05/01/2018 11:00:10 [BBO] Bloomberg Opinion

Does the VIX Need Fixing? Sure Looks That Way: John M. Griffin

The first step is acknowledging that something is wrong.

By John M. Griffin

(Bloomberg Opinion) -- Last week, the Chicago Board Options Exchange (CBOE) responded to a research report into manipulation of the monthly settlement of the VIX, sometimes referred to as the stock market's fear index, and attempted to assure participants that the process was not rigged. "The academic paper's analysis and conclusions are based upon a fundamental misunderstanding about how VIX derivatives are traded and settled," the CBOE wrote. I was an author of the research paper. The CBOE's most recent response has left my "fundamental misunderstanding" still very much unresolved.

Here is the process at issue: At 8:30 a.m. central time on the third Wednesday of each month, the VIX calculation — which is otherwise continuously updated — is used to determine the value of billions of dollars worth of VIX derivatives. This is the monthly VIX settlement. If a manipulator with a large VIX derivatives position could nudge the lower-level Standard & Poor's 500 Index options that underlie the VIX for just a brief period, the profit potential would be vast. And this appears to be happening. We have noted regular and increasing deviations between the settlement price and the open price, which is calculated just seconds later. Just this month, the deviation in that split second was more than 12 percent, distorting the derivatives market by more than $200 million. Indeed, since the public release and publication of our academic paper last year, the settlement deviations have substantially increased. We are concerned that market participants may be reading our paper as a how-to-manipulate manual.

Last week's CBOE statement tried to calm fears over the April settlement. The essential message: The suspicious activity in S&P 500 options "is consistent with normal and legitimate trading behavior." We agree with at least the first half of that sentiment, as this behavior is becoming alarmingly normal — though only at the CBOE's specially designed monthly settlements, and not at other times.

The CBOE's statement admits that a single trader submitted a huge, 212,000-contract order during the April settlement procedure, resulting in a "buy order imbalance [that] contributed to the opening prices of the option series that were used to calculate the final VIX settlement value." A slightly less sterile translation: We know that a monster trade moved the VIX. CBOE's defense is that this huge order was submitted "across a wide range of strike prices" and was "consistent with the weights prescribed by the VIX Index formula." The implication is that this trade was a legitimate hedging strategy because the buyer traded the whole VIX strip. In our paper we exhaustively examined this precise defense in detail. As we show mathematically, trading the whole strip exactly according to the VIX formula is the most cost-effective way to temporarily move the index.

That isn't to say it is without cost. Indeed, absent a connected profit opportunity, such an order would result in a trader overpaying for the settlement. The only motivation we see for a trader to lose money on these lower-level option trades is if they could offset that loss with a gain from somewhere else. Take an example: The trader bought a 1,400 put for 40 cents during the April settlement. That's a bet that the S&P 500, which was at about 2,690 at the time, is going to fall 48 percent in the next month, something that has never happened in history. Usually those kinds of options are almost worthless, and that was true both minutes before and again minutes after the settlement. But the trader overpaid by three or four times to purchase at that precise point. Why did someone overpay by so much, not just for this option, but an entire strip of options? The key to whether the trade was manipulative is whether the trader had an upper-level VIX derivatives position on which they profited.

That is what the CBOE hasn't told us. Did the single monster S&P 500 trader — whom the CBOE admits moved the settlement that month — have a large VIX derivatives position? And if they did, what was their profit from the 12 percent flash spike? And what about the trading profits of those involved in moving other large recent settlements? As we suggested to exchange representatives at a May 2017 academic conference, the CBOE could easily disclose the trading data on both levels with anonymous identifiers. That would allow academics, market participants and regulators to know how legitimate these trades truly are.

The most alarming part of the CBOE's response is its indifference: "Based on the orders that were submitted, we believe the auction process functioned as intended, notwithstanding that the final settlement value was higher than what market participants may have otherwise expected." What this means is that the CBOE thinks the spike in the VIX was a product of the system working properly, even if market participants were blindsided. The CBOE acknowledges that ordinary traders do not regard 12 percent flash spikes as expected behavior. And yet the exchange still defends its product.

By promising to change the settlement procedure in this coming year, the CBOE seems to be admitting what we have been claiming for some time: that their settlement procedure is flawed because it allows unreasonably large settlement deviations. While it remains to be seen whether this new procedure will work, it is wrong that the CBOE's desire to defend its profit centers has allowed this suspicious behavior and devastating effects to persist for so long, costing investors billions of dollars. It is past time that VIX traders get a settlement that is transparent, predictably behaved and well-regulated. Until it does, the CBOE, I and many other market participants will continue to share a "fundamental misunderstanding."

John M. Griffin is a professor and the James A. Elkins Centennial Chair in Finance at the University of Texas.

To contact the author of this story:
John M. Griffin at john.griffin@mccombs.utexas.edu

To contact the editor responsible for this story:
James Greiff at jgreiff@bloomberg.net

This column does not necessarily reflect the opinion of the editorial board or Bloomberg LP and its owners.