Long iron condor spread

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Neutral

Goal

To profit from a stock price move up or down beyond the highest or lowest strike prices of the position.

Explanation

A long iron condor spread is a four-part strategy consisting of a bear put spread and a bull call spread in which the strike price of the long put is lower than the strike price of the long call. All options have the same expiration date.

Example of long iron condor spread

Sell 1 XYZ 95 Put at 0.70	*0.70*
Buy 1 XYZ 100 Put at 2.10	*(2.10)*
Buy 1 XYZ 105 Call at 2.35	*(2.35)*
Sell 1 XYZ 110 Call at 0.95	*0.95*
Net Debit =	*(2.80)*

In the example above, one 95 Put is sold, one 100 put is purchased, one 105 Call is purchased and one 110 Call is sold, so the four strike prices are equidistant. However, it is normal for the distance between the long call and long put to be greater than the distance between the long and short options of the same type. For example, an 85-90 Bear Put Spread might be combined with a 105-110 Bull Call Spread to create a long iron condor in which the distance between the strike prices of the long options is 15 points while the distance between the strike prices of the bull and bear spreads are 5 points.

A long iron condor spread is established for a net debit, and both the potential profit and maximum risk are limited. The maximum profit potential is realized if the stock price is above the highest strike or below the lowest strike at expiration. The maximum risk is realized if the stock price is equal to or between the strike prices of the long options on the expiration date, in which case all options expire worthless.

This is an advanced strategy because the profit potential is small in dollar terms and because “costs” are high. Given that there are four options and four strike prices, there are multiple commissions in addition to four bid-ask spreads when opening the position and again when closing it. As a result, it is essential to open and close the position at “good prices.” It is also important to consider the per-contract commission rate since commissions will impact the return on investment.

Maximum profit

The maximum profit potential is the maximum value of the bear put spread (or the bull call spread) less the net debit paid for the position. In the example above, the bull and bear spreads have a maximum value of 5.00, and the position is established for 2.80. The maximum profit, therefore, is 2.20 (5.00 – 2.80).

There are two possible outcomes in which the maximum profit is realized. If the stock price is below

the lowest strike price at expiration, then the calls expire worthless, but both puts are in the money. With both puts in the money, the bear put spread reaches its maximum value and maximum profit. Also, if the stock price is above the highest strike price at expiration, then the puts expire worthless, but both calls are in the money. Consequently, the bull call spread reaches it maximum value and maximum profit.

Maximum risk

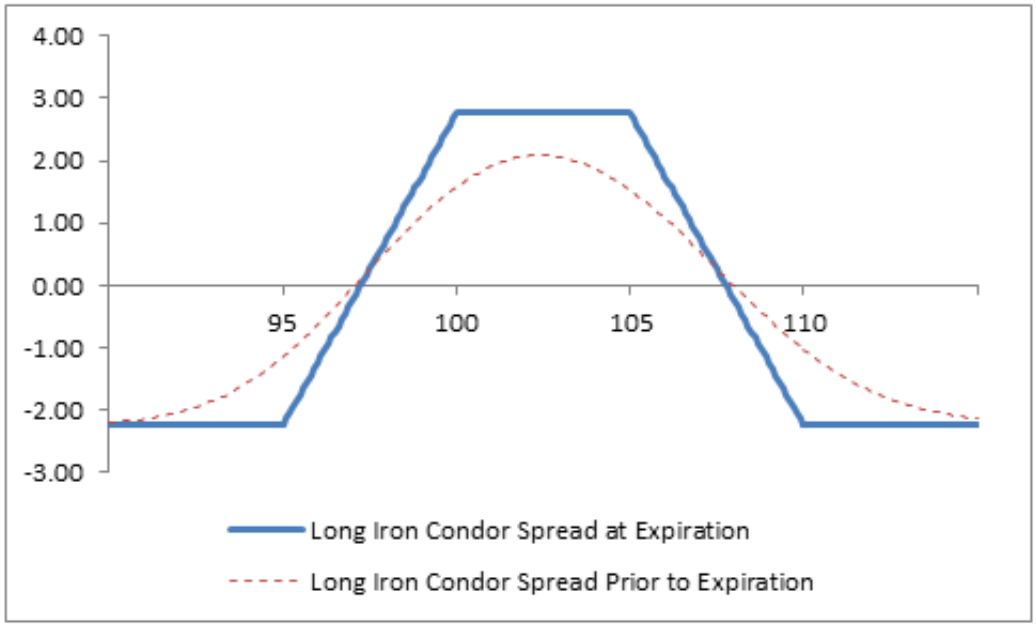
The maximum risk is the debit paid for the strategy plus commissions. A loss of this amount is realized if the stock price is equal to or between the strike prices of the long options on the expiration date, in which case all options expire worthless.

Breakeven stock price at expiration

There are two breakeven points. The lower breakeven point is the stock price equal to the strike price of the long put minus the net debit paid. The upper breakeven point is the stock price equal to the strike price of the long call plus the net debit paid.

Profit/Loss diagram and table: long iron condor spread

Sell 1 XYZ 95 Put at 0.70	0.70
Buy 1 XYZ 100 Put at 2.10	(2.10)
Buy 1 XYZ 105 Call at 2.35	(2.35)
Sell 1 XYZ 110 Call at 0.95	0.95
Net Debit =	(2.80)



Stock Price at Expiration	Short 1 95 Put Profit/(Loss) at Expiration	Long 1 100 Put Profit/(Loss) at Expiration	Long 1 105 Call Profit/(Loss)at Expiration	Short 1 110 Call Profit/(Loss) at Expiration	Net Profit/(Loss) at Expiration

115	+0.70	(2.10)	+7.65	(4.05)	+2.20
110	+0.70	(2.10)	+2.65	+0.95	+2.20
105	+0.70	(2.10)	(2.35)	+0.95	(2.80)
100	+0.70	(2.10)	(2.35)	+0.95	(2.80)
95	+0.70	+2.90	(2.35)	+0.95	+2.20
90	(4.30)	+7.90	(2.35)	+0.95	+2.20

Appropriate market forecast

A long iron condor spread realizes its maximum profit if the stock price is above the highest strike or below the lowest strike on the expiration date. The forecast, therefore, must be for "high volatility," i.e., a stock price move outside the range of the strike prices of the condor.

Strategy discussion

A long iron condor spread is the strategy of choice when the forecast is for a stock price move outside the range of the highest and lowest strike prices. Unlike a long strangle, however, the profit potential of a long iron condor spread is limited. Also, the commissions for a condor spread are higher than for a strangle. The tradeoff is that a long iron condor spread has breakeven points closer to the current stock price than a comparable long strangle.

Long iron condor spreads are sensitive to changes in volatility (see Impact of Change in Volatility). The net debit paid for a long iron condor spread rises when volatility rises and falls when volatility falls. Consequently some traders establish long iron condor spreads when they forecast that volatility will rise. Since the volatility in option prices tends to rise in the weeks leading up to an earnings reports, some traders will open a long iron condor spread two to three weeks before an earnings report and close the position immediately before the report. The potential profit is "high" in percentage terms and risk is limited. Success of this approach to trading long iron condor spreads requires that volatility rises or that the stock price rises above the highest strike price or falls below the lowest strike. If volatility falls or it the stock price does not move, then a loss will be incurred.

If volatility is constant, long iron condor spreads do not show much of a loss until it is very close to expiration and the stock price is within the range of maximum loss. In contrast, long strangles suffer much more from time erosion and begin to show losses early in the expiration cycle as long as the stock price does not move beyond a breakeven point.

Furthermore, while the potential profit of a long iron condor spread is a "high percentage profit on the capital at risk," the typical potential dollar profit of one iron condor spread is "low." As a result, it is often necessary to trade a large number of iron condor spreads if the goal is to earn a "large dollar profit." Also, one should not forget that the risk of a long iron condor spread is still 100% of the net debit paid plus commissions. Therefore, if the stock price remains in the range of maximum loss as

expiration approaches, a trader must be ready to close out the position before a large percentage loss is incurred.

Patience and trading discipline are required when trading long iron condor spreads. Patience is required because this strategy profits from trending stock price movement outside the range of strike prices, and stock price action can be unsettling as it rises and falls around the highest or lowest strike price as expiration approaches. Trading discipline is required, because, as expiration approaches, "small" changes in stock price can have a high percentage impact on the price of an iron condor spread. Traders must, therefore, be disciplined in taking partial profits if possible and also in taking "small" losses before the losses become "big."

Impact of stock price change

"Delta" estimates how much a position will change in price as the stock price changes. Long calls have positive deltas, short calls have negative deltas, long puts have negative deltas, and short puts have positive deltas.

Regardless of time to expiration and regardless of stock price, the net delta of a long iron condor spread remains close to zero until a week or two before expiration. If the stock price is below the lowest strike price in a long iron condor spread, then the net delta is slightly negative. If the stock price is above the highest strike price, then the net delta is slightly positive.

Impact of change in volatility

Volatility is a measure of how much a stock price fluctuates in percentage terms, and volatility is a factor in option prices. As volatility rises, option prices tend to rise if other factors such as stock price and time to expiration remain constant. Long options, therefore, rise in price and make money when volatility rises, and short options rise in price and lose money when volatility rises. When volatility falls, the opposite happens; long options lose money and short options make money. "Vega" is a measure of how much changing volatility affects the net price of a position.

Long iron condor spreads have a positive vega. This means that the net debit for establishing a long iron condor spread rises when volatility rises (and the spread makes money). When volatility falls, the net debit of a long iron condor spread falls (and the spread loses money). Long iron condor spreads, therefore, should be established when volatility is "low" and forecast to rise.

Impact of time

The time value portion of an option's total price decreases as expiration approaches. This is known as time erosion. "Theta" is a measure of how much time erosion affects the net price of a position. Long option positions have negative theta, which means they lose money from time erosion, if other factors remain constant; and short options have positive theta, which means they make money from time erosion.

A long iron condor spread has a net negative theta as long as the stock price is in the range of maximum loss. Consequently, a long iron condor spread loses money from time erosion. If the stock price moves outside the range of maximum loss, however, the theta becomes positive and the position makes

money as expiration approaches.

Risk of early assignment

Stock options in the United States can be exercised on any business day, and holders of short stock option positions have no control over when they will be required to fulfill the obligation. Therefore, the risk of early assignment is a real risk that must be considered when entering into positions involving short options.

While the long options in an iron condor spread have no risk of early assignment, the short options do have such risk. Early assignment of stock options is generally related to dividends. Short calls that are assigned early are generally assigned on the day before the ex-dividend date, and short puts that are assigned early are generally assigned on the ex-dividend date. In-the-money calls and puts whose time value is less than the dividend have a high likelihood of being assigned.

If the short call in a long iron condor is assigned, then 100 shares of stock are sold short and the long call and both puts remain open. If a short stock position is not wanted, it can be closed in one of two ways. First, 100 shares can be purchased in the marketplace. Second, the short 100-share position can be closed by exercising the long call. Remember, however, that exercising a long call will forfeit the time value of that call. Therefore, it is generally preferable to buy shares to close the short stock position and then sell the long call. This two-part action recovers the time value of the long call. One caveat is commissions. Buying shares to cover the short stock position and then selling the long call is only advantageous if the commissions are less than the time value of the long call.

Note, however, that whichever method is used, buying stock and selling the long call or exercising the long call, the date of the stock purchase will be one day later than the date of the short sale. This difference will result in additional fees, including interest charges and commissions. Assignment of a short option might also trigger a margin call if there is not sufficient account equity to support the stock position created.

If the short put is assigned, then 100 shares of stock are purchased and the long put and both calls remain open. If a long stock position is not wanted, it can be closed in one of two ways. First, 100 shares can be sold in the marketplace. Second, the long 100-share position can be closed by exercising the long put. Remember, however, that exercising a long put will forfeit the time value of that put. Therefore, it is generally preferable to sell shares to close the long stock position and then sell the long put. This two-part action recovers the time value of the long put. Again, however, the caveat is commissions. Selling shares to close the long stock position and then selling the long put is only advantageous if the commissions are less than the time value of the long put.

Note, again, that whichever method is used, selling stock or exercising a long put, the date of the stock sale will be one day later than the date of the purchase. This difference will result in additional fees, including interest charges and commissions. Assignment of a short option might also trigger a margin call if there is not sufficient account equity to support the stock position created.

Potential position created at expiration

The stock position created at expiration of a long iron condor spread depends on the relationship of the

stock price to the strike prices of the spread, and there are five possibilities. The stock price can be below the strike price of the short put, which is the lowest strike price. It can be above the strike price of the short put but not above the strike price of the long put. It can be between the strike prices of the long put and long call. It can be above the strike price of the long call, but not above the strike price of the short call; or it can be above the strike price of the short call, which is the highest strike price.

If the stock price is below the strike price of the short put (lowest strike), then both puts are in the money and both calls are out-of-the-money. In this case both calls expire worthless, but the short put is assigned and the long put (next higher strike) is exercised. As a result, stock is purchased at the lowest strike and sold at the next higher strike. As a result, the maximum profit is earned, but no stock position is created.

If the stock price is above the strike price of the short put but not above the strike price of the long put, then the short put and both calls expire worthless, but the long put is assigned. The result is that 100 shares of stock are sold short and a stock position of short 100 shares is created.

If the stock price is between the strike prices of the long put and long call, then all options expire worthless, and no stock position is created, but the maximum loss is realized.

If the stock price is above the strike price of the long call (second-highest strike) but not above the strike price of the short call (highest strike), then the short call and both puts expire worthless, but the long call is exercised. The result is that 100 shares of stock are purchased and a stock position of long 100 shares is created.

If the stock price is above the strike price of the short call (highest strike), then both calls are in the money and both puts are out-of-the-money. In this case both puts expire worthless, but the long call (second-highest strike) is exercised and the short call (highest strike) is assigned. As a result, stock is purchased at the second-highest strike and sold at the highest strike. As a result, the maximum profit is earned, but no stock position is created.

Other considerations

There is considerable disagreement among experienced traders on how the terms “long,” “short,” “buy” and “sell” apply to iron condor spreads. This strategy is labeled "Long Iron Condor". This use of terminology aligns “buying to open” with paying a net debit and “selling to close” with receiving a net credit.

On the other hand, some traders refer to this strategy as "Short Iron Condor," because its profit and loss diagram looks like the diagrams of a short condor spread with calls and a short condor spread with puts. However, it is confusing for some traders to think of a position that is established for a net debit as a “short position” or “sold position" and conversely closing, or “buying,” it for a credit.

Since even experienced traders frequently disagree on how to describe the opening and closing of this strategy, all traders who use this strategy should be careful to communicate exactly and clearly the position that is being opened or closed. Rather than say “buy” or “sell” or “long” or “short,” when trading long iron condor spreads, one might say “open for a net debit” or “close for a net credit.”

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