

The short VIX trade is not nearly as safe as low volatility may make it appear. The idea that the widespread lack of volatility in equity markets means that risk is low is simply false. But it has made selling volatility a very crowded trade. As usual, this means that if there's a rush to the exits it will be very painful for people who are sure that this time is different.

Warning of Catastrophic Losses.

Marko Kolanovic, JP Morgan's frequently prescient Global Head of Macro Quantitative and Derivatives Strategy, warned recently that the current low level of volatility is not the 'new normal'. What's more, he observed that the VIX would only need to rise to 20 from its low level of around 10 to produce catastrophic losses for the short volatility trades that have become very popular.

Low Volatility does not mean low risk.

For decades, the default 'risk measurement' has been the volatility of returns. *But volatility contains no information about the probability of loss.* For the VIX Index, as is the case for many major equity indices, volatility is lower than it has been for the past two years. The tail that short volatility strategies are exposed to is very fat indeed as the event last month revealed.¹

Only a tail model that's consistent with the data can make reliable predictions.

As Kolanovic points out, a jump in the VIX from 10 to 20 exceeds the largest daily surge in the index (but it did rise by over 60% in a single day in February 2007). He warns that a rise from around 10 to around 15 could produce a collapse in liquidity given the knowledge that this would produce a stampede to cover shorts in what has become a very popular (i.e. crowded) trade.

Our tail model for 3-day returns in the VIX Index has only a few excess 99% VaR breaches in the past 30 years—so it is indeed consistent with the data. It gives what have been very reliable estimates of the draw-down risks currently facing short volatility positions.

The upper tail of 3-day returns on the VIX is VERY fat.

On May 17th this year the VIX jumped by over 46% and the three days that ended on that day produced an almost 50% rise in the index and a corresponding drawdown in any short position that was held through that period. Our tail model gave advance warning of the likelihood of such an event. It was a breach of the 99% VaR for 3-day returns. But it only exceeded the Expected Shortfall by 50 basis points. This was also the largest 3 day surge since August 2015.

Before that happened, the upside tail was fat enough that such a loss should have been expected every 15 months. Which is almost exactly how much time had elapsed since the last such run in 2015.

Now that the May 17th data point is part of the sample the tail model puts the frequency at once every 14 months. And if the 50% surge is exceeded, the average 3-day run up we should expect would be 80%. With a tail this fat, the frequency of even this huge gain is more than 1 time in 4 years.

An event that would trigger Kolanovic's doomsday scenario is clearly a very real risk.

It's still not likely that even over 3 days the VIX could double—but it's not out of the question either. Our tail model says that's an event we should see once in 7 years. But a run up of over 80% in 3 days is a very real possibility with a frequency of once in 14 months or 280 trading days. And the likely rush for the exits should that happen will be catastrophic for anyone who doesn't move quickly enough. Russian roulette, even with only one bullet in 280 chambers, is still a very dangerous game.

¹ That was completely invisible to the standard deviation. Calculated using the 250 days to 16 May 2017 the standard deviation of daily returns was 7.5%. The next day the VIX spiked by over 46%. As of 13 June the 250 day standard deviation was still only 8%. But on 16 May our tail model said the 99% daily VaR for the short VIX position was 16% and the Expected Shortfall was 24%.

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