Introduction to Options

Trading Options on Futures can be an exciting investment opportunity. Investors frequently focus on buying options because of their unique ability to generate unlimited gains while offering a limited risk. While this sounds attractive on the surface, options trading can be a risky endeavor. Options are by nature, a “wasting asset,” and are not ideal investments for all types of investors. Let's review some of the concepts you should understand before investing in options.

Calls

A Call Option is the right to be long on the underlying futures contract. Buyers of Call Options want option values to appreciate as underlying futures prices increase.

Puts

A Put Option is the right to be short on the underlying futures contract. Buyers of Put Options want their option values to go up as the underlying futures prices go down.

Premium

The actual price of an option is called premium. Buyers of Puts and Calls normally want premium values to increase, while sellers of premiums, referred to as “writers,” want premiums to decrease. Premiums are determined based on the current relationship of the option to the underlying futures contract. The elements that make up premium values are: Time, Price, Interest Rates and Volatility.

Strike Prices

A Strike Price is the specific price that an option buyer has the right to be long or short in the underlying futures contract, depending on whether the option is a Put or a Call. The exchanges list their options strike prices based upon the price of the underlying futures contract, liquidity and time to expiration. How quickly an option price moves is based largely on how close the strike price is to the underlying futures contract.

In the Money Options

Call Options with a strike price lower than the current underlying futures price are said to be “in the money.” Put Options that have a strike price higher than the current underlying futures price are also said to be “in the money.”

At the Money Options

This event takes place when Put or Call Strike prices are trading equivalent to the underlying futures price.

Out of the Money Option Price

Call strike prices higher than the current underlying futures prices are said to be “out of the money.” Put strike prices lower than the current underlying futures price are said to be “out of the money.”

As a general rule:

- “In the Money” options can be expensive.
- “At the Money” options are often more moderately priced.
- “Out of the Money” options are generally less expensive.

Expiration Date

This is the last day that an option trades. Options typically expire prior to the underlying futures contract expiration date. Expiration dates vary greatly, in some instances occurring several weeks to a month prior to the last trading day of the underlying futures contract and in other cases, the option and futures contract expire on the same day. We make an Option Expiration Calendar available under the Research and News Section of The Ira Epstein Division of The Linn Group Inc. website.

It is imperative to know when option expirations occur as pricing, in part, is based on this date. As a trader, you should know this date before entering a trade. If an option expires worthless, it can no longer be offset or exercised.

Buying and Selling Long Options

Most traders who buy options intend to sell or liquidate them at some point in the future. Traders rarely convert options into futures contracts. Rather, they hope to profit by liquidating their long option position when the option premium reaches a level higher than where it was originally purchased.

Liquidating long options simply means selling them for a particular price value. This value can be higher or lower than where the option was originally purchased. Traders can and do use different order strategies when buying or selling long option positions. Orders such as market orders, limits or stops can be used.

Exercising Options

Exercising a “call” means electing to be long on the underlying futures contract at the specific, predetermined strike price. Exercising a put means electing to be short on the underlying futures contract at a specific predetermined strike price. If an option is in the money at the close of its expiration date, it can be automatically exercised if you have not previously liquidated. However, there is a caveat. An option that is exercised becomes a futures position with a new margin requirement. Outright long options should rarely be exercised for reasons we will discuss shortly.

Time Value/Intrinsic Value

Option premiums are made up in part of Time and Intrinsic value.

Intrinsic value is the amount of premium, if any, that an option is in the money. “At the money” and “out of the money” options, as the very names imply, have no intrinsic value.

Example:

December Crude Oil futures are trading at $75.00 a barrel. A December $74 Call is trading for 250 points or $2500. The option contains 100 points ($1000) of intrinsic value and 150 points ($1500) of time value. You elect to by it.

All things being equal, you decide the next day to exercise your call option. When you do so, you assume a long futures position at $74, in effect giving up 150 points, or $1500 worth of time value. This example shows why we don’t always believe it’s prudent to exercise options, as time value in effect can be thrown away.

Delta

Delta is the percentage change an option makes according to the change in price of the underlying futures contract. Delta is one of the most important concepts to understand when trading options. The Delta reading represents a percentage of each point the underlying futures contract moves. If the Delta is 80 and the market moves 10 points, the options should move 8 points.

As a general rule

- “Deep in the money” options typically convey higher delta values of 80 to 90%
- “At the money” options usually reflect Delta near 50 %
- “Out of the money” options tend to show lower delta values like 20-30%
- Delta values typically decline as strike prices get further away from underlying futures prices

Delta = the change in option price divided by the change in futures price

Gamma

Gamma is the percentage change of the Delta, based on the change in price of underlying futures contract. Some traders often think of this in terms of how fast the Delta changes. It can be said that the gamma is “the delta of the delta.”

Gamma = The percentage rate of change in the delta. It is mathematically derived by dividing the change in Delta by the change in the option price.

Theta

This is a measurement of the rate of decline of time premium resulting from the passage of time.

Theta = The ratio of the change in an option price to the decrease in time to expiration

Implied Volatility

Volatility studies can help option traders make decisions based on historically high or low volatility levels. Implied volatility is a study based on the “mathematical mean price” of an option over time. Calculated as a percentage using current option prices, implied volatility can help you determine if option prices are historically high or low. When implied volatility is low as compared to the mean, option premiums might be expected to increase, presenting potential buying opportunities. When option volatility is high, premiums may be overvalued, presenting potential selling opportunities. Studies such as the popular Black-Scholes pricing models, developed by Fischer Black and Myron Scholes, can help in determining what the theoretical fair value for an option might be.

Selling Option Premium

Option traders who initiate sales of option premium confront a different set of issues compared to option buyers. Option buying is a limited risk proposition. Option selling can carry unlimited risk. Option sellers normally want options to expire worthless, because they have sold premium and are hoping to collect it. Option selling usually requires a margin deposit similar to that of futures contracts.

Margins for option selling are calculated by your brokerage firm and the exchange that the option is traded on. Selling or “writing” option premium can be accomplished on its own or as part of an option strategy.

Those who typically sell Calls, with no other strategy in mind are Bearish on the underlying futures market, expecting to earn that premium.

Those who typically sell Puts, with no other strategy in mind are Bullish on the underlying futures market, expecting to earn that premium.

Breakeven Price

Traders should add the option strike price, the premium paid, and the transaction costs, to calculate the minimum price that the underlying futures contract must be at or above on expiration day.

The formula:

Option Strike Price + Premium Paid + Commissions = Breakeven

Keep in mind, that at any time before option expiration, if the premium trades higher than what you paid plus the commission costs, you have a profitable trade at that moment. An option does not have to be “in the money” to be profitable.

Example:

- Assume December Gold Futures are trading at $1200/oz. The contract is for 100 ounces. A $1 move in gold equates to $100.
- You decide to purchase a December Call 1250 Strike Price for $450 premium plus $50 in commissions. Total cost $500.
- Your breakeven futures price at expiration is $1255, based on the above formula.

1250 Call + $450 Premium + $50 Commission = $1255 Breakeven Price

Suppose you buy the option on June 1st and December Gold futures rallied from $1200 to $1225 on August 1st. In theory, the option would be still out of the money, since it is a 1250 call. However, it’s very likely your option would be profitable because the underlying futures price moved $25 in a short period of time. This $25 move equates to $2500 in the Futures contract.

Assuming the options’ Delta is approximately 30, it is very probable that the option would have captured nearly 30% of this $25 move, or $750.

Let’s review:

You paid $450 +$50 in commission = $500.
You sell the call for $1250 (after the $25 move).
You would have profited by $750, after commissions.

In this example, Gold did not hit your breakeven level, but you still could have profited.

What Options Should I Buy?

Many traders purchase options because of their limited risk characteristics. While this is not necessarily wrong, the reality is that most options expire worthless.

For purposes of discussion, let's keep it simple and say that you like the idea of having the defined risk that option purchases offer. The question becomes: What should be done next?

The first thing you should do is form a market opinion based on as much sound technical and fundamental information as you can gather. Once you have formed a conclusion, determine how much time you think you need for this strategy to work. You should next determine the strike price you should buy.

It is our opinion that when an option has normal to low volatility, you should purchase options with a 3 to 6 month time window. Options with an 8 to 12 month window can be looked at, but when purchasing this much time, liquidity is often compromised. Slightly out of the money options have the strike prices that most consider and trade the most. It is our belief that by concentrating on where the premium is actively traded, the potential to buy and sell at a fair and reasonable price presents itself more frequently.

Putting It All Together

Now that a lot of option terminology has been introduced, it is our hope that you have a better understanding of the many variables involved in this type of investment. Options can and do provide an alternative means of participation in the futures markets, when used under the right circumstances. Traders not comfortable with the risks associated with futures might want to give serious consideration to options as an alternative. When formulating option strategies you might want to consider the following checklist:

1. Are you Bullish or Bearish regarding the underlying futures market?
2. Are you comfortable with the risk/reward parameters and amount of money you are placing at risk?
3. Are market conditions appropriate for your option strategy?
4. What is the volatility of the option and the underlying futures contract?
5. What is the Delta of your option and how fast can it move?
6. Once you have answered items 1-5, do you think your strategy still makes sense?

The above checklist contains just some of the questions you should consider before investing in options. Of primary importance is your understanding of the risks involved in your particular option strategy. If you don't fully understand the risks, don't invest. As you know, it's quite simple when one purchases outright Calls or Puts, risk level is fixed.

Option buying can be rewarding when options are purchased before a significant move takes place in the underlying futures. However, if a market turns stagnant and time begins to expire, those who purchased options will often experience decay in the premium they paid. Under these circumstances, option sellers become the beneficiaries of this erosion in price and time.

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