



Options Trading

The Fundamentals



PRICE Futures Group
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We have seen extreme volatility for commodity futures recently. In fact, we could make a case that volatility has been increasing steadily since the original significant moves which began in 2005-06 for most of the commodity sectors. We have seen individual groups experience strong upside moves, but since their large rise in 2006, most commodities have maintained lofty levels, excluding the severe price breaks which occurred after the stock market crash of 2008. After stabilizing, most groups moved sharply higher once again to where, in many cases, they are still trading at levels well over pre-2006 lifetime highs.

Due to this and the hefty increase in margin requirements, many traders have turned to the options markets to try to minimize risk while not having to be burdened by the significantly higher margins required. Some options strategies are very basic and merely trying to capitalize on perceived market direction while others are designed to actually take advantage of this increased volatility.

1: Outright Purchase of Call or Put Options

Buy a Call, Assuming the Right to be Long a Futures Contract at the Strike Price Purchased
OR → Buy a Put, Assuming the Right to be Short a Futures Contract at the Strike Price Purchased

Risk: The risk is defined since the buyer of an option pays a premium, which is the total amount risked.

Advantage: Risk is limited to the premium paid and there is generally no margin requirement since the option is paid for up front. The buyer has the opportunity to profit from a strong futures move up or down with a relatively low cost output.

Disadvantage: The underlying futures contract could move in the option buyer's direction (up for Calls, down for Puts) but the buyer may still not make a profit if the contract does not move to or through the strike price. For example, a trader buys a December 7.00 corn Call when futures are at 6.25 and pays a \$400 premium. Futures slowly move higher but have only advanced to 6.80 by the option's expiration. Since futures are below 7.00, the option is now worthless.

Of course they need not wait until expiration and can sell the option at any time after entering. If the underlying futures price never moves in-the-money and the trader has not sold their option, its value is 0 at expiration and the buyer will lose their premium. This is the most basic of the options strategies.

Components of Option Pricing

1. Time until the Option's Expiration (Time Value)
2. Distance of Strike Price from the Underlying Future (Intrinsic Value)

	<u>CALL</u>	<u>PUT</u>
In-the-Money	Futures above Strike	Future below Strike
At-the-Money	Futures at Strike	Futures at Strike
Out-of-the-Money	Futures below Strike	Futures above Strike

2: Bull Call Spread / Bear Put Spread

Buy a Call with a Lower Strike Price and Sell a Call with a Higher Strike Price
OR → Buy a Put with a Higher Strike Price and Sell a Put with a Lower Strike Price

(EX: Buy a January \$90 Crude Oil Call and Sell a January \$100 Crude Oil Call
or Buy a January \$85 Crude Oil Put and Sell a January \$75 Crude Oil Put)

Risk: The risk is defined since the option spread is paid for up front and the trader is only at risk for the difference in the premiums.

Advantage: A trader can buy an option closer to being in-the-money since their cost is lessened by selling a higher Call option or a lower Put option. So, the underlying futures contract does not have to move as far to get in-the-money.

Disadvantage: There is a maximum profit the trader can achieve since they cannot profit above the Call which was sold or below the Put which was sold. Using the example above will explain. In the Bull Call spread, the trader can only make \$10 (\$10,000) in January crude oil since they can no longer profit above the futures price of \$100. After that, they might lose on the \$100 Call what they are making on the \$90 Call. Likewise, they cannot profit below \$75 on the Bear Put spread since they might lose on the \$75 Put what they are making on the \$85 Put once futures are below \$75.

3: Covered Futures with Call or Put Options

Purchase a Futures Contract and Buy a Lower Priced Put

OR → Sell a Futures Contract Short and Buy a Higher Priced Call

(EX: Buy a December Silver future at \$35.00 and Buy a December \$34.00 Silver Put for protection
or Sell a December Silver future short at \$35.00 and Buy a December \$36.00 Silver Call for protection)

Risk: The risk is defined since the right to sell a future at \$34.00 protects the long position and the right to buy a future at \$36.00 protects the short position.

Advantage: Staying Power. A typical trade involves buying or shorting a futures contract and placing a sell stop below the buy price or a buy stop above the short position. With the historic fluctuations we have seen lately, traders could be stopped out of what may very well turn out to be a profitable trade by either having their stop too close or because a short term blip or some news that day pushed the futures contract through their stop loss. By having an option as protection, this enables the trader to trade without a stop. In the example above, if Silver was bought at \$35 and the trader had a \$34 Put for protection, they already have the right to sell at \$34 so even if Silver fell well below \$34, they could exercise their right to sell and offset the trade at \$34.

Say Silver rises to \$40 after entry and the trader sells the contract they bought at \$35, but continues to hold the Put. With today's volatility it is conceivable that Silver could come back to \$35 or lower and the trader can buy again, knowing they have the \$34 Put option as protection. In effect, they could then use that option numerous times as insurance. While this strategy may be potentially costly, consider this. You purchase a \$40,000 vehicle and pay perhaps \$1,000 a year for insurance. You may not need that insurance if there are no claims but you sure would be glad that you had purchased it if it was damaged in an accident.

Disadvantage: Because of the volatility in the futures markets, the option premiums may be expensive for options that are close to being in-the-money. You have to weigh the security of the insurance versus the cost. For instance, in the above example, that option may have cost \$1.00 – \$2.00 for Silver or \$5,000 – \$10,000. Compare that to a \$20,000 - \$25,000 margin requirement for Silver and it may not seem as bad. Ways to lower this cost might be to buy an option with as little time as possible until expiration. Another way might be to trade in less volatile futures markets. If margins are lower, generally the option premiums would be lower also. Usually the amount of premium paid for an option will commiserate with the profit or loss potential and volatility of the underlying futures contract to be traded.

4: Bull Butterfly Spread / Bear Butterfly Spread

Buy 1 Lower Priced Call, Sell 2 Higher Priced Calls, and Buy 1 Even Higher Priced Call

OR → Buy 1 Higher Priced Put, Sell 2 Lower Priced Puts, and Buy 1 Even Lower Priced Put

(EX: Buy a December \$1800 Gold Call, Sell 2 December \$1850 Gold Calls, and Buy 1 December \$1900 Gold Call
or Buy a December \$1700 Gold Put, Sell 2 December \$1650 Gold Puts, and Buy 1 December \$1600 Gold Put)

Risk: The risk is defined and limited to what you paid to initiate the spread.

Advantage: The reason for this trade would be that a trader feels there is a strong support at a level below the market and futures are not likely to break through or they feel there is a strong resistance above the market which they don't feel will be penetrated. If Gold was at \$1750 and the trader thinks it may go to about \$1850 but then stall, this would be the reason to do the Bull Butterfly spread. Conversely, if they felt it could drop to about \$1650 but not much more, they could initiate the Bear Butterfly spread.

To understand how the trade might profit you must first understand your position. Using the bull strategy above for example, a long \$1800 Call gives you the right to be long a Gold future at \$1800. If you sold two \$1850 Calls, the buyer of the two \$1850 Calls would pay a premium and you would collect the premium paid. If futures went over \$1850, the buyer of the Calls would be entitled to be long the two Gold futures at \$1850. Therefore the seller (you), would be assigned the two corresponding short futures at \$1850. This leaves you short an extra Gold futures position at \$1850. This is the reason why you buy the \$1900 Call. Let's say futures are above \$1900 at expiration and run through the trade. You are long 1 contract at \$1800, short 2 contracts at \$1850, and long 1 contract at \$1900. As you can see, this is a breakeven trade. You make \$50 between \$1800 and \$1850 and since you have an extra short from \$1850, you lose \$50 between \$1850 and \$1900. This is why the risk is defined and limited to what you paid to initiate the butterfly originally. In many cases you can actually initiate this trade for 0 premium paid. The \$1800 Call would be expensive, the two \$1850 Calls less expensive, and the \$1900 Call even less expensive. For example, let's say the \$1800 Call costs \$5000, the \$1850 Calls cost \$3000, and the \$1900 Call costs \$1000. You would have paid \$5000, taken in \$6000, and paid \$1000, so it will only cost you the fees required to place the trade. Now prices may be different and in some cases you may have to pay a small amount of premium, pay nothing, or even take in some premium depending on how volatile the underlying futures might be.

Disadvantage: Breaking even in the above example is the WORST case scenario. I mentioned earlier this trade would be placed if you felt Gold might go to about \$1850 but not much more. Let's run through the trade where Gold is at \$1850 at expiration. You make \$50 or \$5000 (Gold is a 100 oz. contract) on the \$1800 Call. The \$1850 and \$1900 Calls are worthless, so your profit would be \$5000. If Gold is below \$1800 all options would be worthless, so your loss would be the premium paid which, as I explained, may be very little or nothing at all. What if futures were at \$1820 at expiration? The math is easy here. Again, the \$1850 and \$1900 Calls are worthless and your \$1800 Call is worth \$20 or \$2000.

5: Long Straddle / Short Straddle

Buy a Call and Buy a Put at the Same Strike Price

OR → Sell a Call and Sell a Put at the Same Strike Price

(EX: Buy a December 13500 Euro Currency Call and Buy a December 13500 Euro Currency Put
or Sell a December 13500 Euro Currency Call and Sell a December 13500 Euro Currency Put)

Risk: The risk is defined in the long straddle since options are only being purchased. There is risk inherent in the short straddle since you are selling two options and potentially assuming the risk if they are exercised.

Advantage: The long straddle is another fairly basic strategy if a trader is not sure of direction but expects a big move one way or the other. A trader can potentially turn a profit no matter which way the market goes. This may be a good strategy just before an important report which may move the market profoundly in one direction or the other. Since this is basically akin to a futures position in some ways, it is also best to buy options with as little time as possible until expiration since those premiums paid would be considerably cheaper than those with significant time until expiration. Another advantage would be the possibility to profit on each option. For example, if the futures moved higher after you entered, you could possibly sell the Call with a profit and continue to hold the Put. In periods of extreme volatility it is also possible for the underlying futures contract to then reverse and if you are still holding the Put, you may have a chance to sell that with a profit if futures drop far enough.

Conversely, if you expect a very flat and non-volatile market rather than expecting a big move one way or the other, you would use a short straddle. In a short straddle, using the example above, a trader might take in 150 points for each or 300 total points and futures were right at 13500 at expiration, they would keep the total premium. In a long straddle, if futures do not make a move after you enter and stay relatively flat, the value of both the Call and Put would dwindle. In a short straddle, if futures were at 13600 at expiration, the 13500 Put option would be worthless and you would be out 100 points on the 13500 Call as the buyer of the Call you sold would exercise his option and take their long future while you would be assigned a short from 13500 since you sold or wrote the option. Your profit then would be 200 points as you took in 300 and were only out 100. If the future was at 13700 you would be out 200 but took in 300 so the net profit would be 100 points and so on. You must calculate your total cost to buy the options and see what your breakeven level would be. For example, using the long straddle Euro Currency example from above, let's say you had to pay 150 points to buy the 13500 Call and had to pay 150 points to buy the 13500 Put. The total outlay would be 300 points. This means in theory that futures would have to be above 13800 or below 13200 at expiration for you to breakeven. I say in theory because the markets fluctuate daily, sometimes significantly and if the market made a big move shortly after entry, you would likely have the chance to sell the Call or Put option above, or possibly well above, your entry price.

Disadvantage: For a long straddle, if futures do not make a big move after entry, the option premiums could dwindle quickly especially if the option did not have a lot of time value left until expiration. For a short straddle, since the risk is not defined, there is a margin requirement. Also, if futures are above the Call option at expiration, the buyer of the Call you sold will exercise their option to be long at 13500. You would then be assigned the short futures position which risks being potentially unprofitable in this particular example.

6: Strangle

Sell a Call above the Futures Market and Sell a Put below the Futures Market

(EX: Sell a January 4.25 Natural Gas Call and at the same time, Sell a January 3.00 Natural Gas Put)

Risk: The risk is NOT defined, so a plan must be made for adverse market action.

Advantage: Most times, even when markets are trending, they trade within a trading range rather than in an explosive break-out one way or the other. Obviously, if a catastrophic event affecting crops, such as a hurricane, had occurred we could see a straighter up or down move. A review of a daily chart pattern shows the usual occurrence of markets moving up and down within a dependable range. This means that the majority of options do expire worthless, as long as the usual pattern continues. In the above example, if futures were between 3.00 and 4.25 for January natural gas, you will have kept the entire premium you received for writing the options. Another advantage is that you have time on your side. When a trader buys an option he is buying a contract month sometime in the future. I like to write options with 50-65 days until expiration. You can still take in a nice premium, but the normal fluctuations and volatility say that the odds are good that the underlying futures contract will not go above the Call strike price or below the Put strike price within 50-65 days. Additionally, the closer you are to expiration, the lower the margin requirement is to carry the strangle.

You could also buy back the options you wrote/sold if the trade goes your way. Let's say you took in \$500 on each side of the strangle and it was now down to \$100 on each side. You may not wish to risk the \$400 profit per side to make only another \$100 in the case that futures make a big move either way in the remaining time until expiration.

Disadvantage: If futures are below 3.00 at expiration, the buyer of the Put you sold would exercise and initiate their short futures position at 3.00 and you would be assigned the long futures position at 3.00. Conversely, if futures are above 4.25, the buyer of the Call you sold would exercise and initiate their long futures position at 4.25 and you would be assigned the short futures position at 4.25. This is why it is always ideal to have an exit strategy if futures make an adverse move on your position. You can buy back the options you wrote at any time or could even buy a future to cover a possible short assignment or sell a future to possibly cover a long assignment.

Another disadvantage is that since the risk is not defined, there is a margin requirement for this trade. The further you are from the futures price, the less the margin. The closer the option is until expiration, the less the margin would be, and vice versa. Margin is generally lower than the futures contract, sometimes considerably less. Keep in mind that the worst case scenario is that you are assigned a futures contract, so this strategy is no more risky than trading an actual futures contract, thus the lower margin requirement.

- Offshoot to the Strangle - Let's say a market has already made a strong move up or down. If the move was down, you may wish to sell a lower Put feeling that the market is oversold and due for a rise soon. You would probably take in a greater premium since the down move has pushed Put premiums higher. If the market made a large up move, you may wish to sell a higher Call. This is not a strangle, but an outright option sell position of a Call or Put as opposed to selling on each side of the market.

7: Call Credit Spread / Put Credit Spread

Sell a Call with a Lower Strike Price and Buy a Call with a Higher Strike Price
OR → Sell a Put with a Higher Strike Price and Buy a Put with a Lower Strike Price

(EX: Sell a December 12800 Japanese Yen Call and Buy a December 12900 Japanese Yen Call
or Sell a December 12800 Japanese Yen Put and Buy a December 12700 Japanese Yen Put)

Risk: The risk is defined since you have bought a higher Call or lower Put to cover the option you wrote. This strategy is the opposite of strategy #2, the Bull Call spread or Bear Put spread.

Advantage: You have staying power as the risk is set and since the majority of options do expire worthless, the odds are in your favor as we wish for both options to expire worthless in this trade.

For example, if you sold a 12800 Yen Call for 200 points and bought the 12900 Call for 150 points, you might have a credit of 50 points in this case, or \$625. If futures are below 12800 at expiration, both Calls will be worthless and you will have kept the entire premium and if futures are above 12800 at expiration, both Puts will be worthless and you will have kept the entire premium.

Another advantage is that the margin will be limited to the total risk involved. In this case, the loss potential between the strike prices (100 points) less the amount you took in for the option (50 points) is the amount of risk involved ($100 - 50 =$ a 50 point risk).

Disadvantage: There is no strong disadvantage here as both the risk and profit are set once you enter. If there is a slight disadvantage it is that by protecting the position with the higher buy of a Call or lower buy of a Put, your profit margin is not usually huge but that is somewhat offset by the lower set risk.

8: Iron Condor

Place a Credit Spread on each Side of the Futures Market - a Call Credit Spread & a Put Credit Spread

(EX: Sell a March 625 Corn Call and Buy a March 650 Corn Call
and at the same time, Sell a March 575 Corn Put and Buy a March 550 Corn Put)

Risk: The risk is defined since the March 650 Call covers the 625 Call you wrote and the 550 Put covers the 575 Put you wrote.

Advantage: You can potentially profit on both sides of the market when using the iron condor strategy. In the above corn example, if March corn futures are below 625 and above 575 at expiration, both the Calls and Puts would be out-of-the-money and therefore worthless, meaning you will have kept the premiums you received from each side.

Say you took in 12 cents for each side of this condor. If futures are below 625 and above 575 at expiration, you have kept the entire 24 cents. However, what if futures drop to 500 by expiration? You would lose 25 cents on the Put side and you would take in 24 cents on the entire trade, so your loss would be 1 cent on a likely huge move against one side of your trade. In many cases you can take in enough premium from the two sides than your individual risk on either side of the market. Using the above example, if we had received 14 cents per side for a total of 28 cents, it would be more than the 25 you are risking. So, the worst case scenario in this example is a gain of 3 cents, as you took in 28 and are risking 25 on either side.

Disadvantage: Similar to strategy #7 - the credit spread, there is no strong disadvantage here, as both the risk and profit are set once you enter. If there is a slight disadvantage it is that by protecting the positions with the higher buy of a Call and lower buy of a Put, your profit margin is not usually huge but that is somewhat offset by the lower set risk, which applies to both sides of the Iron Condor.

These are the major option strategies. Some are quite easy to comprehend and others are a bit more complicated. If you just keep in mind what you are doing with each option purchased or sold, you can more easily follow the most complex of option trades. Initially it may take spending some time with your broker to help you determine which strategy is best based on what you are willing to risk and which direction you may feel a certain market may take. Your broker can also explain the risks and profit objectives for the strategy you wish to initiate beforehand rather than you jumping in blindly. The objective of futures trading is to have a consistent plan to try and put the odds in your favor. With these turbulent markets we have experienced for the past few years, the above ideas can go a long way to help you participate in an organized and safe way.

Meet the Author



William Frejlich began his futures career in 1982. After crafting his trade at a small futures firm, Bill moved to the Chicago Board of Trade in 1985 where he worked until joining the Price Futures Group in early 2011. Mr. Frejlich specializes in numerous futures & options strategies and combination strategies using both the futures and options in tandem. Bill's counseling has touched traders from the novice to the most sophisticated investor as he has both managed and assisted with their trading. On a weekly basis since 1995, Bill writes the [The Windy City Trader newsletter](#) to help his clients and subscribers better understand the inner workings of the futures markets.

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