Fischer Black
on
OPTIONS

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THE LONG AND THE SHORT OF OPTIONS TRADING

Suppose that you have a way to tell when a call option is overpriced and when it is underpriced. How can you use that information? Depending on who you are, you may use it to decide between buying the stock or buying the option; to decide between selling the stock short and writing the option naked; to write a covered option, or buy the option and sell the stock short; to set up a neutral hedge by mixing a long position in stock with the right short position in options, or the reverse; or to spread, mixing long and short positions in options on the same stock. When puts start trading, the number of strategies will multiply further.

Of course, it's possible that transaction costs will make all of these strategies unprofitable. If your transaction costs for getting into a position and back out again exceed the amount by which the position is mispriced, then it won't make sense to get into the position. Some transaction costs, such as brokerage fees or clearing charges, are obvious. Others are hidden: the cost to a market maker of executing his own trade; the cost to a customer of keeping margin money with his broker in cash; or the cost to an exchange member of a possible gradual decline in the value of his seat.

On the other hand, tax factors can make a position attractive even if options seem correctly priced when tax factors are ignored. A high tax bracket investor may be able to set up a system for converting capital losses into ordinary losses, or for converting ordinary income into capital gains. He may even be able to set up a position where he is guaranteed a profit when tax factors are counted.

Further, some kinds of positions involving options are attractive to some investors even when there is no expected extra profit either before taxes or after taxes. For example, an investor may want to limit his possible losses by investing part of his money in bonds and part in options, as a substitute for investing all of it in stock. Or he may want to maximize his possible gains by investing all of his money in options as a substitute for investing all of his money in stock. These strategies will make sense to some investors even if options are always correctly priced.

Option Portfolios

One way to take advantage of mispriced options is to construct a portfolio of long positions in underpriced options and short positions in overpriced options. The best portfolios are likely to involve long positions in options on one set of stocks, and short positions in options on an entirely different set of stocks. Spreads, involving options on the same stock, are likely to have more limited profits because more people are looking for profit opportunities in spreads than are looking for profit opportunities between options on different stocks.

In a spread, the way to reduce risk as much as possible is to keep the right ratio of long position to short position. In a portfolio of options, the way to reduce risk is to have a well diversified portfolio. This means not having too much exposure in any one position. To some extent, an investor will want to put more money into the most attractive positions than he puts into positions that are only moderately attractive. But he should keep this tendency under strict control. A position may look very attractive because the market has information that he doesn't have. If that's the case, keeping the position small will mean he can be a small sucker, but not a big sucker. One big loss on a big position can wipe out lots of small profits.

It's possible in a diversified portfolio of options to have the short positions just about balance out the long positions. But that's probably not a good idea, especially if the investor has most of his money in this portfolio and doesn't have strong feelings about where the market is headed. The market heads up more often than it heads down, so most investors will want net long positions, on average, rather than neutral or net short positions.

To tell how well diversified a portfolio of options is, it's not enough just to look at the amount of money in each position. $1000 in out-of-the-money options normally amounts to a bigger position that $1000 in at-the-money options. So both the size and the volatility of a position count in figuring how much it makes up of the total portfolio.

To keep the portfolio diversified, positions that grow in size should be cut back. An options portfolio that starts out diversified can very quickly become undiversified. The money freed up can be used to increase positions that have become small but are still attractive. When an option becomes correctly priced, the position is no longer attractive and should be closed out.

We shouldn't forget two other reasons for closing out a position. First, the writer of an in-the-money option may close out his position when the option approaches parity, to reduce the chance that he will be assigned an exercise notice. And second, a taxable investor may close out a position to realize a loss (or a gain) in the current taxable year.

Betting On Stock Moves

Another way to use options is in the context of a strategy that involves forecasting which way a stock is going to move and taking a position based on the forecast.

If you think a stock is going to go up, you can take a long position in the stock, or you can take a long position in one or more of its options. If the options are overpriced, you may want to choose the stock. If the options are underpriced, you may want to choose the options.

However, there are other factors to consider, too. If you would like a large position, and can't borrow as much as you would like at reasonable rates, you may buy options even if they are overpriced to some extent. If the transaction costs on an option position are lower than they are for an equivalent stock position, that may help offset some overpricing of the options.

Also, you may prefer the pattern of returns you get with options to the pattern you get with an equivalent stock position. If an option moves $0.50 for each $1.00 move in the stock (in the short run), then buying two option contracts will be "equivalent" to buying one round lot of stock. But you'll pay less for the options than you will for the equivalent stock position, so your possible losses will be less with the options than with the stock.

If there were no transaction costs or dividends or taxes, buying an in-the-money call option selling at parity would always be better than buying the stock. Your gains would be the same as on the stock and your losses would be limited. In fact, though, the stock may be better, especially if you want a long term position. An in-the-money call option will expire, or you may decide to sell it or exercise it early because of a dividend on the stock. To regain your position, you'll have to buy another option or buy the stock. This involves transaction costs, and may force you to realize capital gains that you would rather not realize. And the dividends hurt even if they don't cause you to close your position early. They reduce the advantage that in-the-money call options at parity may have over stock.

On the other hand, if you think a stock is going to go down, you can take a short position in the stock, or you can write naked options. If the option is overpriced, you may want to write the options; while if the option is underpriced, you may want to short the stock.

However, the other factors to consider are probably even more important here than with long positions. As with long positions, transaction costs may be higher on the stock or higher on the options. Tax factors will be very important, since writing naked options gives ordinary income or loss, while shorting stock gives short term capital gains or losses. For a high bracket investor, these tax differences generally favor writing options.

There are penalties to short positions that don't exist with long positions. To sell a stock short, you have to borrow the stock, and the lender usually insists on cash collateral on which he pays little or no interest. The broker may also ask for margin in cash, and he normally won't pay interest on cash balances. If the lender of the stock wants it back, there may be costs in finding another lender.

To sell options short, you don't have to borrow the options from anyone, so you don't have to put up cash collateral, and you don't have to worry about the lender wanting them back. You may have to put up cash margin that doesn't pay interest though. And if you receive an exercise notice, you will have to incur the cost of buying the stock to deliver, plus you may lose some tax benefits that you expected to get.

How all of these factors will come together will depend on the individual trader. My guess would be, though, that if you avoid options where early exercise is likely, shorting options will generally be better than shorting stock.

(TO BE CONTINUED)

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