, and determine that "the differences in volume patterns … and timing of trades between the VIX and VSTOXX are most consistent with aggregate trading volumes patterns capturing gaming of the respective settlement formulas." *Id.* at 20-21.

58. Griffin and Shams also consider, and dismiss, two possible hedging explanations for the option volume spikes. First, Griffin and Shams show that that traders are not attempting to hedge a position in upper-level VIX derivatives through underlying SPX options. The trading data reveal no such pattern of trading prior to settlement. Second, Griffin and Shams demonstrate that investors are not rolling their hedging positions into SPX options in a way that mimics the VIX weighting formula. The trading data reveal no volume spikes in closely related exchange-traded products that would afford a similar payoff. *See id.* at 21-25. In short, neither the alternative pent-up liquidity hypothesis nor the hedging hypotheses offer available explanation for the market dynamics observed at settlement.

59. Ultimately, Griffin and Shams "show that not only is it feasible to influence the VIX settlement, but also present price and volume patterns at settlement consistent with what one would expect from such strategic trading." *Id.* at 36. They demonstrate that a volume spike occurs:

a. only at the time of the VIX settlement;

b. only in the OTM options that are used to calculate the VIX;

c. not in similar S&P 100 Index (OEX) or S&P 500 ETF (SPY) options, which do not have a tradable volatility index;

d. proportional to the sensitivity of VIX to each strike price; and

e. with a jump for options that have a discontinuously higher weight in the VIX calculation, which does not occur at non-settlement times.

60. Griffin and Shams thus conclude that the most likely explanation for these patterns is manipulation.

61. Following publication of Griffin and Shams' paper, Matt Levine, a Bloomberg View columnist and former banker at Goldman Sachs and lawyer at Wachtell, Lipton, Rosen & Katz, observed:

> But if you are going to manipulate a *tradable* market—as opposed to a made-up one like Libor—then VIX looks pretty tempting. The product that you trade (S&P 500 options) is different from the product where you make your money (VIX futures and options), and the trading market is in the relevant sense *smaller* than the derivative market: You can move a lot of value in VIX products by trading a small amount of value, in a confined period of time, in the underlying market. So you can cheerfully lose money executing the manipulation—trading the S&P options—and make back more in the derivative.[9]

IV. THE ACTUAL MANIPULATION OF THE SETTLEMENT PRICES OF VIX CONTRACTS BY DEFENDANTS

62. The manipulation uncovered by Griffin and Shams was caused by Defendants, and began no later than 2011. Griffin and Shams noted that "the distortions are the largest in 2011, 2012, and 2013 respectively, and they are not caused by 2008 market events when the VIX reached historic high." G&S at 30.

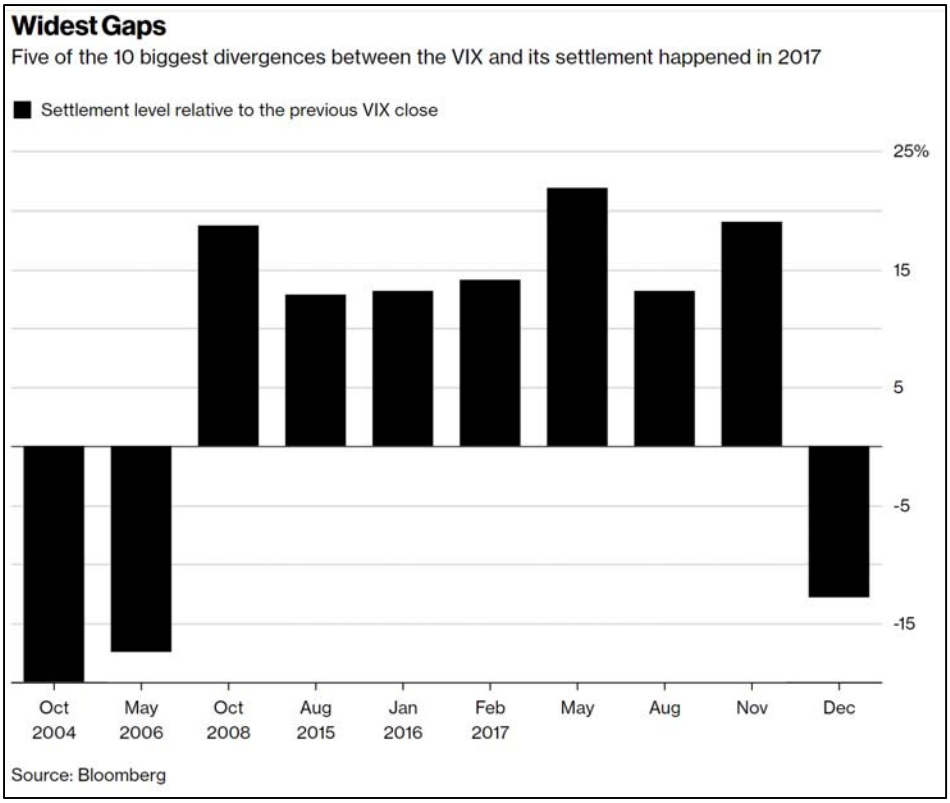
[9] Matt Levine, *VIX Trading, Hoaxes and Blockchain*, Bloomberg (May 24, 2017), *available at* https://www.bloomberg.com/view/articles/2017-05-24/vix-trading-hoaxes-and-blockchain (emphasis in original) (last accessed February 18, 2018).

63. Defendants' continuing manipulation of the VIX contract settlement price has been further confirmed by examining recent settlement data for particular settlement months. In particular, five contracts traded in 2017 and 2018 experienced statistically significant price fluctuations on the date of settlement that cannot be explained by mere variance or chance:

Month	Diff. btwn. Stlmt. And Prior Day Close	Open Interest	Effect on Outstanding Contracts
January 2018	$0.84	50,946	$42.8M
December 2017	$1.32	71,415	$94.3M
November 2017	$1.74	50,887	$88.5M
May 2017	$1.9	55,926	$106.3M
February 2017	$1.08	63,982	$69.1M

64. These months are not the only months in which the settlement price was manipulated, but are highlighted because publicly available data shows they were the months in which the manipulative scheme alleged herein had the largest apparent effects. Indeed, Bloomberg recently noted that "of the 10 biggest gaps between the VIX settlement price and its closing price the night before, five came in 2017, including December's, which was the biggest discount in 11 years."[10]

[10] Nikolaj Gammeltoft and Cecile Vannucci, *Is the VIX Being Gamed? A Sudden Swoon Has Traders Talking Again*, Bloomberg (Jan. 10, 2018), *available at* https://www.bloomberg.com/news/articles/2018-01-10/is-the-vix-being-gamed-a-sudden-swoon-has-traders-talking-again (last accessed March 9, 2018).



65. Additionally, given that Griffin and Shams ruled out non-manipulative explanations for the fluctuations they observed, and given that there is nothing materially different about these months from the months studied by Griffin and Shams, the fluctuations observed during these months cannot be explained by the legitimate market forces of supply and demand.

A. Settlements in 2018

1. January 2018 settlement

66. The January 2018 VIX contract settled on January 17, 2018. On January 16, 2018, the penultimate day of trading, the contract settled at approximately $11.775. Following the January 17, 2018 HOSS auction, the January 2018 contract settled at $12.61, a price increase the CBOE recorded as $0.84. The price change is statistically significant at the 95% level and represents the fourth-largest single-day price swing during the preceding 166 trading days on which more than three thousand January 2018 contracts were trading on the CBOE. The price

increase that occurred at settlement also is notable because volatility, as reflected by the value of VIX futures, generally decreased throughout the life of the contract, a trend which continued in contemporaneous trading of the February 2018 contract. Based on the open interest available at settlement, the $0.84 price change—which is the direct and proximate result of manipulation of the HOSS auction—transferred approximately $42.8M in value among contract holders.

B. Settlements in 2017

1. December 2017

67. The December 2017 VIX contract settled on December 20, 2017. On December 19, 2017, the penultimate day of trading, the contract settled at approximately $10.075. Following the December 20, 2017 HOSS auction, the December 2017 contract settled at $8.75, a price decrease the CBOE recorded as $1.32. The price change is statistically significant at the 95% level and represents the largest single-day price swing during the preceding 165 trading days on which more than three thousand December 2017 contracts were trading on the CBOE. The price increase that occurred at settlement also is notable because the VIX index plunged at the time of settlement, only to experience a reversal later that morning. Based on the open interest available at settlement, the $1.32 price change—which is the direct and proximate result of manipulation of the HOSS auction—transferred approximately $94.3M in value among contract holders.

2. November 2017

68. The November 2017 contract settled on November 15, 2017. On November 14, 2017, the penultimate day of trading, the contract settled at approximately $12.05. Following the November 15, 2017 HOSS auction, the November 2017 contract settled at $13.79, a price increase the CBOE recorded as $1.74. The price change is statistically significant at the 95% level and represents the largest single-day price swing during the preceding 154 trading days on which more than three thousand November 2017 contracts were trading on the CBOE. The price increase that

occurred at settlement also is remarkable because volatility, as reflected by the value of VIX futures, generally decreased throughout the life of the contract, a trend which continued in contemporaneous trading of the December 2017 contract. Based on the open interest available at settlement, the $1.74 price change—which is the direct and proximate result of manipulation of the HOSS auction—transferred approximately $88.5M in value among contract holders.

3. May 2017

69. The May 2017 contract settled on May 17, 2017. On May 16, 2017, the penultimate day of trading, the contract settled at approximately $11.075. Following the May 16, 2017 HOSS auction, the May 2017 contract settled at $12.98, a price increase the CBOE recorded as $1.90. The price change is statistically significant at the 95% level and represents the largest single-day price swing during the preceding 152 trading days on which more than three thousand May 2017 contracts were trading on the CBOE. The price increase that occurred at settlement also is remarkable because volatility, as reflected by the value of VIX futures, decreased throughout the life of the contract, a trend which continued in contemporaneous trading of the June 2017 contract. Based on the open interest available at settlement, the $1.90 price change—which is the direct and proximate result of manipulation of the HOSS auction—transferred approximately $106.3M in value among contract holders.

4. February 2017

70. The February 2017 contract settled on February 15, 2017. On February 14, 2017, the penultimate day of trading, the contract settled at approximately $11.175. Following the February 15, 2017 HOSS auction, the February 2017 contract settled at $12.26, a price increase the CBOE recorded as $1.08. The price change is statistically significant at the 95% level and represents the second-largest single-day price swing during the preceding 146 trading days on which more than three thousand February 2017 contracts were trading on the CBOE. The price

increase that occurred at settlement also is remarkable because volatility, as reflected by the value of VIX futures, decreased throughout the life of the contract, a trend which continued in contemporaneous trading of the March 2017 contract. Based on the open interest available at settlement, the $1.08 price change—which is the direct and proximate result of manipulation of the HOSS auction—transferred approximately $69.1M in value among contract holders.

C. Losses caused by Defendants' manipulation

71. According to a preliminary analysis performed by Fideres Partners LLP, an expert consulting firm with substantial experience analyzing manipulation of complex financial instruments and quantifying the resultant losses, between 2011 and the present the manipulation alleged herein caused investors in VIX futures alone estimated potential losses in the hundreds of millions of dollars.[11]

D. Regulatory actions, governmental investigations, and other evidence of VIX manipulation

72. In December 2017, the CBOE announced disciplinary action against DRW Securities, L.L.C., in connection with its participate in the settlement procedure for volatility-related futures contracts, namely the CBOE Emerging Markets ETF Volatility Index Futures contract ("VXEM"), the CBOE Brazil ETF Volatility Index Futures contract ("VXEW") and the CBOE Crude Oil ETF Volatility Index Futures contract ("OV"). The consent letter does not reference VIX contracts. But it does not purport to conclude all disciplinary investigations into DRW Securities conduct or to find no wrongdoing by the firm with respect to VIX contracts. As

[11] *See* Fideres, *Playing on Fear: Manipulation in the Volatility Market*, Fideres (Feb. 16, 2018), *available at* http://fideres.com/publications/playing-on-fear (last visited March 9, 2018).

Prof. Griffin, one of the authors of the May paper, put it in an email, "the CBOE ***recently fined a firm for exactly the same activity we identified in our paper***."[12]

73. On February 13, 2018, *The Wall Street Journal* revealed that the Financial Industry Regulatory Authority ("FINRA") was "scrutinizing whether traders placed bets on S&P 500 options to influence prices for VIX futures."[13]

74. In a February 14, 2018 *Bloomberg* article reporting on a letter sent to regulators by lawyers for a whistleblower claiming VIX-related manipulation, market participants noted that although the letter contained factual inaccuracies, there were "***legitimate concerns about VIX manipulation, specifically during the settlement auction of VIX futures contracts***."[14] The article further quoted Pravit Chintawongvanich, the head of derivatives strategy at Macro Risk Advisors, as saying, "People might be concerned that individual players could move the settlement. ***It is a legitimate concern.***"

75. On February 14, 2018, former CFTC Commissioner Bart Chilton, stated that the allegations of VIX contract manipulation "'***rings true*** to me, adding that 'there's certainly enough smoke.'"[15]

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[12] *See* Gunjan Banerji, *Regulator Looks Into Alleged Manipulation of VIX, Wall Street's 'Fear Index*," Wall Street Journal (Feb. 13, 2018), *available at* https://www.wsj.com/articles/wall-street-regulator-probes-alleged-manipulation-of-vix-a-popular-volatility-gauge-1518547608 (last accessed March 9, 2018).

[13] *See* Banerji, at FN 12, *supra*.

[14] *See* Nick Baker and Cecile Vannucci, *What if Somebody Really Is 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 (last accessed February 15, 2018).

[15] *See* Matthew J. Belvedere, *Former CFTC commissioner: Whistleblower allegation about volatility index manipulation 'rings true'*, CNBC (Feb. 14, 2018), *available at* https://www.cnbc.com/2018/02/14/ex-cftc-head-bart-chilton-on-whistleblower-vix-manipulation-allegation.html (last accessed Mar. 9, 2018).

76. On February 16, 2018, former SEC Chairman Harvey Pitt further reinforced Griffin and Sham's findings, and the comments of former CFTC Commissioner Bart Chilton, during an appearance on CNBC, where he stated:

> The volatility we have is troubling. And a product like VIX could be valuable to institutional investors who want to hedge against a precipitous drop in the market. ***But it's quite clear that these indexes' options can be manipulated.*** And when there were complaints about possible manipulation, the Cboe, as the marketplace, should have sprung in to action.[16]

77. On February 23, 2018, it was reported that the CFTC, SEC and FINRA all are currently investigating VIX-related manipulation.[17]

CLASS ACTION ALLEGATIONS

78. Plaintiff brings this action on behalf of itself, and all others similarly situated, as a class action pursuant to Rule 23 of the Federal Rules of Civil Procedure ("FRCP"). The Class and Subclasses are set forth below.

Class

All persons who traded VIX futures or options contracts on the Cboe Futures Exchange or the Chicago Board Options Exchange between January 1, 2011 and the present (inclusive) (the "Class Period").

Settlement Holder Subclass
All Class members who held VIX futures or options contracts through settlement.

Settlement Day Trader Subclass
All Class members who traded a non-expiring VIX futures or options contracts on a day the settling VIX futures contract settled.

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[16] *See* Mark DeCambre, *Ex-SEC chairman says 'it's quite clear' Wall Street's 'fear gauge' can be manipulated*, MarketWatch (Feb. 16, 2018), *available at* https://www.marketwatch.com/story/ex-sec-chairman-says-its-quite-clear-wall-streets-fear-gauge-can-be-manipulated-2018-02-16 (last accessed February 19, 2018).

[17] *See* Benjamin Bain and Matt Robinson, *VIX Funds Face Fresh Scrutiny from U.S. Regulators*, Bloomberg (Feb. 23, 2018), *available at* https://www.bloomberg.com/news/articles/2018-02-23/vix-fund-blowups-spur-u-s-to-probe-if-misconduct-played-a-role (last accessed February 28, 2018).

Excluded from the Class are the Defendants and any parent, subsidiary, affiliate, or agent of any Defendant.[18]

79. **Rule 23(a)(1).** Class members number in the hundreds or, perhaps, thousands, and are geographically dispersed such that joinder is impractical.

80. **Rule 23(a)(2).** Common issues of fact and law include but are not limited to:

a. Whether Defendants manipulated the settlement prices of VIX contracts in violation of the CEA;

b. Whether Defendants are liable under the CEA for such manipulation;

c. Whether such manipulation resulted in artificial prices for VIX contracts;

d. Whether such injury or the extent of such artificiality may be established by common, class-wide means, including, for example, by regression analysis, econometric analysis, or other economic tests;

e. The operative time period and extent of Defendants' violations; and

f. The appropriate relief.

81. **Rule 23(a)(3).** Plaintiff's interests are typical of, and not antagonistic to the interests of the Class.

82. **Rule 23(a)(4).** Plaintiff is not antagonistic to the Class, is an adequate class representative, and has retained adequate counsel.

83. **Rule 23(b)(3).** Common issues predominate over individual issues (if any). A class action is superior to other methods (if any) for a fair and efficient adjudication of this case. Indeed, a class action is the only method by which Plaintiff and the Class can efficiently seek redress

[18] Plaintiff reserves the right to enlarge or contract the Class or the Class Period based on information obtained in discovery.

because of "negative value" claims. The records of commodity futures traders are required to be maintained by FCMs (futures commission merchants). Plaintiff does not anticipate any difficulties in the identification of Class members, notice to Class members or other aspects of the management of this action as a class action.

EQUITABLE TOLLING AND FRAUDULENT CONCEALMENT

84. By its very nature, the unlawful activity, alleged herein, that Defendants engaged in was self-concealing. Plaintiff could not in the exercise of due diligence have discovered Defendants' wrongdoing as alleged herein. Because Defendants' manipulative behavior was self-concealing and it took further active steps to conceal its unlawful behavior, Plaintiff and Class Members remained unaware of these violations during the limitations period. Moreover, in these exchange-based transactions, Plaintiff and Class Members have no way of knowing who their trading counterparties were—indeed, they still do not know Defendants' identities.

85. The CBOE maintains detailed records of who trades on its exchanges, when they trade, with whom they trade, and how much they trade. These records, however, are not publicly available, and the CBOE will not produce them. Because the foregoing manipulation was carried out on the CBOE's exchanges, and because the CBOE's exchanges by design provide for anonymous trading,[19] only the CBOE knows the identities of the Defendants (other than the

[19] For example, in connection with the launch of the American Financial Exchange, an electronic marketplace for small and mid-sized banks to lend and borrow short-term funds, in response to a question about what trading on the marketplace would look like and whether it would be anonymous, the answer given was:

> Yeah. The answer to the first question, it will look like any screen, like treasuries, like VIX. It will be a constant stream of quotes and distributions. ***The counterparties, as in all exchanges, will not be public***. That's the traditional standard, but in fact their bids and offers will be. ***We will protect the anonymity of our members***, but we will provide insights into who they are, and will basically—as you can see in the press quotes, they will identify themselves. But, ***our job is to***

Defendants and their agents). Moreover, those identities cannot be discovered without formal process, as the CBOE keeps those identities confidential as a matter of policy.

86. The CBOE has also promulgated a "Confidentiality Policy for Information Received or Reviewed in a Regulatory Capacity," which, among other things, provides for the confidentiality of "Position Data," which includes "Data collected via the reporting of large trader positions … as well as clearing member position data," and "Detailed Transaction Data," which includes "Trade data at the specific account level for individual trades from which market positions and/or profit and loss might be derived."[20]

87. Similarly, the CBOE's articles of incorporation explicitly state:

> ELEVENTH: To the fullest extent permitted by law, all confidential information pertaining to the self-regulatory function of the Corporation (including but not limited to disciplinary matters, trading data, trading practices and audit information) contained in the books and records of the Corporation shall: (i) not be made available to any persons other than to those officers, directors, employees and agents of the Corporation that have a reasonable need to know the contents thereof; (ii) be retained in confidence by the Corporation and the officers, directors, employees and agents of the Corporation; and (iii) not be used for any commercial purposes.[21]

> ***promote transparency within the market, but provide anonymity for those users as we do in all markets***.

CBOE Press Conference Transcript (Sep. 10, 2015), *available at* https://www.cboe.com/aboutcboe/mediahub/pdfs/afx-press-conference-transcript-9-10-15.pdf (last accessed February 22, 2018).

[20] CFE, Confidentiality Policy for Information Received or Reviewed in a Regulatory Capacity, *available at* https://cfe.cboe.com/aboutcfe/legal/pdfs/confidentialitypolicy.pdf (last accessed February 22, 2018).

[21] CBOE, Fifth Amended and Restated Certificate of Incorporation, *available at* http://www.cboe.com/framed/pdfframed?content=/publish/cboe-rules/5th-amended-and-restated-certificate-of-incorporation-of-cboe-exchange-inc.pdf&section=SEC_ABOUT_CBOE&title=Fifth%20Amended%20and%20Restated%20Certificate%20of%20Incorporation%20of%20Cboe%20Exchange,%20Inc (last accessed February 22, 2018).

88. The foregoing confidentiality policies further underscore that, other than the Defendants themselves, only the CBOE knows the identities of those who manipulated the settlement prices of VIX futures and options, as set forth above.

89. Because Defendants employed acts and techniques that were calculated to wrongfully conceal the existence of such illegal conduct, Plaintiff and the Class could not have discovered the existence of this unlawful conduct any earlier than the announcement of regulatory investigations in early 2018.

90. Even after the publication of the Griffin and Shams study, non-party CBOE—the only entity with access to real trading data—repeatedly denied that manipulation had taken place. As reported in a June 19, 2017 *Marketwatch* article, the CBOE stated:

> CBOE Vice President of Research William Speth says Griffin "overlooks that traders legitimately seek to replicate VIX futures and options that will expire at final settlement, and to do so those traders logically will need to trade in the very options that Professor Griffin found, and in the same quantities and at the same point in time that Professor Griffin observed."
>
> ***
>
> CBOE spokeswoman Suzanne Cosgrove told me, "There are numerous structural safeguards built into the VIX settlement that make it difficult to manipulate, and our regulatory group actively surveils for potential VIX settlement manipulation." Cosgrove also said: "CBOE has not made any regulatory findings that the VIX final settlement has been manipulated."
>
> In one other on-the-record comment, CBOE Vice President of Research Speth said: "Professor Griffin does not conclude that there has been manipulation of the VIX settlement, but rather just that it supposedly is susceptible to manipulation."[22]

91. The CBOE's denials continued into 2018. For example, in an article about the December 2017 settlement, *Bloomberg* reported:

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[22] *See* Elliot Blair Smith, *Opinion: How S&P 500 options may be used to manipulate VIX 'fear gauge'*, MarketWatch (June 19, 2017), *available at* https://www.marketwatch.com/story/how-sp-500-options-may-be-used-to-manipulate-vix-fear-gauge-2017-06-19 (last accessed March 9, 2018).

> For much of last year, the Cboe had to defend itself after an academic study purported to show the VIX settlement is subject to manipulation. While the exchange has seen nothing to alter ***its view that the claims are baseless***, December's events gave the conversation another stir.
>
> ***
>
> ***Exchange officials say nothing untoward is going on***, that the VIX settlement repels tampering through a transparent auction process that is separate and distinct from its pricing the rest of the day.[23]

92. On February 13, 2018, *The Wall Street Journal* again reported that CBOE continued to deny manipulation:

> Cboe said the University of Texas professors' research is based on "fundamental misunderstandings" about the VIX and its derivatives. It also said it has safeguards that make it difficult to manipulate the volatility gauge.
>
> "The VIX index formula calculation performs exactly as intended, and we do not think that there is a problem with the VIX settlement process," a Cboe spokesman said in December.[24]

93. So, too, on February 14, 2018, *Bloomberg* reported that "Cboe vehemently denied the [Grffin and Shams] paper's conclusions, and Speth said the authors didn't consider the full range of possible reasons other than manipulation that could explain the moves they observed."[25]

94. Due to Defendants' fraudulent concealment and the facts stated above, any applicable statute of limitations affecting or limiting the rights of action by Plaintiff or members of the Class has been tolled during the period of such fraudulent concealment.

COUNT I
Manipulation in Violation of the CEA, 7 U.S.C. §§ 1, *et seq.* and Rule 180.2
Against all Defendants

95. Plaintiff re-alleges and incorporates paragraphs 1-94 above as if stated herein.

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[23] *See* Baker and Vannucci, at FN 16, *supra*.

[24] *See* Banerji, at FN 12, *supra.*

[25] *See* Baker and Vannucci, at FN 16, *supra.*

96. Defendants specifically intended to and did cause unlawful and artificial final settlement prices of VIX futures and options in violation of the CEA, 7 U.S.C. §§ 1, *et seq.*

97. As alleged herein, Defendants traded a substantial number of out-of-the-money SPX options during the auctions for determining the final settlement price of VIX futures and options. Defendants had no legitimate economic purpose, such as hedging, for their transactions in out-of-the-money and SPX options, and instead engaged in those transactions for the sole or principal purpose of influencing the final settlement price of VIX futures and options. Defendants' transactions created false and misleading market signals, including about the true level of supply and demand for SPX options at various strike prices and for VIX futures and options, resulting in artificial final settlement prices for VIX futures and options that did not reflect the legitimate forces of supply and demand. Defendants knowingly engaged in such transactions for the express purpose of influencing the final settlement price of VIX futures and options because they held significant positions that would benefit from that influence.

98. By their intentional and unlawful conduct, Defendants caused the final settlement prices of VIX futures and options to be artificial during the Class Period in violation of 7 U.S.C. §§ 9(3), 13(a)(2), 25(a), and 17 C.F.R. § 180.2.

99. Plaintiff and others who held VIX futures or options through final settlement during the Class Period transacted at artificial and unlawful prices resulting from Defendants' manipulations and as a direct result thereof were injured and suffered damages.

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

COUNT II
Manipulation in Violation of the CEA, 7 U.S.C. §§ 1, *et seq.* and Rule 180.1
Against all Defendants

101. Plaintiff re-alleges and incorporates paragraphs 1-94 above as if stated herein

102. Under Section 6(c)(1) of the CEA, as amended, codified at 7 U.S.C. § 9(1), 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, which shall promulgate by not later than 1 year after July 21, 2010.

103. In July 2011, the CFTC promulgated Rule 180.1(a), 17 C.F.R. § 180.1(a), which provides, in relevant part:

> **§ 180.1 Prohibition on the employment, or attempted employment, of manipulative and deceptive devices.**
>
> (a) 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 the 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.

104. Defendants violated Rule 180.1(a) by transacting in out of the money SPX options during the auction for determining the final settlement prices of VIX futures and options,

transactions for which Defendants had no legitimate economic purpose, such as hedging, and instead which were engaged in for the sole or principal purpose of influencing the final settlement price of VIX futures and options. Defendants' transactions created false and misleading market signals, including about the true level of supply and demand for SPX options at various strike prices and for VIX futures and options, resulting in artificial final settlement prices for VIX futures and options that did not reflect the legitimate forces of supply and demand.

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

COUNT III
Aiding and Abetting Manipulation in Violation of the CEA, 7 U.S.C. §§ 1, *et seq.*
Against all Defendants

106. Plaintiff re-alleges and incorporates paragraphs 1-94 above as if stated herein

107. As an alternative to Counts I and II, and solely if Defendants (or any one of them) are not found liable for a primary violation of the CEA, then Defendants are liable for aiding and abetting manipulation.

108. Each and every Defendant had extensive knowledge of the manipulation and, with such knowledge, materially assisted the manipulation by the other Defendants.

109. Each Defendant made and benefited from the manipulative acts and willfully aided, abetted, counseled, induced, or procured the commission of violations of the CEA by the other Defendants.

110. Each Defendant supervised the making of and benefited from the manipulative acts and willfully aided, abetted, counseled, induced, or procured the commission of violations of the CEA by the other Defendants.

111. Each Defendant, by and through their respective partners, agents, employees and/or other persons, benefited from the manipulative acts and willfully aided, abetted, counseled, induced, or procured the commission of violations of the CEA by the other Defendants.

112. Each Defendant participated in the development of the manipulative scheme and participated in the execution of, and supervised, the manipulative acts. Each Defendant also benefited from the manipulative acts and willfully aided, abetted, counseled, induced, or procured the commission of violations of the CEA by the others.

113. Defendants each played their component role and each knowingly aided, abetted, counseled, induced, or procured the violations alleged herein. Defendants did so knowing of each other's manipulation of the final settlement prices of VIX futures and options, and willfully intended to assist these manipulations, which resulted in artificiality in the market for those instruments during the Class Period.

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

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for relief and judgment, as follows:

A. For an order determining that this action is a proper class action, certifying Plaintiff as a class representative under Rule 23 of the Federal Rules of Civil Procedure, and Plaintiff's counsel as Class Counsel;

B. For a judgment awarding Plaintiff and the Class damages, as well as punitive or exemplary damages, against Defendants for their violations of the CEA, together with prejudgment interest at the maximum rate allowable by law;

C. For a judgment awarding Plaintiff and the Class any and all sums of Defendants' unjust enrichment;

D. For an order impressing a constructive trust temporarily, preliminarily, permanently or otherwise on Defendants' unjust enrichment, including the portions thereof that were obtained at the expense of Plaintiff and the Class;

E. For an award to Plaintiff and the Class of their costs of suit, including reasonable attorneys' and experts' fees and expenses; and

F. For such other and further relief as the Court may deem just and proper.

Dated: March 9, 2018

Respectfully submitted,

s/ Anthony F. Fata

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