

[Time / Diagonal Spreads](#)

Seller Risk/Reward

The seller of a time spread buys the nearer month option and sells the outer-month option in a one to one ratio.

In order to profit from the sale of the time spread, the seller is looking basically for two things.

First is a decrease in implied volatility. As volatility decreases, the out-month option (which the seller is short) loses money faster than the near month option (which the seller is long) because of the higher vega in the out month option. This will cause the spread to contract or lose value. That will be profitable for the time spread seller.

Second, the stock can move. As stated before, a time spread is at its widest, most expensive point when it is at-the-money. A movement away from the strike in either direction decreases the value of the spread. So, as long as the stock moves in either direction away from the strike, the seller's position could be profitable provided that time decay does not outperform the stock movement.

Time, unfortunately, never works in favor of the time-spread seller. The passage of time hurts the seller because the nearer month option (which the seller is long) naturally decays at a faster rate than does the out-month option (which the seller is short). These differing decay rates cause the spread to expand and increase in value. That obviously produces a loss for the time spread seller. Time can neither be stopped nor turned back. It only moves forward which always hurts the time spread seller.

Increases in implied volatility are also detrimental to the potential profits of the time- spread seller. When implied volatility increases, the out month option (which the seller is short) increases in value faster than the near month option (which the seller is long) due to the out month option's higher vega. This creates an expansion in the spread and increases its value resulting in a negative for the spread seller.

The seller, in theory, has an unlimited loss potential. For the seller, the maximum loss potential is not so much determined by the stock price movement but by the movement in implied volatility. As the seller, you will be long the front month call and short the out- month call. As we know, the out month call will be more sensitive to movements in implied volatility due to a higher vega or volatility sensitivity component. If implied volatility increases then the seller's short, out month option will increase more in value than will the seller's long, front month



option. This will cause the spread to widen or increase in value; that is negative for the seller.

The second risk is that the option the seller is long is going to expire approximately 30 days prior to the option the seller is short. If volatility does not decrease or the stock does not move away from the strike significantly before the seller's long option expires, he/she will be left short a naked or un-hedged option and a loss on the position. If the seller can wait out the position, the lost extrinsic value of the short option can be recaptured. As we know, this option too has a limited life and must shed its extrinsic value, no matter how much, by its expiration. The problem facing the seller is that the position is no longer hedged and the seller now faces unlimited risk.

Once the long option expires and the seller is left short a now naked call, stock price movement in the wrong direction is a substantial risk and under the circumstances described above, a big problem. While the seller can wait out an implied volatility movement that created an increase in extrinsic value, they probably will not be able to wait out a large, negative stock movement creating an increase in intrinsic value. In that case the seller must take action to prevent substantial losses once the front month expires. Attention to the implied volatility in the farther out option when the nearer month option expires can save the seller from a large loss.

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