

Time / Diagonal Spreads

Buyer Risk/Reward

Like most trades, time spreads have a maximum loss for the buyer. As a buyer, you can only lose what you have spent. If you paid \$1.00 for the spread then your maximum potential loss is that \$1.00. If you bought the spread for \$2.00, then \$2.00 is the maximum potential loss.

The buyer of a time spread will be purchasing the out-month option while selling the nearer month option of the same strike in a one-to-one ratio. Since the out-month option will have more time until expiration than the nearer month option, the out-month option will cost more. This means the buyer will be putting out money (debit spread) which makes sense. The buyer can only lose the amount of money they spent to purchase the spread. Thus the buyer's maximum risk is the cost of the spread.

The buyer can profit in several ways. First and foremost, being a time spread, the buyer can profit by the passage of time. Options are wasting assets. So as the nearer month option decays away more quickly than the outer-month option, the spread widens (increases in value) and the buyer sees a profit.

Second, implied volatility can increase. As implied volatility increases, the out-month option, which the buyer is long, increases in value more quickly (due to its higher vega) than the nearer month option which the buyer is short. This will force the spread to widen or increase in value, which again is profitable for the buyer.

Third, the buyer can make money due to stock price movement. As stated before, a time spread's value is at its maximum when the stock price and the spread's strike price are identical (at-the-money). You could have an increase in value if you owned an out-of-the-money or in-the-money time spread, and the stock moved either up or down toward your strike. As the stock moves closer to your strike, the spread will expand and increase in value creating a profit for you, the buyer.

The buyer's risks are obviously the opposite of the rewards. You can not stop or reverse time so the buyer of the spread can never be hurt by time.

Implied volatility, however, can decrease as easily as it can increase. A decrease in implied volatility will decrease the value of the out-month option (which the buyer is long) faster than it will decrease the value of the nearer month option (which the buyer is short) due to the higher vega of the out-month option. This will narrow the spread thereby creating a loss for the buyer.



In the same way that stock movement in the right direction can be profitable for the buyer of a time spread, stock movement in the wrong direction can be costly. As the stock moves away from the spread's strike, the spread decreases in value. That will create a loss for the buyer of the spread.

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