

Options and Probability

Paul Forchione, CTA

Everyone likes trades that have a high probability of making money. But there's a "price" to pay -- the possibility of incurring large losses.

The reason is that a "high probability option trade" is a trade that's short out-of-the-money options. The probability you'll lose a lot is low (because the market must make a large move), however, it's a risk that exists. So it's an inescapable trading reality that the potential profits on a high probability trade are much smaller than the possible losses.

The flip side to this is buying options. An options software program shows trades with long options have a low probability of profit, however, their potential profits are much greater than their possible losses. Buying options entails buying time value that slowly wastes away and causes losses unless there's a large move in the futures or an increase in implied volatility.

So how should a trader choose the type of trade to do? *My advice is to match your expectations for the market (in terms of direction and implied volatility) to an options strategy that will profit if your expectations are correct. Don't base your decision on high or low probabilities alone.*

Always remember that when you trade options you're engaged in a game of mathematics -- specifically, the mathematics of statistics. So proper interpretation of statistical concepts is crucial when making trading decisions. And one of the most misunderstood concepts, in my view, is "probability of profit."

A little background . . . Many software programs have a module where you input your statistical volatility forecast for a specific commodity. Then, for whatever future date and for two price targets you desire, the program calculates the probability the futures contract will be below the lower price, above the higher price, or between the two prices.

Traders can then structure options trades that result in a high probability of profit by selling out-of-the-money options to take advantage of time decay. The farther out-of-the-money you sell options, the higher the probability of profit.

There are three important points to make about this:

- (1) Selling naked out-of-the-money options to achieve a high probability of profit entails taking open-ended risk. If you instead sell credit spreads to limit risk (short a call and long a further out-of-the-money call, for example, or short a put and long a further out-of-the-money put), the potential gains are much lower. After commissions on four contracts, there may be little potential profit left.
- (2) This probability calculation assumes your guess of statistical volatility turns out to be accurate.

- (3) The probability calculation also assumes the daily changes in price of the futures contract can be described by a normal, bell-shaped distribution. This means it assumes the market does not enter a trending mode between the current date and the future date of your probability calculation.

Points (2) and (3) are very important assumptions, and either one of them may turn out to be incorrect. Furthermore, the mathematics of the probability calculation addresses the end result only. It doesn't take into account how high or low the futures contract may swing prior to the date of the calculation. Lastly, it doesn't address the possibility that implied volatility will increase which would have an adverse effect on the short options.

The conclusions?

- A. Don't feel overly secure when entering "high probability" trades.
- B. Understand the assumptions behind the calculation and test the sensitivity of the calculation by testing different values of statistical volatility and by varying the calculation date.
- C. Before settling on the trades to initiate, take other factors into account like the level of implied volatility and the "gamma" factor (how rapidly your position becomes unbalanced when the market moves).
- D. As mentioned previously, match your expectations for the market (in terms of direction and implied volatility) to an options strategy that will profit if your expectations are correct. Don't base your decision on high or low probabilities alone.
- E. Finally, have a complete follow-up plan in mind so you know what to do if the market "doesn't cooperate."

Paul Forchione is a registered Commodity Trading Advisor who specializes in non-directional volatility based trading. He is also a Senior Options Broker in Oxnard, CA for Opportunities In Options and works with clients of varying experience levels. You can contact Paul via e-mail at owl@west.net as well as by phone at 800-926-0926 ext 350.

Paul is the author of Trading Options Visually, a book that presents a graphical and mathematical approach for trading options. He also produces a weekly advisory service that's accessible on the Internet. It's called "The Options Wisdom Letter" (The O.W.L.).