

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

**ALEX PALATIELLO**, on behalf of himself )  
and all others similarly situated, ) **CLASS ACTION COMPLAINT**  
Plaintiff, )  
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**CBOE EXCHANGE, INC.,** )  
**CBOE FUTURES EXCHANGE, LLC, and** ) **JURY TRIAL DEMANDED**  
**CBOE GLOBAL MARKETS, INC.,** )  
Defendants. )  
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Plaintiff Alex Palatiello ("Plaintiff") brings this action on behalf of himself and all others similarly situated against Cboe Exchange, Inc. (f/k/a Chicago Board Options Exchange, Incorporated or CBOE) ("Cboe Options"), Cboe Futures Exchange, LLC ("Cboe Futures") and Cboe Global Markets, Inc. (f/k/a CBOE Holdings, Inc.) ("Cboe Global") (collectively, "Defendants") for violations of both the Commodity Exchange Act ("CEA") and associated Commodity Futures Trading Commission ("CFTC") regulations. The allegations herein are based upon personal knowledge as to matters concerning Plaintiff and his own acts, and upon information and belief as to all other matters. The allegations that are not based on Plaintiff's personal knowledge result from Plaintiff's counsel's investigation.

## SUMMARY OF THE COMPLAINT

1. This class action is brought on behalf of investors who transacted in futures, options, and/or exchange-traded products<sup>1</sup> linked to Cboe Global's proprietary Volatility Index ("VIX"), which is widely known as the U.S. stock market's "fear gauge."

2. Defendants intentionally created and promoted the VIX and their trading exchanges in a manner that fostered a rigged market and allowed manipulation of the prices at which futures and options were traded, including VIX ETPs, during the Class Period (defined below), in violation of the CEA and CFTC Rule 180.1.

3. Extensive statistical analyses and insider admissions, including from past regulators, reveal the exploitation of known design flaws in the VIX, which allow manipulation of market prices and, therefore, artificial inflation or depression of the options and futures prices that do not reflect the legitimate forces of supply and demand. Market makers<sup>2</sup> and/or other traders took advantage of those flaws through sophisticated algorithms and fraudulent intent by submitting trading orders for the sole intent of manipulating the VIX, as opposed to genuine belief in the fundamentals of the trades, thereby damaging innocent traders.

4. Regulators have recently announced that they are investigating manipulation of the VIX, including the SEC, the CFTC, and the Financial Industry Regulatory Authority ("FINRA").

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<sup>1</sup> There are presently at least 18 active VIX-linked exchange-traded products ("VIX ETPs") (and at least an additional 19 that have closed), which have a combined market cap of about \$3.4 billion. The VIX ETPs include the following: VelocityShares Daily Inverse VIX Short-Term ETN ("XIV"), iPath S&P 500 VIX Short-Term Futures ETN ("VXX"), ProShares Ultra VIX Short-Term Futures ETF ("UVXY"), VelocityShares Daily 2x VIX Short-Term ETN ("TVIX"), and ProShares Short VIX Short-Term Futures ETF ("SVXY"). ETPs are "hybrid instruments" under the CEA, 7 U.S.C. §1a(29), priced so their value is derived from other investment instruments.

<sup>2</sup> A "market maker" is commonly known as a firm that stands ready to buy and sell a particular stock on a regular and continuous basis at a publicly quoted price. *See* <https://www.sec.gov/fast-answers/answersmktmakerhtm.html> (last accessed April 6, 2018).

5. The VIX proprietary index, platforms, and services designed, owned, and sold by Defendants have accounted for a massive percentage of their revenues. For example, in 2017, approximately 69.8% of Cboe Global's net transaction fees were generated by futures and index options, the overwhelming majority of which were generated by Defendants' exclusively-licensed products and products based on the VIX methodology. These revenues motivated Defendants to improperly implement and sell those services on their platforms and knowingly foster, and profit from, illegal manipulation and exploitation of the VIX.

6. Defendants had actual knowledge of, or were intentionally reckless to, the design flaws and actual manipulation and exploitation by market makers and/or other traders. Defendants also continue to permit trading of VIX futures, VIX options, and VIX ETPs despite the fact that they are readily being manipulated, and Defendants have enabled the continuation of manipulation and provided certain favored insiders with specialized tools that make such manipulation even easier. In sum, Defendants emphasized trading volume and profit over the fairness and integrity of their markets during the Class Period.

### **PARTIES**

7. Plaintiff Alex Palatiello is an individual who resides in Trumbull, Connecticut. During the Class Period, he traded in the exchange-traded product called Short VIX Short-Term Futures ETF (SVXY). SVXY provides short exposure to the S&P 500 VIX Short-Term Futures Index, which measures the returns of a portfolio of monthly VIX futures contracts. Investors, like Plaintiff, seek to profit from SVXY through decreases in the expected volatility of the S&P 500 as measured by the prices of VIX futures contracts. Plaintiff has been damaged as a direct and proximate result of Defendants' business scheme that has defrauded and deceived investors in violation of the CEA and associated CFTC rules.

8. Defendant Cboe Options is a corporation organized and existing under the laws of the State of Delaware with a principal place of business at 400 South LaSalle Street, Chicago, Illinois 60605. Cboe Options was formed in 1973 and is the oldest options exchange in the United States. Cboe Options is one of the largest U.S. options exchanges and the creator of exchange listed standardized options. Cboe Options is a wholly-owned subsidiary of Defendant Cboe Global, and it is the latter's primary options market.

9. Defendant Cboe Futures is a limited liability corporation organized and existing under the laws of the State of Delaware with a principal place of business at 400 South LaSalle Street, Chicago, Illinois 60605. Cboe Futures was formed in 2004, and it is a wholly-owned subsidiary of Defendant Cboe Global. Cboe Futures is Defendant Cboe Global's futures exchange, it lists futures on the VIX, and it is subject to the CEA.

10. Defendant Cboe Global is a corporation organized and existing under the laws of the State of Delaware with a principal place of business at 400 South LaSalle Street, Chicago, Illinois 60605. Cboe Global used to be known as CBOE Holdings, Inc., but the new naming convention was unveiled in October 2017. Defendant Cboe Global is one of the world's largest exchange holding companies. Cboe Global's most frequently traded products are S&P 500 Index ("SPX") options and VIX futures and options, and it generates transaction fee revenue on products created and based on those indexes.

#### **JURISDICTION AND VENUE**

11. The claims asserted herein arise under and pursuant to Section 22 of the CEA (7 U.S.C. § 25) and CFTC Rule 180.1(a), 17 C.F.R. § 180.1(a).

12. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. § 1331 and 7 U.S.C. § 25.

13. Venue is proper in this District pursuant to 7 U.S.C. § 25 and 28 U.S.C. § 1391(b)-(d). Defendants maintain their principal places of business in this District, and the acts and practices complained of herein occurred in substantial part in this District.

14. This Court has personal jurisdiction over Defendants, because: they are found or reside in this District, have agents in this District, and transact business throughout the United States, including in this District; a substantial part of the events giving rise to Plaintiff's claims arose in this District; and a substantial portion of the affected interstate trade and commerce described herein has been carried out in this District.

15. In connection with the acts alleged in this complaint, Defendants used the means and instrumentalities of interstate commerce, including, but not limited to, the mails, interstate telephone communications and the facilities of the national securities markets.

#### **FACTUAL ALLEGATIONS**

##### ***Defendants Created Proprietary Trading Exchanges and Other Products.***

16. Cboe Options claims that it has “continuously set the bar for options trading through product innovation, trading technology and investor education.”

17. Because investors cannot directly trade the VIX, Defendants needed to create VIX-related products in order to monetize the VIX and generate profits. Having secured an exclusive license on the S&P 500 in order to create the VIX, Defendants then created VIX futures and options, which can only be traded on Defendants' exchanges.

18. VIX futures are financial futures, which “usually take the form of a contract that depends on the value of an index at some future date.” *Bd. of Trade of City of Chicago v. S.E.C.*, 187 F.3d 713, 715 (7th Cir. 1999). The buyer (known as the “long” position) of a financial futures contract that is based on the value of a specified index might promise to buy 100 times the value

of that index on a defined future date (the “settlement date”), and the seller (known as the “short” position) will receive that price on that date.

19. The parties may close their position in the financial futures contract at any time prior to 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”).

20. 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).

21. Investors can also take positions that have exposure to underlying VIX futures by trading VIX options, which can be either put or call options. 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” when the future date in question comes to pass. An investor typically buys a VIX call option when he/she expects the price of the corresponding VIX future to rise above the call’s strike price. Conversely, a VIX put option gives the holder the right, but not the obligation, to sell a VIX futures contract at the strike price at the date of expiration. The buyer of a VIX put option will be “in-the-money” if the price of the corresponding VIX future’s price drops below the put’s strike price.

22. In the late 1990’s, Cboe Options developed a proprietary, state-of-the-art electronic options trading platform called CBOEdirect, which was launched in 2001.

23. In 2004, Cboe Futures opened, and VIX futures began trading.

24. In 2006, VIX options were launched. Also that year, Cboe Options boasted that options contract volume reached an all-time record (up 44% over the previous year).

25. Defendants pioneered the volatility trading space with their introduction of futures on the VIX in 2004 and options on the VIX in 2006.

26. In 2008, annual exchange volume surpassed one billion contracts for the first time.

27. In 2012, Cboe Command, a trade engine technology, went live. Cboe Options currently operates on that technology, and Cboe Futures was expected to migrate from that technology to a different one on February 25, 2018.

28. Also in 2012, annual volume in VIX options and futures set sixth and third consecutive records, respectively.

29. In 2014, trading in VIX futures expanded to twenty-four hours a day. Overall trading volume for Cboe Global reached an all-time high of 1.3 billion contracts that year.

30. In 2015, extended trading hours for SPX, and VIX options were launched. Cboe Options became the first U.S. options exchange to trade options during non-U.S. trading hours.

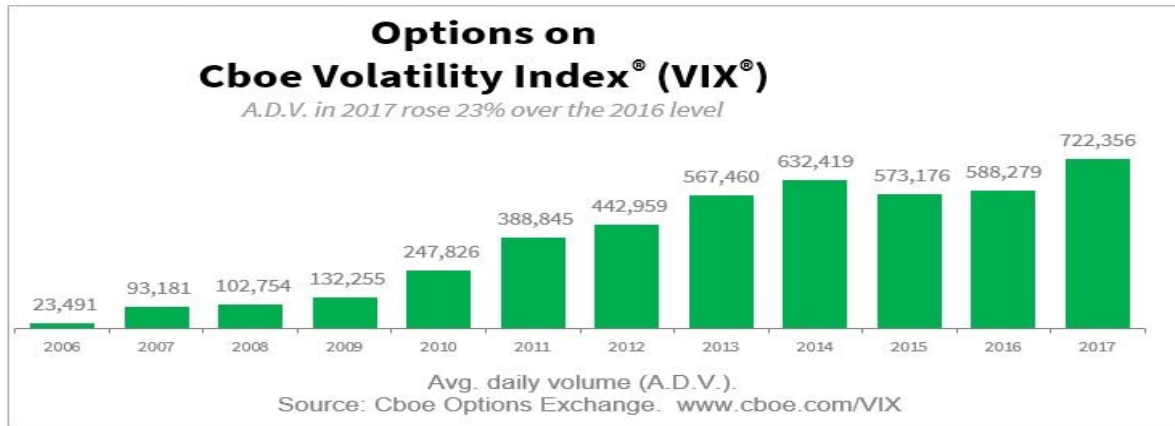
31. In 2016, overnight dissemination of the VIX began.

32. By 2017, Defendants obtained record-breaking trading volumes in VIX options and futures, as reflected by the following two charts:<sup>3</sup>

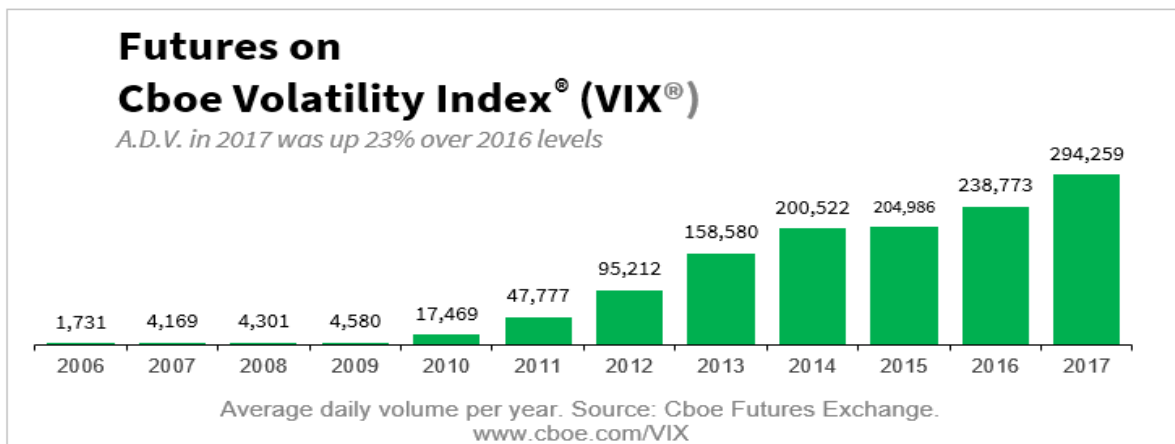
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<sup>3</sup> Matt Moran, *Nine Charts Highlight Nine New Records for Cboe Products in 2017*, (Jan. 5, 2018), available at <http://www.cboe.com/blogs/options-hub/2018/01/05/nine-charts-highlight-nine-new-records> (last accessed April 6, 2018).

#2 - Record Volume for VIX Options



#3 - Record Volume for VIX Futures



33. In addition to Defendants’ exchanges, they also offer proprietary indexes and index methodologies that include volatility index products based on various broad-based market indexes like the S&P 500. Defendants’ proprietary products are built through in-house research and development staff and Defendants’ strategic relationships and license agreements with index providers.

34. Defendants state that VIX futures and options enable investors to trade volatility independent of the direction or the level of stock prices. “Whether an investor’s outlook on the



market is bullish, bearish, or somewhere in between – VIX options and futures can provide the ability to diversify a portfolio or hedge, mitigate or capitalize on broad market volatility.”<sup>4</sup>

35. Defendants market VIX futures and options by falsely stating: “The negative correlation of volatility to stock market returns is well documented and suggests a diversification benefit to including volatility in an investment portfolio. VIX futures and options are designed to deliver pure volatility exposure in a single, efficient package.”

36. Defendants also falsely represent that VIX exchange-traded futures “provide[] a continuous, liquid and transparent market for VIX products that are available to all investors from the smallest retail trader to the largest institutional money managers and hedge funds.”

37. Plaintiff and the Class justifiably relied on the fairness and integrity of Defendants’ trading exchanges. They relied on the traditional role and function of exchanges as protectors of the investing public, justifiably believing that Defendants provided level playing fields on which no class of trader is favored over other investors. Defendants, however, acted in their own profit-driven self-interests in the design and promotion of the VIX and their trading exchanges, sacrificing the interests of investors like Plaintiff and the Class to do so. Plaintiff and the Class relied upon the purpose and adequacy of the regulatory structure—and Defendants’ statements—to ensure an honest, efficient, and transparent market and did not anticipate that Defendants’ self-interested acts outside of that structure would fundamentally subvert those goals.

***Defendants Designed the Calculations and Methodology for the VIX.***

38. Defendants were central to the creation of the VIX and the explosion in trading in VIX futures, options, and VIX ETPs. Defendants were responsible for determining and selecting

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<sup>4</sup> See <http://www.cboe.com/products/vix-index-volatility/vix-options-and-futures> (last accessed April 6, 2018).

the formula used to calculate the VIX, as well as the modified Special Opening Quotation (“SOQ”) calculation process used to determine the settlement price of VIX futures and options. The SPX options that influence the VIX, VIX futures, and VIX options are all traded exclusively on Cboe Options and/or Cboe Futures. VIX ETPs, like SVXY, were likewise dependent on Defendants’ selection process for determining and calculating the VIX and the modified SOQ formula for settlement prices of VIX futures and options.

39. Cboe Options introduced its first proprietary VIX Index in 1993. It was originally designed to purportedly measure the market’s legitimate expectation of 30-day volatility implied by at-the-money S&P 100 Index (OEX Index) option prices. The VIX is colloquially referred to as the fear index or fear gauge.

40. Cboe Global falsely represents that the VIX “is designed to reflect investors’ *consensus* view of future 30-day expected stock market volatility.” (emphasis added).

41. In 2003, Cboe Options redesigned the VIX, in consultation with Goldman Sachs, to reflect a new way to purportedly measure legitimate expected volatility. Cboe Global represents its proprietary, updated VIX to be based on the SPX, and claims that it calculates expected volatility by averaging the legitimate weighted prices of SPX puts and calls over a wide range of strike prices. The selected options are out-of-the-money SPX calls and puts centered around an at-the-money strike price.

42. Cboe Global claims ownership of the proprietary design, calculations, and methodology in the VIX. Further, Cboe Options designed various rules for the calculation of the proprietary VIX Index.

43. One of the rules created and implemented by Cboe Options is that the value of VIX derivatives is established at settlement calculated on SPX options. The settlement value is calculated from out-of-the-money (“OTM”)<sup>5</sup> SPX put and call options with various exercise prices.

44. Defendants explain the method of settlement value calculation as follows: “The final settlement value for VIX futures and options is a [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.”

45. Defendants also falsely represent that the formula’s use of “SPX options with more than 23 days and less than 37 days to expiration ensures that the VIX Index will always reflect an interpolation of two points along the S&P 500 volatility term structure.”

46. Expiring VIX futures and VIX options settle on the third or fourth Wednesday of each month, and the final settlement values for VIX futures and VIX options are determined on the morning of their expiration date.

47. The final settlement value for the VIX futures and VIX options is calculated using a modified VIX calculation (the “VIX Settlement Price”) based on a proprietary auction mechanism, known as the Hybrid Opening System or HOSS. The auction of SPX Options closes at 8:30 a.m. CST on the expiration date and considers exclusively OTM SPX Options. The VIX Settlement Price is modified from the normal VIX calculation in that the normal VIX calculation includes both OTM and in-the-money (“ITM”) SPX Options.

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<sup>5</sup> OTM is a term used to describe a call option with a strike price that is higher than the market price of the underlying asset, or a put option with a strike price that is lower than the market price of the underlying asset. The value of an OTM option erodes quickly with time as it gets closer to expiry (referred to as theta), and if it is still OTM at expiry, an option will expire worthless because it would be unprofitable to exercise that option.

48. In other words, an auction is held between 7:30 a.m. and 8:30 a.m. CST 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.

49. Upon information and belief, Defendants intentionally or recklessly designed their products, operated their platforms, and formulated the method for calculating the VIX and the SOQ in a manner that could be manipulated, especially by the traders who were given status as SPX Options market makers by Defendants.<sup>6</sup> Indeed, some of Defendants' initiatives pertaining to the VIX and SOQ were implemented only after they sought and obtained close consultation and significant contributions on these initiatives from certain financial institutions that trade heavily in VIX options, VIX futures, and VIX ETPs, such as Goldman Sachs.

50. Defendants acted as the administrator of SPX options, VIX options, VIX futures, and the SOQ process; therefore, they had a front-row seat to every settlement and had access to all of the relevant data necessary to reveal the fact that the settlement prices were being manipulated. Defendants knew or were reckless as to whether manipulation has been occurring based on their real-time view of the settlement data as part of Defendants' SOQ process. Defendants also knowingly or recklessly published the wrong, manipulated prices to the market, thereby knowingly or recklessly disregarding the fact that their quantification of the VIX settlement value was materially misleading during the Class Period.

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<sup>6</sup> According to Cboe Rule 8.13, "Lead Market-Makers" are required to entering opening quotes for SPX options, and under Cboe Rule 8.85, "Designated Primary Market Makers" are required to enter opening quotes for weekly SPX options. Defendants do not publicize the identify of these few privileged market makers.

51. Defendants designed and implemented its SOQ calculation methodology for the VIX settlement in such a way that it is readily susceptible to manipulation, even as other, near-equivalent indices selected settlement calculations that included additional safeguards designed to prevent manipulation. For example, the VSTOXX index, which is a European volatility index equivalent to the VIX and is traded through options and futures, does not use a single opening price. Instead, settlement of VSTOXX options and futures is based on the average of VSTOXX values calculated every five seconds over the course of a 30-minute trade window. Additionally, VSTOXX options and futures are settled only using trades that have a premium of at least 0.5 euros. As a consequence, anyone wishing to manipulate the VSTOXX has to maintain the price discrepancy for a longer period of time at a higher cost, and at greater risk than they need to in order to manipulate the VIX. Furthermore, the VSTOXX final settlement price is established by the Eurex Exchange, and the calculation occurs during normal market trading hours, whereas the VIX settlement occurs during a period prior to the opening of the market, which renders it much more prone to manipulation by a small number of market makers and/or other traders.

52. Defendants have created and encouraged the environment in which VIX manipulation occurs. Defendants also determine which traders are afforded market-making privileges, they determine the eligibility rules/requirements to be a market maker, and they shelter the identities of market makers from public disclosure. Those market makers pay additional revenue to Defendants and/or receive commission discounts and other trading privileges by virtue of their respective roles as market makers. Defendants offer steep discounts and rebates for quoting OTM SPX options, whereas almost no other options offered by Defendants enjoy this incentive.

53. Although Defendants have represented VIX futures and options as honestly and accurately reflecting market volatility through its advertising, marketing, annual reports, web descriptions, and elsewhere, they at no point disclosed to Plaintiff and the public that the SOQ process was, in fact, routinely manipulated in order to correspondingly manipulate the settlement values of VIX futures and options, with distorting, artificial effects on the prices of VIX ETPs like SVXY.

***Trading Based on the VIX is Enormously Profitable to Defendants.***

54. Billions of dollars of VIX ETPs are traded, all based on Cboe Global's proprietary indices and calculations.

55. The volume of trading based on Cboe Global's VIX Index is enormously profitable Defendants.

56. According to Cboe Global, "combined trading activity in VIX options and futures has grown to over 800,000 contracts per day."

57. Cboe Global declared VIX options to be "the most successful new product in CBOE history."

58. Cboe Global charges a fee for every transaction involving VIX futures and options contracts, and its revenue from overall transaction fees increased almost fourfold from January 1, 2009 to the present, climbing to approximately \$1.56 billion in 2017.

59. Indeed, according to the February 22, 2018 10-K filed by Cboe Global:

In 2017, approximately 69.8% of our net transaction fees (defined below) were generated by futures and index options, the overwhelming majority of which were generated by our exclusively-licensed products and products based on the VIX methodology. The bulk of this revenue is attributable to our S&P 500 Index options and VIX Index options and futures. As a result, our operating revenues are dependent in large part on the exclusive licenses we hold for these products and our ability to maintain our exclusive VIX methodology.

60. This growth in earnings, a result of transaction fees related to trading in VIX futures and options, has also contributed to considerable growth in the value of shares in Cboe Global. Since June 14, 2010, the value of a share of Cboe Global common stock has risen from an IPO price of \$29 to a March 13, 2018 closing price of \$119.93—a 300%+ increase in value.

***Cboe Global’s Proprietary Methodology and Calculations Suffer from Known Flaws that Are Exploited for Discernible Manipulation.***

61. While Cboe Global claims that its proprietary VIX Index is designed to “deliver pure volatility exposure” and that it reflects “investors’ consensus view” of expected volatility, that is not the case. In truth, the VIX, because of its flawed design, exhibits deviations from true volatility, because the VIX includes criteria of illiquid options. *See* Anderson, Bondarenko, and Gonzalez-Perez (2015), *A Corridor Fix for High-Frequency VIX: Developing Coherent Implied Volatility Measures*:

Nonetheless, there are occasional extreme deviations that have a pronounced impact on the high-frequency volatility series. The main reason is a substantial, and sometimes abrupt, time variation in the range of options exploited in the VIX computations. While we often can pinpoint the source of those shifts, they are not always consistent with our option quote record, thus driving a wedge between our replication series and the VIX. Even more importantly, however, is the fact that such sudden changes in the range of covered strikes induce artificial breaks or ‘jumps’ in the associated volatility indices. Given these problems, we conclude that the high-frequency VIX data are not suitable for analyzing critical aspects of the volatility dynamics due to inconsistencies and noise in the time series. We also find that any alternative computation of the ideal MFIV series must confront serious obstacles in order to construct coherent index measures over time. Inevitably, the pronounced variability in the available strike coverage necessitates ad hoc corrections that will infuse the series with non-trivial measurement errors.

62. In addition, the VIX can be manipulated, because cash settlement permits a small number of traders to influence the VIX more than the risk those traders take in the underlying SPX options.

63. Options exchanges depend on market makers to provide quotes for options contracts that create liquidity for investors. Market makers and/or other traders can manipulate the VIX by submitting orders to be included in the settlement auction (the SOQ), but then cancel those orders before the market opens. Defendants provided special privileges to such market makers so that only they had the right to participate in the SOQ settlement process by providing non-binding quotes rather than executable orders. Defendants also permitted only certain privileged market makers to place “strategic orders” in the closing minutes of the SOQ process that were highly complex and allowed for an even higher level of gamesmanship.

64. Manipulation of the SOQ value would correspond to manipulation in the values of VIX futures and options, as well as the VIX ETPs that track them.

65. The manipulation described herein is undertaken by market makers and/or other traders with sophisticated, expensive technology and/or the ability to make markets on SPX options due to exclusive authorization from Defendants. Essentially, the manipulators use the privileges granted to them by Defendants and their high-frequency trading algorithms to conduct the manipulation.

66. Professor John M. Griffin of the McCombs School of Business at The University of Texas at Austin analyzed over seven years of VIX and SPX-related data, gathered from Tick Data, Cboe Global, Bloomberg, OptionMetrics, and other sources.<sup>7</sup>

67. Professor Griffin first emphasized: “Fair and accurate market prices are fundamental building blocks for efficient capital markets. Yet, market participants have

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<sup>7</sup> See John M. Griffin and Amin Shams, *Manipulation in the VIX?*, *The Review of Financial Studies*, May 23, 2017, available at [http://www.jgriffin.info/wp-content/uploads/2017/12/vix\\_pub.pdf](http://www.jgriffin.info/wp-content/uploads/2017/12/vix_pub.pdf) (last accessed April 6, 2018) (“Griffin Study”).



substantial incentives to manipulate these very same financial prices on which our economic system relies.”

68. The Griffin Study also noted three features of the VIX settlement process that leave it open to manipulation. “First, the upper-level VIX market is large and liquid, enabling a trader to invest a sizable position in VIX derivatives. In contrast, many of the lower-level SPX options, where the VIX values are derived from, are illiquid.” This means a relatively small number of trades in lower-level, deep OTM options can move the price of those options significantly, with a correspondingly and disproportionately large effect on the VIX.

69. “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.” That means a manipulator can cash out his position at the deviated price.

70. “Third, the settlement occurs within a short period of time based on the SPX options pre-open auction.” Therefore, large orders for OTM SPX options once a month in the SOQ auction can affect the VIX settlement value. Therefore, the finite time period results in a narrow timeframe during which a market maker will incur manipulation costs, and the manipulator need not intervene over a long period of time.

71. The Griffin Study noted, “[a]lthough not all three conditions may be simultaneously needed for manipulation, the occurrence of all three potentially provides a ripe setting for profitable manipulation.”

72. The Griffin Study found several footprints in the data pointing to manipulation:

- a. “First, at the exact time of monthly VIX settlement, *highly statistically and economically significant trading volume spikes occur in the underlying SPX options.*”

- b. Second, *spikes occur only in the OTM SPX options that are included in the VIX settlement calculation* and not in the excluded in-the-money (ITM) SPX options.
- c. Third, there is no spike in volume for the similar S&P 100 Index (OEX) or SPDR S&P 500 ETF (SPY) options that are unconnected to volatility index derivatives.
- d. Fourth, if traders sought to manipulate the VIX settlement, they would want to move the prices by optimally spreading their trades across the SPX strikes and increasing the number of trades in the deep OTM put options consistent with the VIX formula. *Trading volume at settlement follows this pattern, whereas normally deep OTM options are rarely traded.*
- e. Fifth, there are certain options that have discontinuously higher weight in the VIX formula but are otherwise very similar to other options. *These options exhibit jumps in trading volume at settlement that are not present at normal times.”*

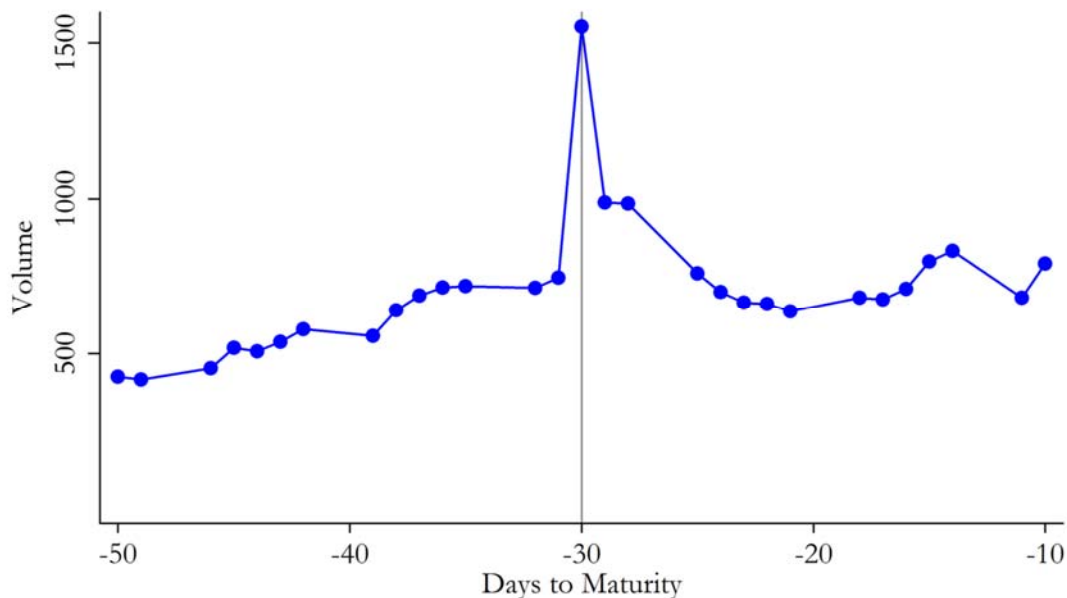
Griffin Study at 3 (emphasis added).

73. Based on the structure of the market and the design flaws in Cboe Global’s VIX Index, the mechanics of actually manipulating the VIX are: (1) opening long (or short) positions in the VIX derivatives prior to settlement; (2) submitting aggressive buy (or sell) orders in the SPX options during the settlement auction, and thereby causing the auction-clearing prices of SPX options—and as a result, the VIX settlement price—to rise (or fall); and (3) obtaining the higher

(or lower) price for the upper-level futures or options when they settle. These activities leave a trail of evidence in the data.

74. First, manipulation would be shown by volume spikes in the SPX options at the time of settlement.

75. And that is what the data shows. The Griffin Study found that the volume of SPX options spiked exactly thirty days prior to expiration—the date that the VIX settles—and further, that those spikes were uncorrelated to any clear S&P 500 market-related event. The Griffin Study included the following to demonstrate the spike in volume at the date of expiration:



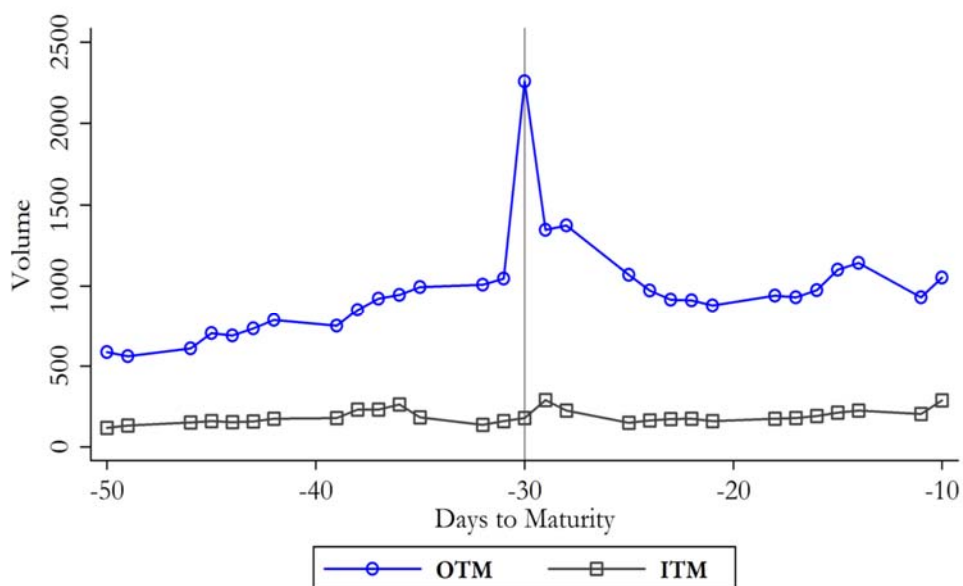
76. Second, there will be statistically significant differences in trading activities for the SPX options at the time of settlement versus, generally speaking, other options trading that do not affect the VIX.

77. The Griffin Study also found this in the data and determined that “there is no spike in volume for the similar S&P 100 Index (OEX) or SPDR S&P 500 ETF (SPY) options [that are]

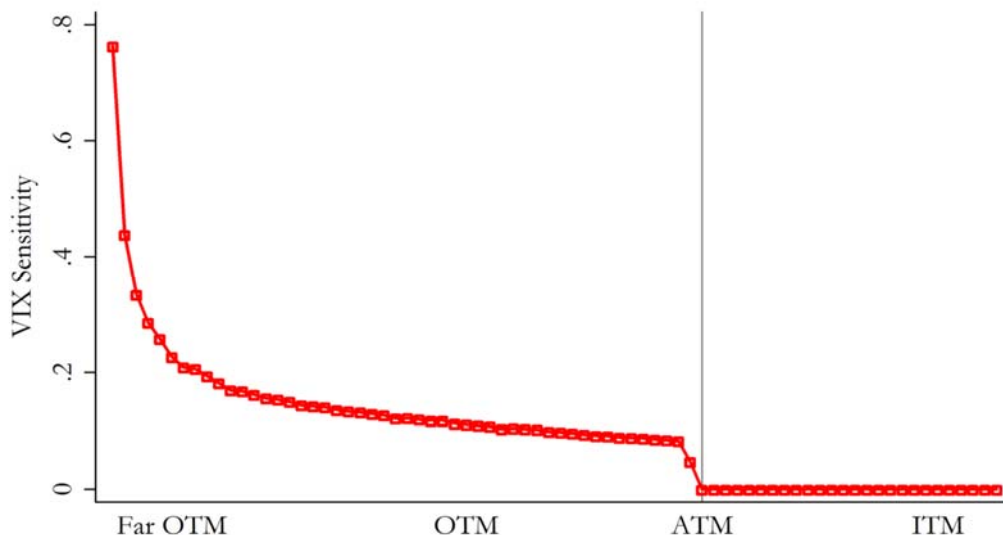
unconnected to volatility index derivatives,” and thus, do not present a strong opportunity for market manipulation.

78. The absence of a similar trading pattern in these related options—which are impacted by similar fundamentals but do not factor into the VIX—further suggests that the unusual trading pattern in SPX Options is evidence of market manipulation.

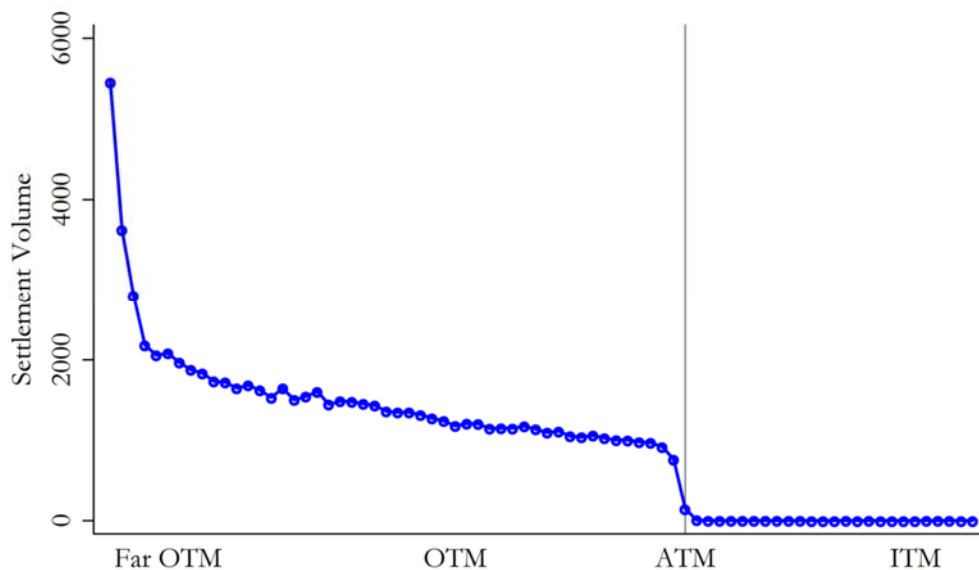
79. And most striking is the table showing the volume spikes for OTM options, on which the VIX is based, and ITM options, which do not affect the VIX Index:



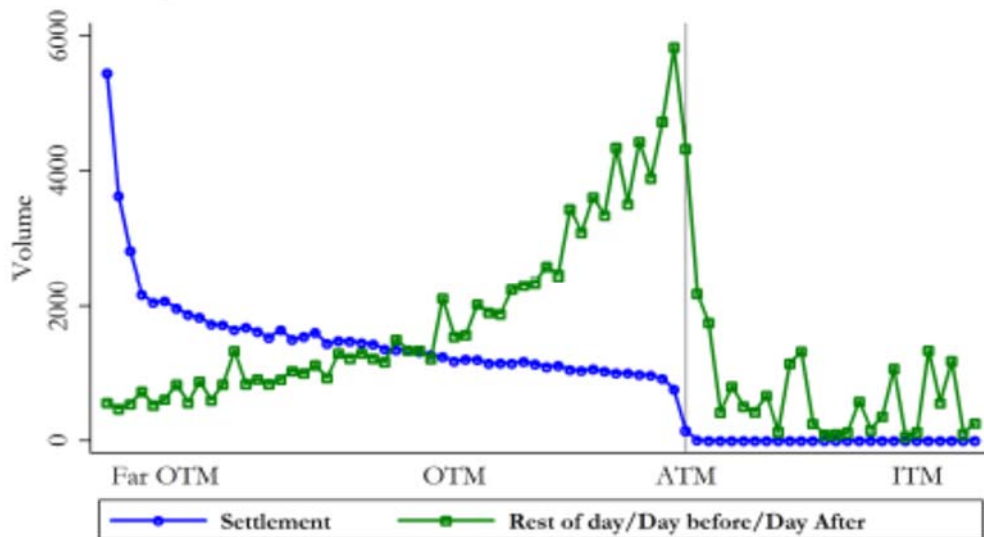
80. The VIX calculation, designed and owned by Cboe Global and its subsidiaries, allows for more sensitivity as put options become more OTM. As such, a manipulator would submit increasing volume as sensitivity increases. The Griffin Study demonstrated VIX sensitivity to price changes of individual put options graphically as follows:



81. And again, consistent with the Griffin Study’s conclusion that the market is being manipulated, volume is significantly higher as the put options become more OTM, which is consistent with the VIX sensitivity patterns in the previous graph.



82. Further, the data shows that the spike of volume for the far OTM options (when the VIX is most sensitive) occurs only at settlement. Once again, this pattern of data points to market manipulation. The Griffin Study showed that on the days straddling expiration, put options with higher VIX sensitivity trade significantly less.



83. The Griffin Study, based on extensive data over a 7-year period, provided the following conclusion:

Overall, this section has shown the existence of a volume spike that only occurs at the time of the VIX settlement. The patterns are only present in SPX options and not in nearly identical OEX or SPY options, and only in OTM SPX options that are included in the VIX settlement calculation and not in ITM options that are excluded. VIX exhibits an increasing sensitivity to the price of put options that are deeper OTM and, consistent with this relationship, there is a strong and statistically significant increase in volume as put options become more OTM, but only at the settlement. Finally, VIX is more sensitive to contracts that are further apart from other options, and accordingly, these contracts exhibit an economically large and statistically significant jump in volume on settlement that mirrors their importance in the VIX formula. In sum, the evidence is consistent with attempted manipulative activity, but there are other potential explanations to examine.

84. The Griffin Study then thoroughly investigated the three main alternative explanations for the evidence, but it found that the alternative explanations were less plausible than the conclusion of manipulation, in part, because VIX manipulation is “cost-effective for a large trader.”<sup>8</sup>

<sup>8</sup> The Griffin Study explained how (1) traders are not attempting to hedge a position in upper-level VIX derivatives through underlying SPX options, because the trading data revealed no such pattern prior to settlement; and (2) investors are not rolling their hedging positions into SPX options in a

85. In sum, the Griffin Study concluded that the most likely explanation for the data patterns was manipulation.

86. After publication of the Griffin Study, Matt Levine, a Bloomberg View columnist and former banker at Goldman Sachs and lawyer at Wachtell, Lipton, Rosen & Katz, explained:

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—but make back more in the derivative.<sup>9</sup>

***Recent Settlement Data Confirms Continuing Manipulation of the VIX.***

87. 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.”<sup>10</sup> These fluctuations cannot be explained by legitimate market forces of supply and demand.

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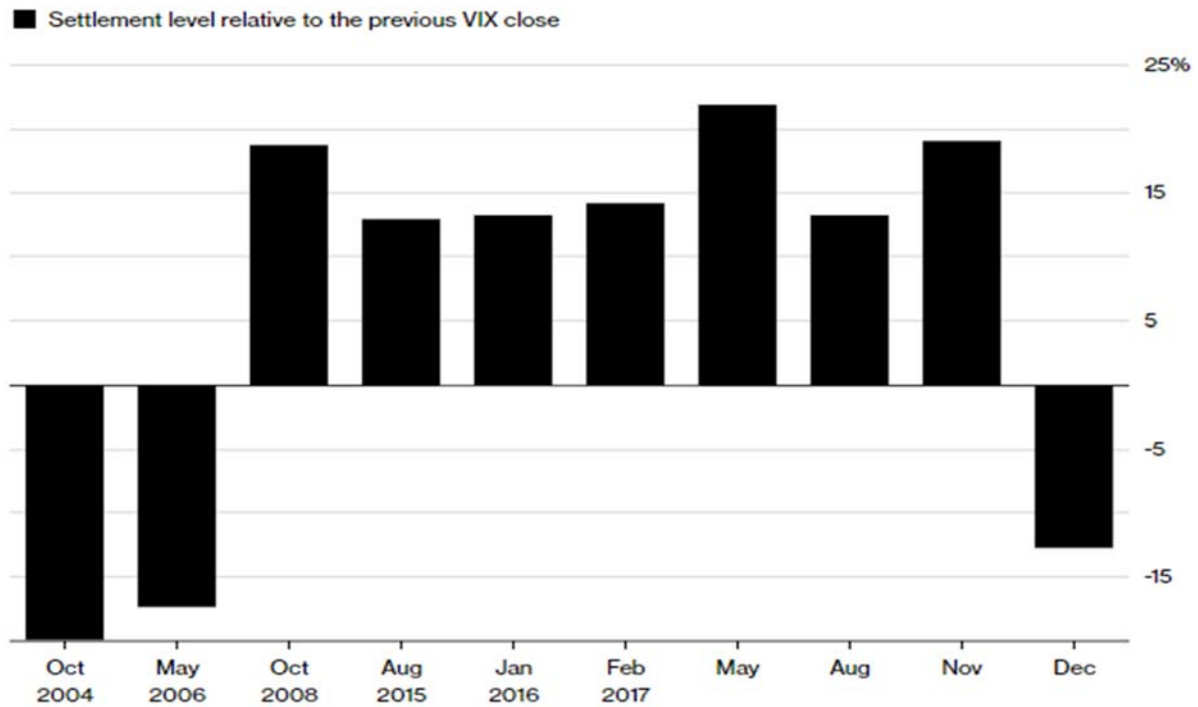
way that mimics the VIX weighting formula, because trading data revealed no volume spikes in closely-related exchange-traded products that would afford a similar payoff.

<sup>9</sup> 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 April 6, 2018).

<sup>10</sup> 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 April 6, 2018).

### Widest Gaps

Five of the 10 biggest divergences between the VIX and its settlement happened in 2017



Source: Bloomberg

88. Recent settlement data from 2017 and 2018 reveal additional statistically significant price fluctuations on the date of settlement that cannot be explained by variance, chance, or the legitimate market forces of supply and demand:

Month	Difference Between Settlement and Prior Day Close	Open Interest	Effect
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	\$1.90	55,926	\$106.3M
February 2017	\$1.08	63,982	\$69.1M



89. The January 2018 settlement occurred on January 17, 2018. On January 16, 2018, the penultimate day of trading, the settlement value was approximately \$11.775. Following the January 17, 2018 auction, the settlement value was \$12.61, a price increase Cboe Options 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 traded on Cboe Options. The price increase that occurred at settlement is also notable, because volatility generally decreased throughout the life of the contract, a trend that 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 auction—transferred approximately \$42.8M in value among contract holders.

90. The December 2017 settlement occurred on December 20, 2017. On December 19, 2017, the penultimate day of trading, the settlement value was approximately \$10.075. Following the December 20, 2017 auction, the settlement value was \$8.75, a price decrease Cboe Options recorded as \$1.32. The price change is statistically significant at the 95% level and represents one of the largest single-day price swings during the preceding 165 trading days on which more than three thousand December 2017 contracts were trading on Cboe Options. The price decrease that occurred at settlement is also notable, because the VIX 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 auction—transferred approximately \$94.3M in value among contract holders.

91. The November 2017 settlement occurred on November 15, 2017. On November 14, 2017, the penultimate day of trading, the settlement value was approximately \$12.05.

Following the November 15, 2017 auction, the settlement value was \$13.79, a price increase Cboe Options 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 Cboe Options. The price increase that occurred at settlement is also notable, because volatility generally decreased throughout the life of the contract, a trend that 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 auction—transferred approximately \$88.5M in value among contract holders.

92. The May 2017 settlement occurred on May 17, 2017. On May 16, 2017, the penultimate day of trading, the settlement value was approximately \$11.075. Following the May 17, 2017 auction, the settlement value was \$12.98, a price increase Cboe Options 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 Cboe Options. The price increase that occurred at settlement is also notable, because volatility decreased throughout the life of the contract, a trend that 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 auction—transferred approximately \$106.3M in value among contract holders.

93. The February 2017 settlement occurred on February 15, 2017. On February 14, 2017, the penultimate day of trading, the settlement value was approximately \$11.175. Following the February 15, 2017 auction, the settlement value was \$12.26, a price increase Cboe Options 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 Cboe Options. The price increase that occurred at settlement is also notable, because volatility decreased throughout the life of the contract, a trend that 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 auction—transferred approximately \$69.1M in value among contract holders.

94. These months are not the only examples of settlement price manipulation, but they are highlighted, because the data provided by Bloomberg—showing five large gaps in 2017 between the VIX settlement price and its closing price the night before—reveals that they were the months in which the manipulative scheme alleged herein had the largest apparent effects.

95. According to a preliminary analysis performed by Fideras 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.<sup>11</sup>

***An Anonymous Whistleblower Further Confirms Manipulation.***

96. A February 12, 2018 “Whistleblower Letter”<sup>12</sup> sent to the SEC and CFTC bolsters the Griffin Study. The anonymous whistleblower, who has held senior positions at some of the largest investment firms in the world, alleges that a

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<sup>11</sup> See Fideras, *Playing on Fear: Manipulation in the Volatility Market*, Fideras (Feb. 16, 2018), available at <http://fideras.com/publications/playing-on-fear> (last accessed March 15, 2018).

<sup>12</sup> Letter from Jason Zuckerman & Matt Stock from Zuckerman Law to James McDonald, Esq., Director of Division of Enforcement, Commodity Futures Trading Commission & Stephanie Akavian, Esq. & Steven Peikin, Esq., Co-Directors, Division of Enforcement, Securities and

market manipulation scheme . . . takes advantage of a pervasive flaw in the [calculation of VIX and] allows 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. This market manipulation has led to multiple billions in profits effectively taken away from institutional and retail investors and cashed in by unethical electronic option market makers.

97. As explained in the Whistleblower Letter, “VIX is highly subject to manipulation by market participants with the ability to rapidly post quotes in the market for [SPX Options]” and “because the VIX is a theoretical index, which does not rely on trading activity but mid-prices, [it] can be moved up or down by posting quotes without any physical trading taking place.”

98. The Whistleblower Letter discusses data points for the trading session of February 6, 2018, noting how the VIX surged in the early morning, collapsed around the time of the market open, surged again by 11:00 a.m., fell by over 50% in the absence of any major economic development, and then rallied back close to its initial value several hours later.

99. Using those data points as an example, the Whistleblower stated its view that it is “very clear that the VIX Index calculation is not only just subject to manipulation, but is in fact actively being manipulated.”

100. The Whistleblower Letter suggests that the collapse of certain inverse VIX ETPs, including XIV and UVXY, was partially the result of such market manipulation.

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Exchange Commission (Feb. 12, 2018),  
<https://assets.bwbx.io/documents/users/iqjWHBFdfxIU/r8LCxXQ4CfqU/v0>

***Regulators Begin Investigating and News Reports Further Bolster VIX Manipulation.***

101. As reported by the Wall Street Journal, FINRA is scrutinizing whether manipulators place bets on SPX options to influence prices for VIX futures.<sup>13</sup> A subsequent report stated that the CFTC, SEC, and FINRA are all investigating VIX-related manipulation.<sup>14</sup>

102. On February 14, 2018, CNBC interviewed Bart Chilton, former Commissioner of the CFTC, and he said that the “VIX has been suspect for at least seven years.” He added, “[p]eople have been concerned about prices being pushed around. Although, there’s never been any hard evidence.” However, Chilton said the VIX manipulation discussed in the Whistleblower Letter “rings true to me,” adding that “there’s certainly enough smoke.” Chilton specified, “I’ve had traders contact me and tell me they’ve lost money. They think prices are being pushed around.”<sup>15</sup>

103. An ex-SEC Chairman, Harvey Pitt, was also interviewed by CNBC and discussed the Whistleblower Letter. He said, “[t]he 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

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<sup>13</sup> 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 April 6, 2018).

<sup>14</sup> 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 April 6, 2018).

<sup>15</sup> 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 April 6, 2018).

complaints about possible manipulation, the [Cboe], as the marketplace, should have sprung in to action.”<sup>16</sup>

104. ValueWalk reported that volatility professionals were noticing odd market patters with the VIX and its correlation ratios during early February as the S&P 500 experienced a 250-point meltdown. By submitting false orders that have no reasonable intent to be filled, market makers can adjust their pricing, because the orders are identified by a mechanism in the algorithmic systems that interprets the orders as indicating that market pricing is about to change. ValueWalk reported that this flaw “was not much noticed until the market meltdown.”<sup>17</sup>

105. One such market participant is Bill Luby of Luby Asset Management, a trader in the San Francisco Bay area. Mr. Luby was interviewed by MarketWatch, and he expressed concern about the VIX settlement varying significantly from the opening price. He said, “[a]ny time I see a SOQ that is more than 3% or 4% above the opening price, that to me sends a red flag.” Mr. Luby provided MarketWatch with the historical spreadsheet on VIX settlement prices below, and said the increased “frequency and magnitude of the extreme outliers” from opening and closing prices since about November 2016 “has caught my attention.”<sup>18</sup>

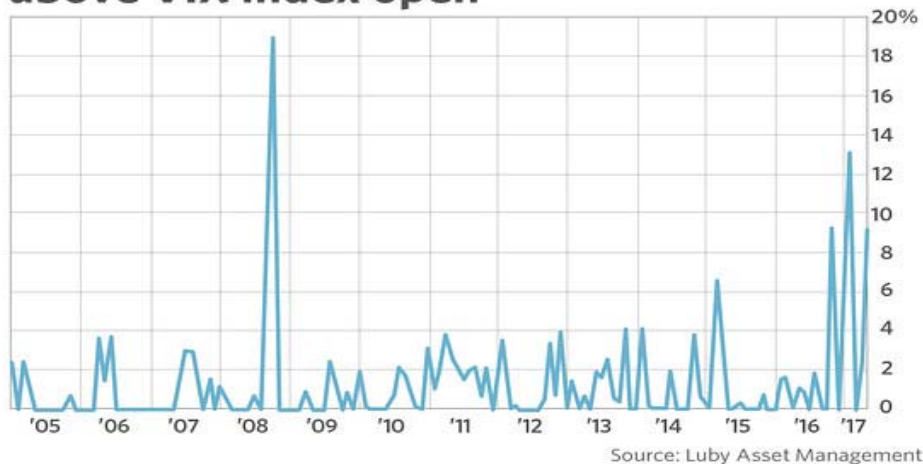
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<sup>16</sup> See Mark DeCambre, *Ex-SEC chairman says ‘it’s quite clear’ Wall Street’s ‘fear gauge’ can be manipulated*, MarketWatch (Feb. 16, 2018), available at <https://www.marketwatch.com/story/ex-sec-chairman-says-its-quite-clear-wall-streets-fear-gauge-can-be-manipulated-2018-02-16> (last accessed April 6, 2018).

<sup>17</sup> See Mark Melin, *Will the VIX Volatility Manipulation Charges Lead To A Class Action Lawsuit?*, ValueWalk (Feb. 13, 2018), available at <http://www.valuwalk.com/2018/02/vix-manipulation-charges/> (last accessed April 6, 2018).

<sup>18</sup> 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 April 6, 2018).

### VIX futures special opening quotations above VIX index open



106. MarketWatch also interviewed Timothy Klassen, the chief executive of Volar Technologies, a New York firm that develops analytics for options trading, and who was a member of the Goldman Sachs team in 2003 that designed the VIX Index that Cboe Options adopted. Mr. Klassen said he was aware of the vulnerability of the VIX settlement to potential manipulation. Although he pointed out it “is harder in liquid markets,” “trying to manipulate the VIX is not conceptually different from trying to manipulate any other index product” that is dependent on underlying financial contracts or securities. He also said that the VIX settlement process “almost certainly could be relatively easily improved.” He added, “I don’t think any of the CBOE’s clients would be opposed to improvement to avoid manipulation.”<sup>19</sup>

107. Another past member of the Goldman Sachs team in 2003 that designed the VIX is Davesh Shah, who was interviewed by Bloomberg. When asked whether regulators should do something about VIX ETPs, he said, “In my wildest imagination, I don’t know why these products exist.” Regarding the collapse of some VIX ETPs in early February, Mr. Shah commented, “all

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<sup>19</sup> *Id.*

these inverse and leveraged products, not just in the VIX but elsewhere too, at the end of the day cost people a lot of money.”<sup>20</sup>

***Equitable Tolling and Fraudulent Concealment.***

108. Any applicable statute of limitations has been tolled by Defendants’ knowing and active concealment of their manipulative behavior. Plaintiff could not in the exercise of due diligence have discovered Defendants’ wrongdoing.

109. The unlawful activity alleged herein that Defendants engaged in was self-concealing. Because Defendants’ manipulative behavior was self-concealing and it took further steps to conceal its unlawful behavior, Plaintiff and Class Members were deceived regarding manipulation of the prices of VIX futures, options, and VIX ETPs, and they remained unaware of the violations during the limitations period.

110. As alleged herein, Defendants’ manipulative behavior was material to Plaintiff and Class members at all relevant times. In the exchange-based transactions described herein, Plaintiff and Class Members have no way of knowing who their trading counterparts were, in part, because the trading records and identities of market makers are concealed.

111. Plaintiff and Class members did not discover and did not know of any facts that would have caused a reasonable person to suspect Defendants’ manipulative behavior.

112. Defendants knowingly, actively, and affirmatively concealed the facts alleged herein, including manipulation of the prices of VIX futures, options, and VIX ETPs. Defendants affirmatively misrepresented that manipulation had not occurred to any meaningful degree, much

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<sup>20</sup> See Max Abelson and Joe Weisenthal, *An inventor of the VIX: ‘I Don’t Know Why These Products Exist’*, Bloomberg (Feb. 6, 2018), available at <https://www.bloomberg.com/news/articles/2018-02-06/an-inventor-of-the-vix-i-don-t-know-why-these-products-exist> (last accessed April 6, 2018).



less to the extensive degree as alleged herein, when they, among other actions, denied the findings of the Griffin Study and the contents of the Whistleblower Letter. 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.

### **CLASS ACTION ALLEGATIONS**

113. Plaintiff brings this proposed action pursuant to Federal Rules of Civil Procedure ("Rules") 23(a) and 23(b)(1), (b)(2), and/or (b)(3) on behalf of himself and all members of the proposed Class defined as follows:

All persons or entities who transacted in VIX futures, VIX options, and/or VIX ETPs during the following time periods:

- From March 26, 2004 to the present for VIX futures;
- From February 24, 2006 to the present for VIX options; and
- From August 2008 to the present for VIX ETPs (collectively, the "Class Period").

Excluded from the Class are Defendant and its parents, subsidiaries and corporate affiliates, officers, directors, employees, assigns, successors, and co-conspirators, the court, court staff, Defendant's counsel, and all respective immediate family members of the excluded entities described above. Plaintiff reserves the right to revise the definition of the Class based upon subsequently discovered information and reserves the right to establish Sub-Classes where appropriate.

114. The members of the Class are so numerous that joinder of all members is impracticable. While the exact number of Class members is unknown to Plaintiff and can only be ascertained through proper discovery, Plaintiff believes there are thousands of members in the proposed Class.

115. Plaintiff's claims are typical of the claims of the members of Class as all members of the Plaintiff Class are similarly affected by Defendants' wrongful conduct that is complained of herein.

116. Plaintiff will fairly and adequately protect the interests of the members of the Class and has retained counsel competent and experienced in class actions and securities litigation.

117. In addition, Defendants have acted and refused to act, as alleged herein, on grounds generally applicable to the members of the Class, thereby making appropriate as a whole final injunctive relief concerning the Class.

118. Common questions of law and fact exist as to all members of the Class and predominate over any questions solely affecting individual members of the Class. Among the common questions of law and fact are:

- a. whether Defendants implemented the manipulative acts, devices or contrivances or engaged in the alleged fraudulent scheme and course of business alleged herein;
- b. whether the Commodity Exchange Act and CFTC rules were violated by Defendants' conduct alleged herein;
- c. whether Defendants acted knowingly and/or recklessly in connection with the misconduct alleged herein;
- d. whether the SOQ settlement process for VIX futures and options was flawed in a way that made it susceptible to manipulation;
- e. whether Defendants were aware of the flaws in the SOQ process;
- f. whether manipulation of the SOQ process had an impact on the prices of SPX options, and upon the cash settlement value of VIX futures and VIX options;
- g. whether manipulation of the SOQ process had an impact on the value or prices of shares or notes in VIX ETPs;
- h. whether and what equitable relief should be granted to Plaintiff and the Class; and

- i. the extent of damages sustained by members of the Class, and whether the Class are entitled to disgorgement and injunctive relief, and the appropriate measure of such damages and disgorgement.

119. A class action is superior to other available methods for the fair and efficient adjudication of this controversy since joinder of all members of the Class is impracticable. Further, as the damages suffered by most individual members of the Class may be relatively small, the expense and burden of individual litigation make it virtually impossible for most members of the Class to redress the wrongs done to them individually. The Class is readily definable, and prosecution of this action as a class action will reduce the possibility of repetitious litigation and different treatment of different defendants for the same misconduct and damages. There will be no significant difficulties in managing this action as a class action.

### **CLAIMS FOR RELIEF**

#### **COUNT I**

#### **Violation of the CEA, 7 U.S.C. § 1, *et seq.* and Rule 180.1 (Against All Defendants)**

120. Plaintiff repeats and realleges paragraphs 1-119 above as if fully set forth herein.

121. 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.

122. In July 2011, the CFTC promulgated Rule 180.1(a), 17 C.F.R. § 180.1(a), 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.

123. During the Class Period, Defendants engaged in illegal acts and practices, including contrivances and manipulations, and participated in a fraudulent scheme and wrongful course of business, which was intended to and did operate as a fraud or deceit on the investing public, including Plaintiff and other members of the Class. Defendants' unlawful conduct caused Plaintiff and Class members to purchase and sell VIX futures, VIX options, and VIX ETPs at distorted and manipulated prices that did not reflect the legitimate forces of supply and demand, and in doing so damaged Plaintiff and the Class.

124. Defendants (i) employed devices, schemes and artifices to defraud; and (ii) engaged in acts, practices, and a course of business which operated as a fraud and deceit upon the purchasers and sellers of futures and options, including Plaintiff and Class members. In an effort to enrich themselves, Defendants engaged in various fraudulent conduct and/or participated in such conduct

as detailed herein, including designing and promoting the VIX with flaws that allow for its manipulation, and otherwise caused distorted and manipulated pricing of Plaintiff's and the Class's VIX futures, VIX options, and VIX ETPs. All Defendants are sued as primary participants in the wrongful and illegal conduct and scheme charged herein, as each engaged in the manipulative acts and deceptive practices detailed herein.

125. Defendants had actual knowledge of, or acted in reckless disregard to, the illegal practices set forth herein, including the design flaws and actual manipulation and exploitation by market makers and/or other traders. Defendants designed and promoted the VIX, their trading platforms, and other products in a way that allows manipulation and by emphasizing trading volume and profit over the fairness and integrity of their markets. Defendants' scheme was designed to and did defraud Plaintiff and the Class by distorting the prices they paid for VIX futures, VIX options, and VIX ETPs.

126. As a result of Defendants' misconduct, the trading prices of the VIX futures, VIX options, and VIX ETPs purchased or sold on Defendants' exchanges by public investors were artificially manipulated and distorted during the Class Period. In ignorance of the true facts and the illegal practices of Defendants during the Class Period, Plaintiff and other Class members transacted at artificially distorted and manipulated prices and were damaged thereby.

127. Plaintiff and the Class justifiably relied on the fairness and integrity of the Defendants' exchanges in trading on those markets. Defendants know of the investing public's belief in the fairness, transparency, and integrity of the markets they maintained, and did nothing to dispel it. To the contrary, Defendants by their public statements, actively encouraged this belief on the part of investors such as Plaintiff and the Class.

128. Had Plaintiff and other Class members known the truth concerning Defendants' illegal practices, they would not have transacted in VIX futures, VIX options, and/or VIX ETPs on Defendants' exchanges at artificially distorted and manipulated prices. Plaintiff and members of the Class that traded during the Class Period relied on the integrity of the markets listed and traded on Defendants' exchanges.

129. By virtue of the foregoing, Defendants have violated the CEA and Rule 180.1. As a direct and proximate result of the wrongful conduct by Defendants, Plaintiff and members of the Class suffered damages in connection with their transactions in VIX futures, VIX options, and VIX ETPs during the Class Period.

**COUNT II**  
**Aiding and Abetting Violation of the CEA, 7 U.S.C. § 1, *et seq.***  
**(Against All Defendants)**

130. Plaintiff repeats and realleges paragraphs 1-129 above as if fully set forth herein.

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

132. Defendants knowingly aided, abetted, counseled, induced, and/or procured the violations of market makers and/or other traders who engaged in the VIX manipulation described herein.

133. Defendants had knowledge of the manipulation and, with such knowledge, materially assisted the manipulation. The conduct alleged herein demonstrates that Defendants substantially and willfully intended to assist these manipulations so as to cause prices of VIX futures and options, and the VIX ETPs based on them, to be artificial and not reflect the legitimate forces of supply and demand.

134. Defendants participated in the development and execution of the manipulative scheme described herein.

135. Defendants, by and through their respective partners, agents, employees and/or other persons, benefited from the manipulative acts described herein.

136. Defendants each played their component role and each knowingly aided, abetted, counseled, induced, or procured the violations alleged herein.

137. Plaintiff and members of the Class sustained and are 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. Determining that this action is a proper class action, appointing Plaintiff as lead Plaintiff and approving Plaintiff's counsel as lead counsel, and certifying Plaintiff as a class representative under Rule 23 of the Federal Rules of Civil Procedure;

B. Awarding compensatory damages, including interest, in favor of Plaintiff and the other members of the Plaintiff Class against all Defendants, jointly and severally, for all damages sustained as a result of Defendants' wrongdoing, in an amount to be proven at trial, including interest thereon at the maximum rate allowable by law;

C. Awarding equitable restitution of investors' monies of which they were defrauded and disgorgement and/or the imposition of a constructive trust on Defendants' ill-gotten gains;

D. Awarding forfeiture in favor of the Class against all Defendants for all illicit fees, commissions and any other compensation paid by Plaintiff and members of the Class;

E. Awarding equitable and/or injunctive relief in favor of the Class against Defendants and their counsel, agents and all persons acting under, in concert with, or for them, including: (i) an accounting of and the imposition of a constructive trust and/or an asset freeze on Defendants' unlawful trading proceeds and illicit profits from the conduct detailed herein; and (ii) prohibiting Defendants from structuring their proprietary products, including the VIX, to encourage manipulation of the VIX;

F. Awarding Plaintiff and the Plaintiff Class their reasonable costs and expenses incurred in this action, including counsel fees and expert fees; and

G. Such other and further relief as the Court may deem just and proper.

**JURY DEMAND**

Plaintiff hereby demands a trial by jury.

Dated: April 6, 2018

Respectfully submitted,

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