

## Bearish on Implied Volatility – Put Spread with VIX® Options

The CBOE Volatility Index® (VIX) arguably is the most watched indicator of market volatility. The VIX tracks the implied volatility of the SPX—options on the S&P 500®. In 2004 the CBOE Futures Exchange (CFE) launched futures on the VIX, and in early 2006 CBOE announced plans to list options on the VIX. Now, traders wishing to take a position on expected implied volatility can easily do so with VIX options.

### Scenario

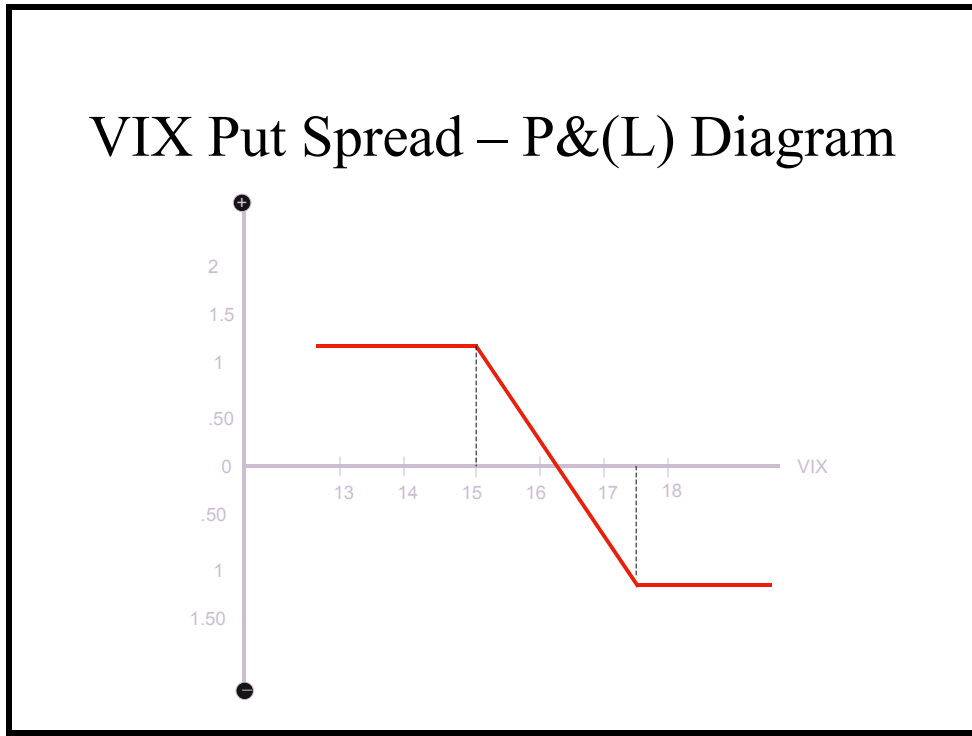
Let's assume today is March 15<sup>th</sup>. News was released that has caused a spike in the spot VIX to 19.10. The market's expectations of implied volatility remaining at relatively high levels continuing through September expiration can be seen by looking at the August VIX futures, which reflects September SPX option implied volatility. The August VIX futures, based on 10 times VIX, are trading at 179 in this example. This, in turn, implies an August forward VIX level of 17.90. As a trader, *your* outlook on volatility calls for a decrease in September implied volatility from current levels to a level perceived to be more a “normal” mean observed over the last couple of years—around 15.

In the past your strategy would have likely consisted of selling SPX options in some capacity. There are a few questions you would have to ask yourself before making this type of trade. Will your trade consist of selling options outright, or as part of a spread? Which strike(s) will you sell? Which month(s)? Structuring the position incorrectly can have undesirable effects on your P/(L) even if your market forecast is correct. For example, in many cases if the market moves higher implied volatility levels tend to decrease. If you sold a straddle or a strangle, and the market moved too far directionally, your profit on the implied volatility decrease may be offset by losses in realized volatility, *i.e.* the movement upward in the underlying.

Using VIX options allows you isolate the implied volatility component of SPX option prices. One way we can use VIX options to try and capitalize on this forecast in this example is to buy a VIX put spread. Commissions and other transaction costs are not included in the following example.

So, with August forward VIX at 17.90, let's buy 1 VIX Aug 17 ½ put at 2.55 and sell 1 Aug 15 put at 1.15. Let's take a look at a profit and loss diagram to see how this spread performs at various levels of the VIX if the position is held until expiration.

## VIX Put Spread – P&(L) Diagram



Notice, if the VIX is trading at a price higher than  $17 \frac{1}{2}$  at the expiration of the Aug contract, we will lose our entire investment of \$140 (1.40 times the \$100 multiplier). If the value of the VIX is less than  $17 \frac{1}{2}$ , our spread begins to increase in value up until the point at which the price falls below 15. If VIX is below 15 at expiration, gains on the long put will be offset by losses on the short put. The break-even point on this trade is 16.10. If our forecast is correct, and the value of the VIX is 15 or lower at expiration, the maximum profit of 1.10, or \$110 of actual cash, is reached.

### Summary

VIX options can be traded in much the same way as equity or other index options. They provide many strategies from which to choose for a bullish, bearish or neutral forecast. What is unique is the underlying—the implied volatility of the SPX. Whatever your outlook is on volatility, the VIX options offer another tool to have at your disposal.

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