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AN INTRODUCTION TO CREDIT SPREADS

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An Introduction to Credit Spreads

Have you ever bought a call or a put and then had the underlying trade sideways or move against the position? You know that your options will lose value over time. Almost every option trader has experienced this phenomenon to some degree. After being caught in this predicament probably more than once, traders will often ask themselves "how can I be on the *other* side of that equation"?

A first instinct for option traders is that they can consider selling "naked" options. "Naked" options are when the seller of an option contract does not own any, or enough, of the underlying security or another option position to act as protection against adverse price movements. But does the option trader want to take on the risk of selling naked options especially when losses could be unlimited (underlying can continue to rise) for short (sold) calls options and close to unlimited (underlying can only fall to zero) for short put options? The answer may be to sell a vertical credit spread.

Put Spread and Call Spread

Put credit spreads (sometimes referred to as bull put spreads) and call credit spreads (sometimes referred to as bear call spreads) are vertical credit spreads that involve selling an option while purchasing a higher (call) or lower (put) strike option (depending on a bullish or bearish bias) with the same expiration and with the short option being more expensive than the long option. Adding a long option to the short position creates a credit spread. When the spread is created, it has a smaller potential profit than a naked option, but it also dramatically lowers the overall risk.

The most an option trader can make from selling a vertical credit spread is the initial credit. This is true no matter how much the underlying moves away from the credit spread. Maximum profit is capped. The call or put spread will expire worthless if the underlying is trading above the short put strike, or below the short call strike at expiration.

The most the spread can lose is the difference between the long and short strikes minus the credit received. The maximum loss would be realized if the stock is trading below the long put at expiration for the put spread and above the long call at expiration for the call spread.

Breakevens for the spreads are determined by subtracting the premium received from the short put for a put spread and adding the premium received to the short call for a call spread. Ultimately, the trader's goal is to buy the spread back for less or have the spread expire worthless in order to profit.

For example imagine a trader sells an 85 – 90 put spread for 0.75. The 90 strike put was sold for a credit of 2.50 and the 85 put was bought for a debit of 1.75. In this scenario, the maximum profit of $0.75 would be reached if the underlying were trading at or above $90 at expiration. The maximum loss would be $4.25 (5 – 0.75). That is the difference between the sold and bought strikes (90 – 85) minus the credit received. The maximum loss would be realized if the stock is trading at $85 or below at expiration. Breakeven would be at $89.25 (90 - 0.75) for this put spread. If the trader buys back the spread for less than 0.75 or if the spread expires worthless, he profits. Let's explore more of the dynamics that make up a vertical credit spread.

Delta and the Spread

Delta is a factor to consider when discussing trades like credit spreads. Delta is the rate of change of an option value relative to a change in the underlying. Simply said, for every $1 move in the underlying the option price should change by the amount of the delta all other factors being held constant. A spread trade will have a smaller delta than a single-legged option because an option is being both bought *and* sold with a spread. So the deltas somewhat net each other out.

In the above 85 – 90 put spread example, the 90-strike put might have a 0.30 delta and the 85-strike put might have a 0.20 delta. The spread's delta would then be 0.10 (0.30 – 0.20) meaning for every $1 the underlying moves higher (away from the spread), the spread should decrease 0.10 making it cheaper to buy back the spread which could lead to profiting on the position. Of course for every $1 the underlying moves lower (closer to the spread), the spread should increase by 0.10 making it more expensive to buy back the spread which could lead to a loss on the spread. If either the 90 or 85 strike put were shorted, the position would have a greater delta (and potential to lose more) than the spread, and be subject to bigger changes in the premium. A bigger delta is beneficial if the underlying is moving away from the spread (making them more out-of-the-money) but losses are accumulated faster if the underlying moves towards the spread all other factors held constant.

Theta's Effect

Another objective of selling a credit spread is to profit from the short option's time decay (theta) while protecting the short option's risk by buying further out-of-the-money (OTM) long options. Theta is the rate of change in an option's price given a

unit change in the time to expiration. Generally that unit is represented by a day's worth of time decay. The shorter amount of time left until expiration, the greater the theta will be for the spread meaning the premium will decrease at a faster rate than a spread with a longer expiration. This comes with a trade-off usually.

The shorter amount of time there is until expiration, the more that theta will decrease the spread's premium but there will be a smaller initial premium received versus an expiration with a longer expiration. The longer expiration, the spread will receive a bigger initial credit, but theta will erode away at the spread's premium at a slower rate than a shorter expiration. Generally vertical credit spreads are implemented anywhere from a couple days to about two months to go until expiration.

Implied Volatility Factor

Credit spreads work best when implied volatility (IV) is "high" because the option premiums are usually "over-priced" compared with historical volatility levels. For example, an option trader would rather sell a vertical credit spread when the implied volatility is at, say, 30% compared to the historical volatility (HV) that might be at 22%. This means the options are currently priced above what they should be based on how volatile the stock has been in recent history.

The best case-scenario would be for the IV to decrease after the spread is sold. This means the option premiums would become less expensive and "cheaper", leading to profit. Selling vertical credit spreads when HV is greater than IV may not be the most ideal time. The options are generally considered "under-priced" and it may be a better time to consider an option strat-

egy where buying options is predominant. Let's break this down even further by looking at an example.

Put Credit Spread Example

An option trader has been watching Netflix Inc. (NFLX) and noticed that the stock has been on quite the run higher over the last several months but recently it declined along with the market. Suppose he is still bullish or at least has a neutral outlook on the stock and notices the stock has a potential support area at $420. He believes that even if the stock drops, it will still stay above $420, due to the potential support, by July expiration. The option trader decides to sell the July 415/420 vertical put spread. A put credit spread (bull put spread) on NFLX—which was trading at around $440 in the first part of July—would consist of selling the July 420 put for 2.15 and simultaneously buying the July 415 put for 1.35. The IV at the time was 45% compared to its HV of 30% making the options a little more expensive compared to where they should be priced; thus ideal for selling premium.

The short put has a higher premium than the long one providing a net credit of 0.80 (2.15 – 1.35). The maximum profit potential for this trade is the net credit received, or $80 per spread if NFLX finishes at or above $420 at July expiration. The maximum loss is $4.20 per spread (420 – 415 - 0.80 X 100). The breakeven for this spread example is $419.20 (420 – 0.80) at July expiration.

If the short July 420 put had a 0.25 delta and the long July 415 put had a 0.20 delta, the spread would have a 0.05 (0.25 – 0.20) delta. For every $1 NFLX moved higher, the spread should decrease by 0.05 and for every $1 NFLX moved lower the spread should increase by 0.05 all other factors, including theta, being

held constant. Theta will decrease the spread on its own every day, holding other factors, like stock price constant.

Tradeoffs

Using the NFLX example above, what if the trader decided on a put spread even farther away from where the stock is currently trading? Instead of selling the July 415/420 put spread he decides to sell the July 410/415 put spread. Choosing strikes that are farther away from the current stock price, usually means the less the credit that will be received on the spread.

In essence, there exists a natural tradeoff of chances of success vs. payout structure. The lower the short strike in this example could be deemed as the "safer and less risky" choice because it is farther away from where the stock is currently trading. The tradeoff is a smaller initial credit received which in turn leads to a greater maximum loss potential.

Why?

Notice that in the example, the potential profit was much lower than the maximum possible loss. This is typical for credit spreads. You might ask yourself, why would anyone want to risk so much more than they are willing to make selling an OTM credit spread? The reason is probability. In the above example the trader will have a much greater probability of making $0.80 than he or she will take the $4.20 loss. Every OTM credit spread has really three out of four ways of making money. For the NFLX example, the stock can trade higher, trade sideways or even move lower, as long as it stays above the breakeven point at expiration the spread will make money. The only way it loses is if the stock drops over $20 and closes below breakeven at expiration.

Final Thoughts

Often novice option traders tend to stay away from credit spreads because of the disparate risk-reward, without considering probability of success. Depending on how the spread is implemented, a trader is usually going to risk more than they can make especially then the spread is set-up out-of-the-money (OTM). But generally, even though they are initially risking more on the trade than they are willing to make, the odds of profiting are prohibitively in their favor.

Understanding how implied volatility can help or hurt the vertical credit spread and the affect that delta and theta can have on the position is like putting the odds even more on your side.

Happy Trading,

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