



DECEMBER 2014 NEWSLETTER

Dear Investor,

The Global Volatility Summit brings together volatility and tail hedge managers, institutional investors, thought provoking speakers, and other industry experts to discuss the volatility markets and the roles volatility can play in institutional investors' portfolios. The 6th Annual Global Volatility Summit is scheduled to take place on Wednesday, March 11th, 2015 in New York City.

Registration for the 2015 event is open! We encourage you to register soon as space is limited: www.globalvolatilitysummit.com. An agenda will be available in the coming weeks.

Matt Moran from the CBOE has shared his note on Portfolio Protection with the GVS Community. He provides interesting insight into how to gauge the effectiveness of different tools in protecting investment portfolios, addressing the VIX, SPX, SKEW, and Term Structure.

Cheers,
Global Volatility Summit

2015 EVENT UPDATE

The Sixth annual Global Volatility Summit ("GVS") will take place March 11th, 2015 at Pier Sixty at Chelsea Piers in New York City

The following managers will be participating in the 2015 event:

BlueMountain Capital
Capstone Investment Advisors
Capula Investment Management
Dominicé & Co. – Asset Management
Fortress Investment Group
Ionic Capital Management
JD Capital Management
Parallax Volatility Advisors
Pine River Capital Management
Saiers Capital

Questions?

Please contact info@globalvolatilitysummit.com

Gauges for Tools for Portfolio Protection – VIX, SPX, SKEW, and Term Structure

By Matt Moran

Nov. 17, 2014 - When I deliver presentations on portfolio risk management to groups of financial professionals, one of the most frequent questions is “What is a better hedge for a portfolio – VIX calls or SPX puts?” A 30-page paper by Morgan Stanley in June 2014 suggested that “VIX calls are best used to hedge large selloffs, while SPX puts outperform in moderate declines. ...”

I recently received a call from an institutional investor who is using VIX products for tail risk management, but he requested an overview of available metrics to gain a better idea of how gauges related to volatility skew and term structure can impact costs related to risk management strategies.

1. HAS THE VIX INDEX BEEN “LOW” IN 2014?

The CBOE Volatility Index[®] (VIX[®]) is based on real-time prices of options on the [S&P 500[®] Index \(SPX\)](#) and is designed to reflect investors' consensus view of future 30-day expected stock market volatility. In the first three quarters of 2014 I did hear questions about whether the level of the VIX Index was somewhat low in light of worldwide geopolitical concerns. Since the inception of VIX daily closing price history in January 1990, the long-term average of the prices is around 20 and the long-term median of the prices is around 18.5. So far in 2014, average of daily closing prices for VIX is 14, but the average for the fifth-month VIX futures is 16.9 (in part because many investors believe that VIX tends to be mean-reverting).

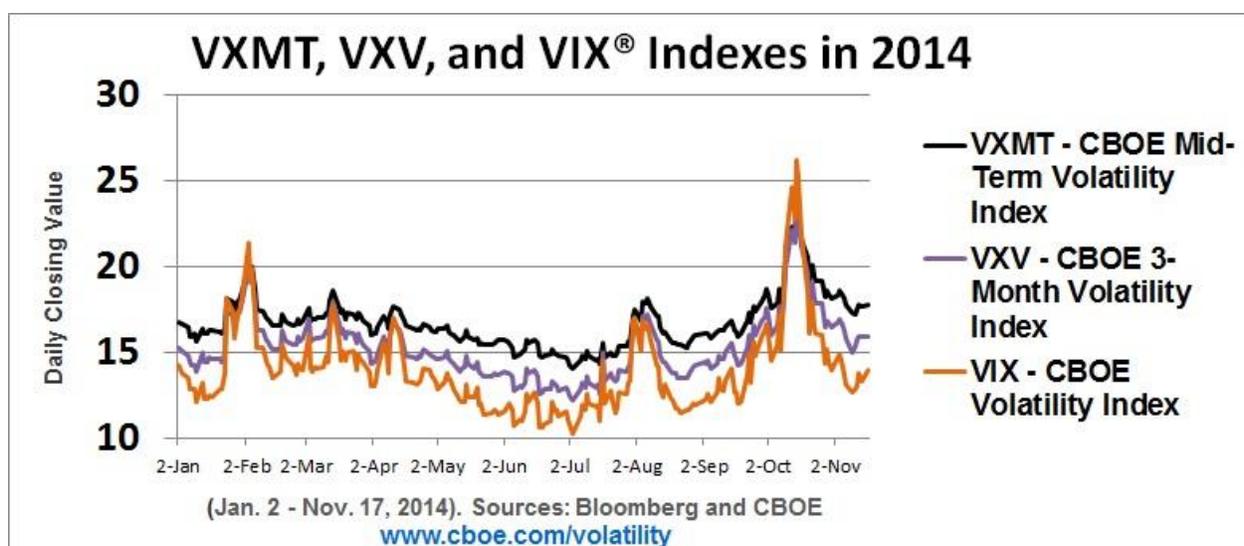


Note in the chart above that for most of this year (except mid-October) the VIX has been in contango (with the spot index priced lower than the VIX futures), and that the fact that

it has been in contango can have a negative impact on the costing of rolling a VIX futures position. While some ask if VIX is low, I believe an important point is the fact that the 20-trading-day historic volatility of the S&P 500 Index has averaged 10.8 this year. A Nov. 15 report by Callie Bost of Bloomberg noted that the S&P 500 Index “rose or fell less than 0.1 percent on four consecutive days during the week, the longest stretch for moves of that size since May 1979.” In 2014 the VIX usually has not been “low” in 2014 when compared to the SPX historic volatility. Today the VIX closed at 13.99 (near its average for the year), and some people might say that with VIX at around 14, it could be a good time to buy SPX puts, VIX futures, or VIX calls for portfolio protection, but let’s explore more metrics to gain a better picture of costs associated with hedging tools.

2. TERM STRUCTURE AND THE VXV AND VXMT INDEXES

For investors who wish to gain a better idea of the term structure related to S&P 500 options, real-time indexes to explore include the CBOE Short-Term Volatility Index (measure 9-day expected volatility), VIX Index (30-day expected volatility), CBOE 3-Month Volatility Index (VXV), and CBOE Mid-Term Volatility Index (6-month expected volatility). Note the close relationships of the charts immediately above and below.



3. CBOE SKEW INDEX AND VVIX INDEX

In 2014 some observers have focused on VIX values and perhaps have assumed that all hedging strategies are relatively inexpensive. However, the CBOE SKEW Index and VVIX Index also can provide valuable information related to the costs of hedging strategies.

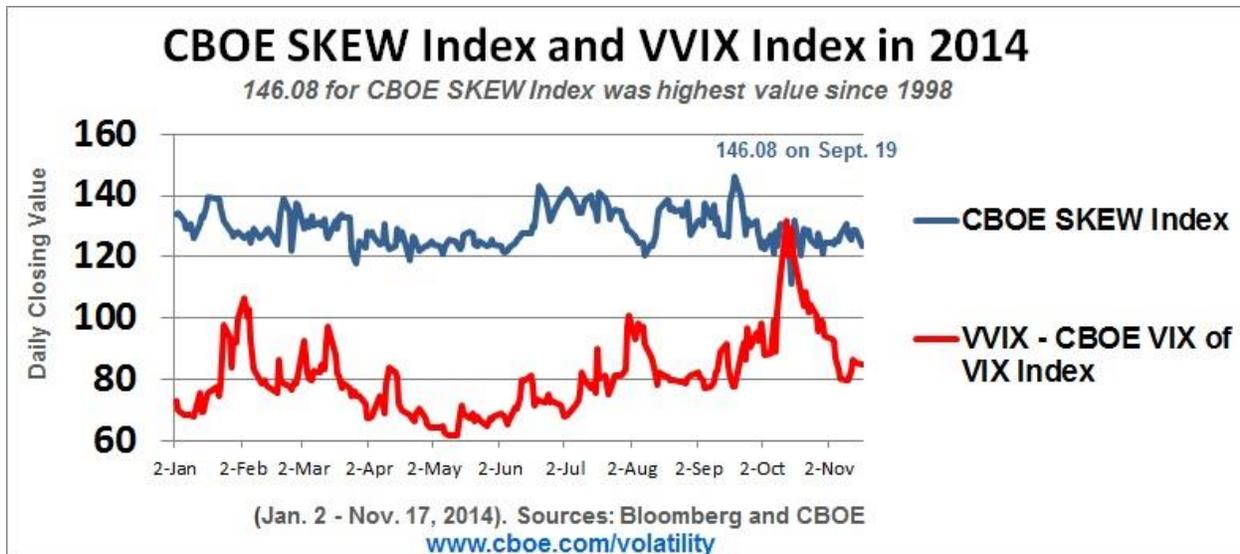
CBOE SKEW Index values, which are calculated from weighted strips of out-of-the-money S&P 500 options, rise to higher levels as investors become more fearful of a “black swan” event — an unexpected event of large magnitude and consequence. The value of SKEW increases with the expected tail risk of S&P 500 returns. If there were no tail risk expectations and concerns, SKEW would be close to 100.

The CBOE SKEW Index hit 146.08 on Sept. 19, 2014, its highest level since 1998.

The average daily closing levels for the CBOE SKEW Index were –

> 129.4 in 2014 (through November 17),

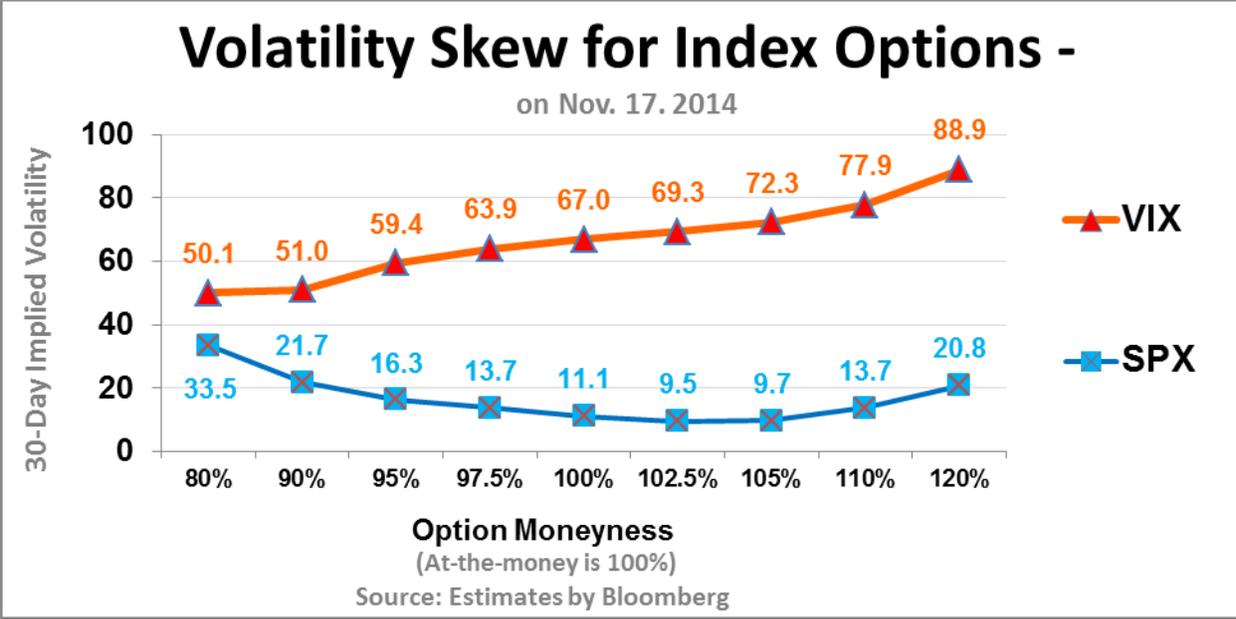
> 117.2 in the 24 years from 1990 through 2013. www.cboe.com/SKEW



The CBOE VIX of VIX Index (VVIX) is an indicator of the expected volatility of the 30-day forward price of the VIX®. The highest daily close for the VVIX Index was 131.57 on October 13 (two days before the VIX Index hit its highest closing value of the year). www.cboe.com/VVIX

4. VOLATILITY SKEW FOR VIX AND SPX

The volatility skew graph shows 30-day implied volatility estimates at different moneyness levels. Note that slopes of the lines differ. The implied volatility for SPX options at 80% moneyness, and for VIX options at 120% moneyness is greater than the implied volatility for the corresponding (at-the-money) options at 100% moneyness. One explanation for the steepness of the SPX line chart is the fact that after the 1987 stock market crash, many investors had heightened concern about left tail risk and there is great demand for out-of-the-money (O-T-M) protective SPX put options as hedging instruments, even if the implied volatility for OTM SPX puts is higher than recent SPX historic volatility and the implied volatility for ATM SPX puts. There also appears to be great demand for O-T-M VIX calls for portfolio protection.



5. UPDATED TERM STRUCTURE CHARTS

Term structure charts related to SPX options are updated regularly at www.cboe.com/VIXterm. Note that in section 2 above, today both the VXV and VXMT indexes closed higher than the VIX Index, and so it is not surprising that the term structure chart below is upward sloping.



Values at www.cboe.com/VIXterm on Nov. 17, 2014

6. LINKS TO MORE INFORMATION

For more information on tools for portfolio protection, here are some key links –

- Volatility Indexes www.cboe.com/volatility
- S&P 500 (SPX) Index Options www.cboe.com/SPX
- Options and Volatility Strategies www.cboe.com/Strategies

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