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FINANCIAL SERVICES GROUP

OPTIONS 101

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Futures and options trading involves the substantial risk of loss and is not suitable for all investors. Each investor must consider whether this is a suitable investment since you may lose all of or more than your initial investment. Past performance is not indicative of future results.

Many people new to investing tend to shy away from trading options because they believe that they are difficult to learn and require a tremendous knowledge of mathematics. However, this is only true in the most complex option strategies. Many individuals find that once they have a better grasp of the vocabulary associated with options, they are much more understandable and offer benefits that trading outright futures contracts do not.

What are Options?

An option is a contract that gives the buyer the right, but not the obligation, to go long (buy) or go short (sell) the underlying futures contract at a specific price on or before a set expiration date. Essentially, options on futures allow an investor to participate in futures price moves without having to actually purchase a futures contract. There are two different options: call and put options.

Call Options

Call options give the buyer the right, but not the obligation, to go long (buy) the underlying futures contract at a specific price on or before a set expiration date. Buyers of call options want the underlying futures contract to move higher.

Put Options

Put options give the buyer the right, but not the obligation, to go short (sell) the underlying futures contract at a specific price on or before a set expiration date. Buyers of put options want the underlying futures contracts to move lower.

Why Trade Options?

Trading options offers many advantages over trading outright futures contracts:

- **Limited risk when purchasing options** – when buying options on futures the most an investor can lose is the premium paid for the options contract plus the transaction costs.
- **Same opportunities as futures** – certain options strategies provide the same opportunities as futures.
- **Leverage** – with options an investor can gain the same amount of leverage as an outright futures contract.
- **Take advantage of any market condition** – rallies, breaks, or sideways, by using various option strategies investors can position themselves to take advantage of any market condition.
- **Protection** – options strategies can be used to hedge or protect other open positions.

Terminology of Options

Prior to trading options, it is important for investors to be familiar with several key terms associated with options:

Strike price: Strike price is the price at which the option buyer (holder) may buy (go long) or sell (go short) the underlying futures contract. Strike price is also referred to as the exercise price.

Premium: Premium is the amount paid by the options buyer (holder) to the options seller (writer) for the rights specified in

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the option contract. It is simply the option's current market price or value. This value is affected by a number of different factors including the difference between the strike price and the underlying futures price, time left until expiration, and the volatility of the underlying futures contract.

Expiration Date: Expiration date is the last day in which an option can be liquidated or exercised into an underlying futures position. After this date, the option contract will cease to exist.

Exercise: Exercise refers to the process in which an option buyer (holder) asserts their right to take a long or short position in the underlying futures contact. Only the buyer can exercise an option. If an option is exercised, the seller (writer) is obligated to take the opposite futures position of the option buyer (holder). It is because of this risk that the option seller (writer) receives the option premium.

Underlying Futures Contract: Underlying futures contract refers to the specific futures contract in which an investor will be assigned a position if the option is exercised.

Intrinsic Value: Intrinsic value refers to the amount by which an option is in-the-money. It is the value of the option if it were exercised today.

Time Value: Time value refers to the portion of an option's premium that is directly related to the amount of time left before expiration as well as the overall volatility of the underlying futures contract. It is the amount by which an option's price exceeds the intrinsic value.

Break-even Point: Break-even point refers to the price that the underlying futures contract must reach in order to avoid a loss if the option is exercised.

In-the-money: In-the-money refers to the above situation in which the underlying futures price is above the call option's strike price or the underlying futures price is below the put option's strike price. When an option is in-the-money, it does not necessarily mean the investor will profit from the position. It simply means that the option has intrinsic value.

At-the-money: At-the-money refers to the situation in which the option's strike price is the same as the underlying futures contract price.

Out-of-the-money: Out-of-the-money refers to the situation in which a call option's strike price is above the underlying futures prices or a put option's strike price is below the underlying futures price. An option that is out-of-the-money has no intrinsic value, only time value.

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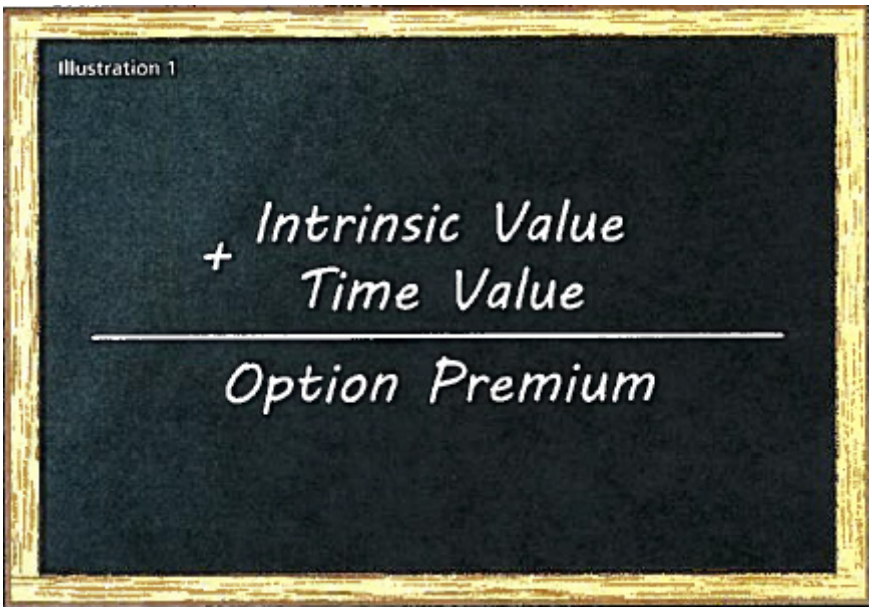
Understanding Basic Option Pricing

Before venturing into the world of trading options on futures, investors should have a basic understanding of the factors composing an option's premium. When dissecting premium, the majority of people break it down into two general categories: intrinsic value and time value. Therefore, once an investor knows both the intrinsic value and the time value of the option contract the following equation can be used to calculate the option's premium. (Illustration 1)

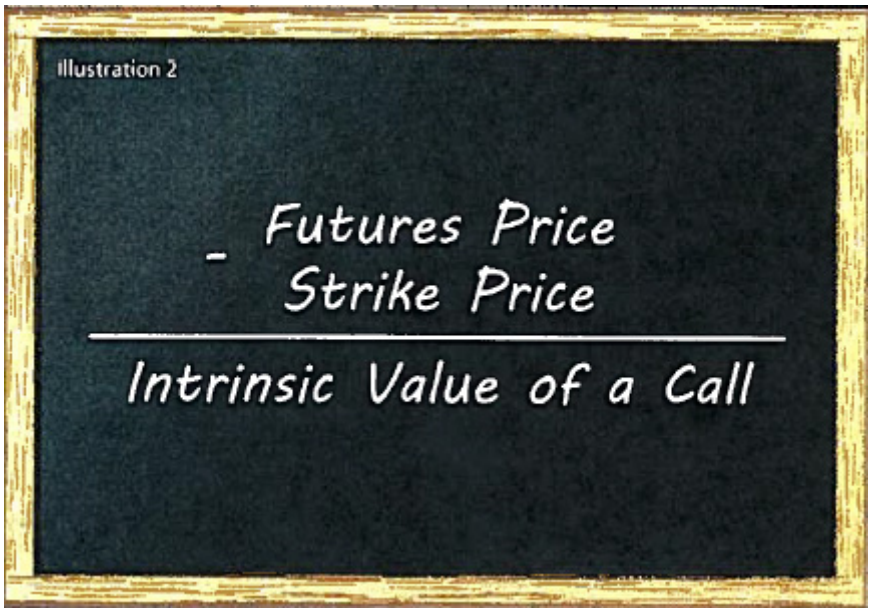


Intrinsic Value

As mentioned above, intrinsic value is the amount by which an option is in-the-money. It is important to note that intrinsic value cannot be negative. Thus, options trading at-the-money or out-of-the-money have an intrinsic value of zero.

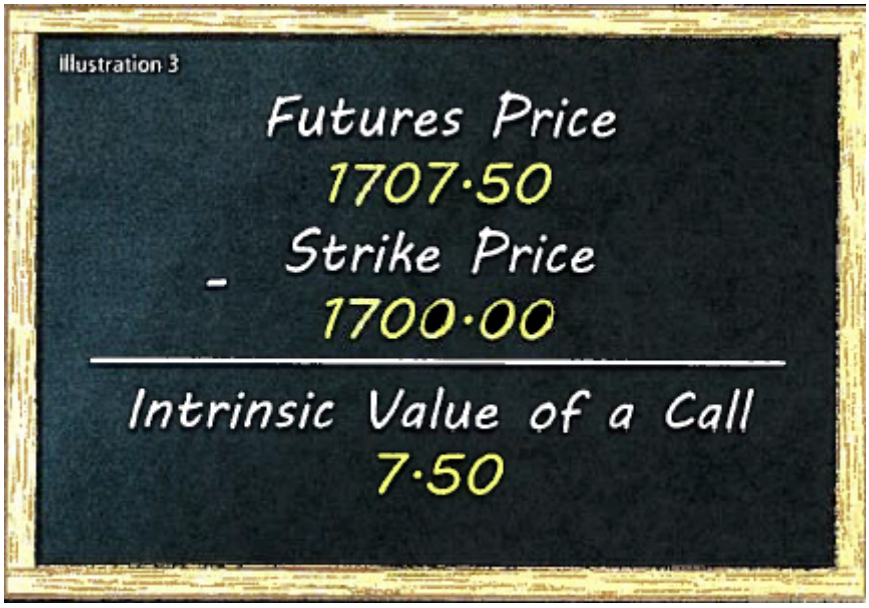
Calculating the Intrinsic Value of Call Options

With regard to calls, intrinsic value is the amount by which the underlying futures price exceeds the strike price. The equation to the right can be used to calculate intrinsic value of a call. (Illustration 2)



Example:

Let's say a trader is long 1 April gold $1700 call and April gold futures are currently trading at $1707.50 per troy ounce. What is the intrinsic value of the call option? (Illustration 3)



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Calculating the Intrinsic Value of Put Options

With regard to puts, intrinsic value is the amount by which the underlying futures price is below the strike price. The equation to the right can be used to calculate the intrinsic value of a put. (Illustration 4)

Example:

Let's say a trader is long 1 June crude oil $110.00 put and June crude oil futures are currently trading at $107.45 per barrel. What is the intrinsic value of the put option? (Illustration 5)

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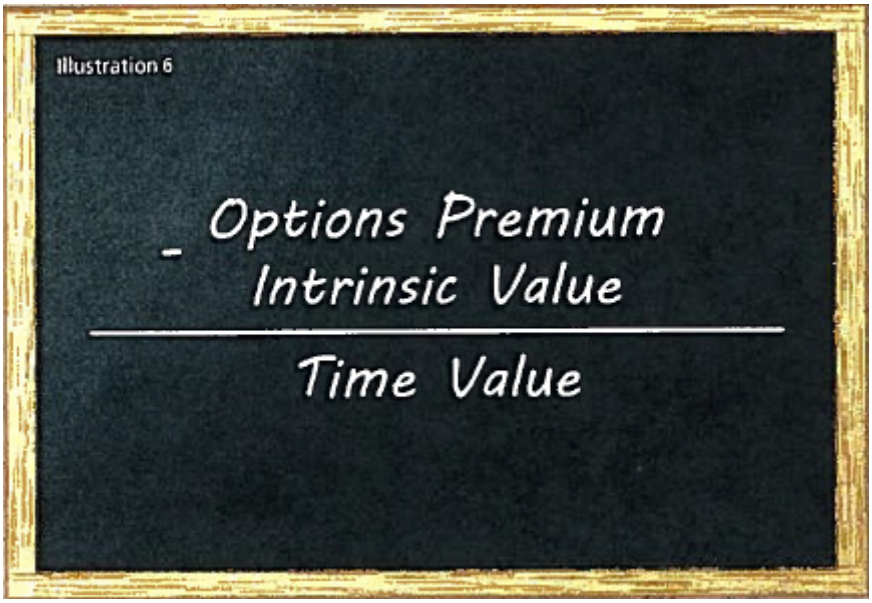
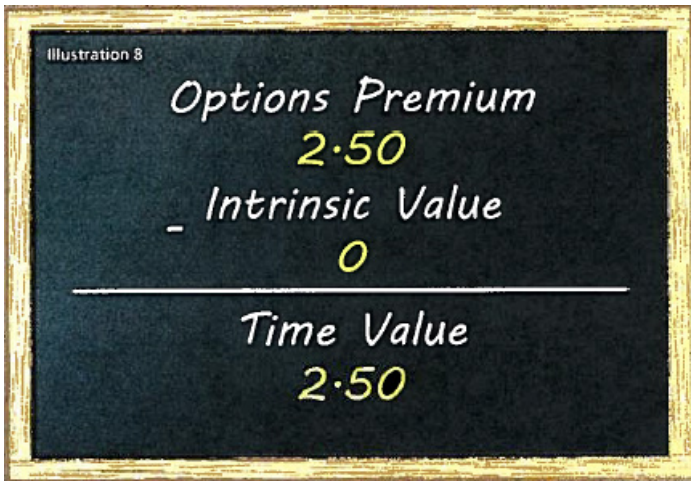
Time Value

Time value is the amount by which the option's price exceeds the intrinsic value. As mentioned above, it accounts for the amount of premium that is directly related to the amount of time left before expiration as well as the volatility of the underlying futures contract. The more time an option has before expiration the greater the likelihood it will end up in-the-money. As more time passes, an option's time value decays exponentially until reaching zero at expiration. As a general rule of thumb, an option will lose one-third of its time value during the first half of its life and the remaining two-thirds during the second half. The equation below can be used to calculate the time value of an option contract. (Illustration 6)



Example:

Let's say April live cattle are currently trading at $125.00 per contract and April 125 calls are currently at 2.50. What is the time value of the call option? (Illustrations 7 & 8)



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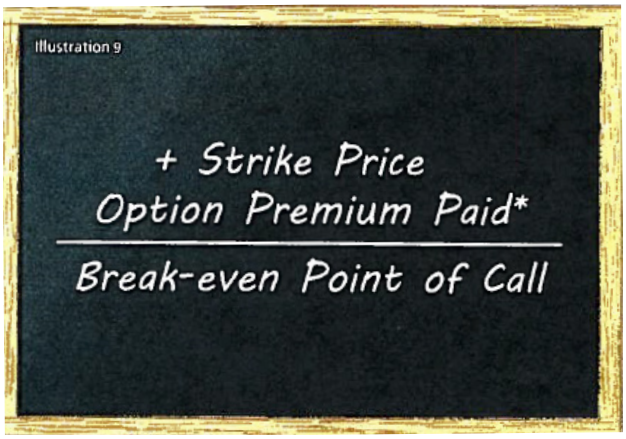
Calculating Break-Even

As mentioned above, the break-even point is the price that the underlying futures contract must reach in order to avoid a loss if the option is exercised. While options are versatile instruments that allow the buyer to participate in market fluctuations, it is imperative that an investor is able to calculate their break-even point prior to engaging in options trading. By calculating the break-even point of any given option position before entering, it assists the trader in evaluating and choosing the most appropriate strategy for success. To calculate break-even, traders simply need to know the strike price and the premium paid for the option.*

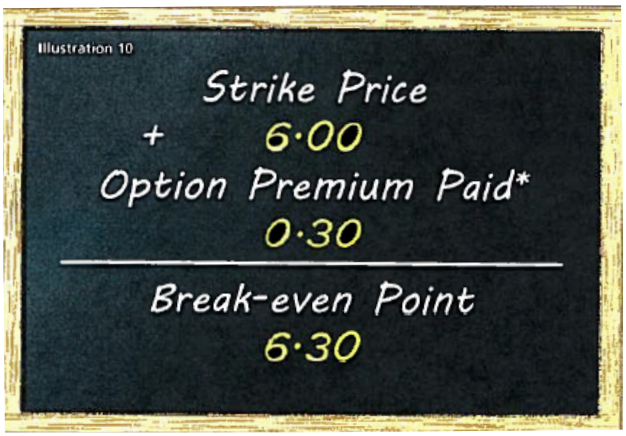
Calculating the Break-Even Point of Call Options

This equation can be used for calculating the break-even point of a call option. (Illustration 9)



Example:

An investor purchases a December corn $6.00 call and pays a premium of $0.30. Calculate the break-even point of the option position. (Illustration 10)



In this example, the December corn futures would need to rise to $6.30 per bushel in order for the trader to break-even on the position.

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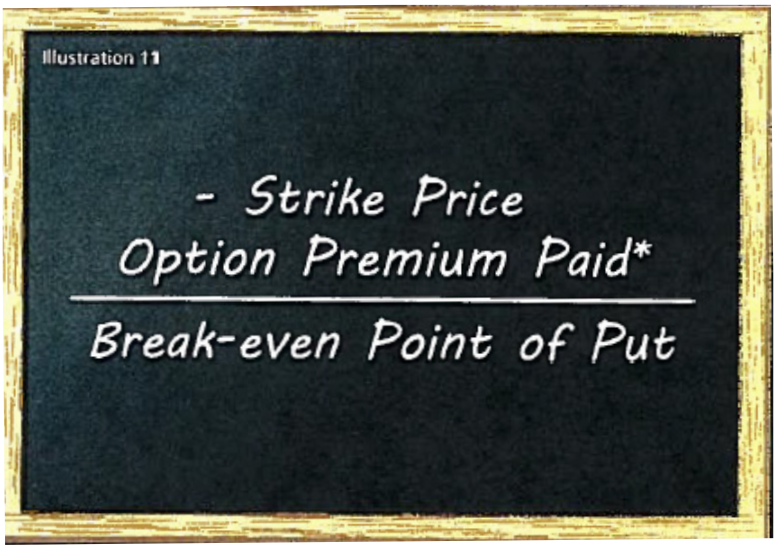
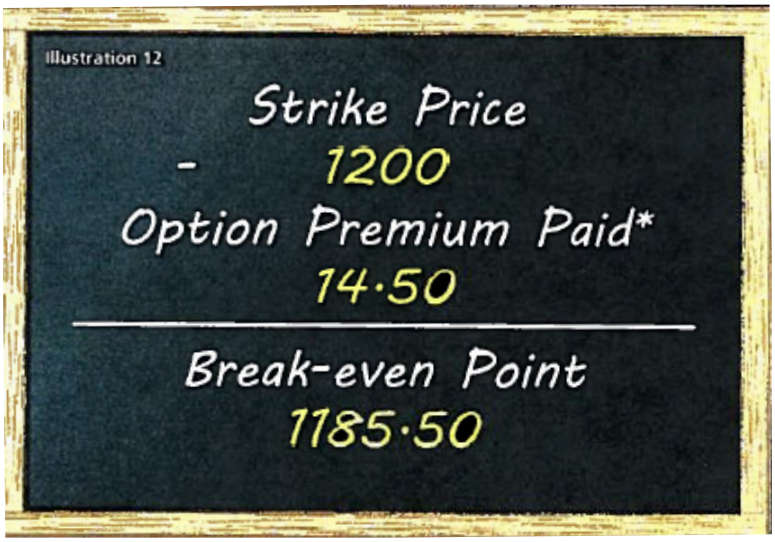
Calculating the Break-Even on Put Options



The above equation can be used for calculating the break-even point of a put option. (Illustration 11)

Example:

An investor purchases a June E-Mini S&P 1200 put and pays a premium of 14.50. Calculate the break-even point of the position. (Illustration 12)



In this example, the June E-Mini S&P 500 futures would need to drop to 1185.50 in order for the trader to break-even on the position.

**Traders should also include in their break-even calculations any transaction costs paid as a result of the trade.*

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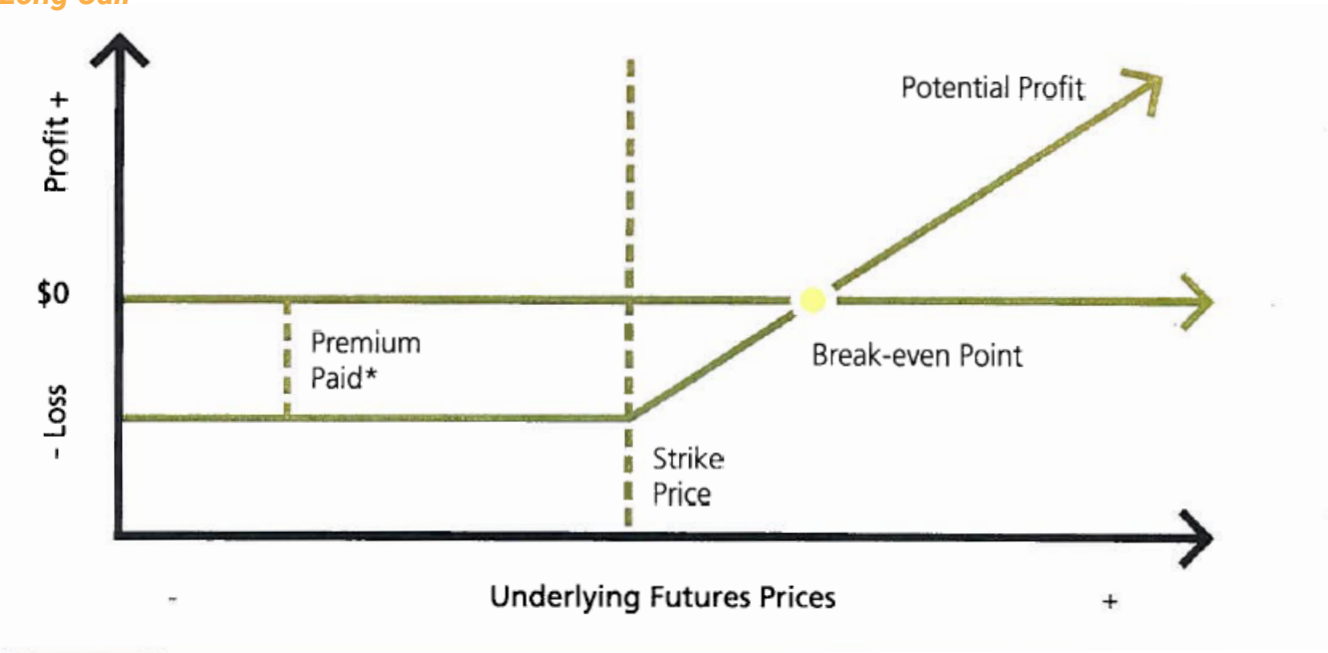
Long Call

Illustration 13



Basic Option Strategies

Buying (or going long) call options is a bullish options strategy a trader can use. A long call gives investors the right to purchase the underlying futures contract at a specific price (strike price) on or before a set date (expiration date). Long puts offer the investor a limited risk with similar profit potential as the underlying futures contract. On a long call strategy, the investor only risks the premium paid for the option contract plus the transaction costs. The call option increases in value as the underlying futures price increases. (Illustration 13)

When to Use

Investors should consider the use of long call options when they believe a futures contract is set for a short-tern rise in price. Buying call options is a bullish strategy.

**Traders should also include their break-even calculations any transaction costs paid as a result of the trade.*

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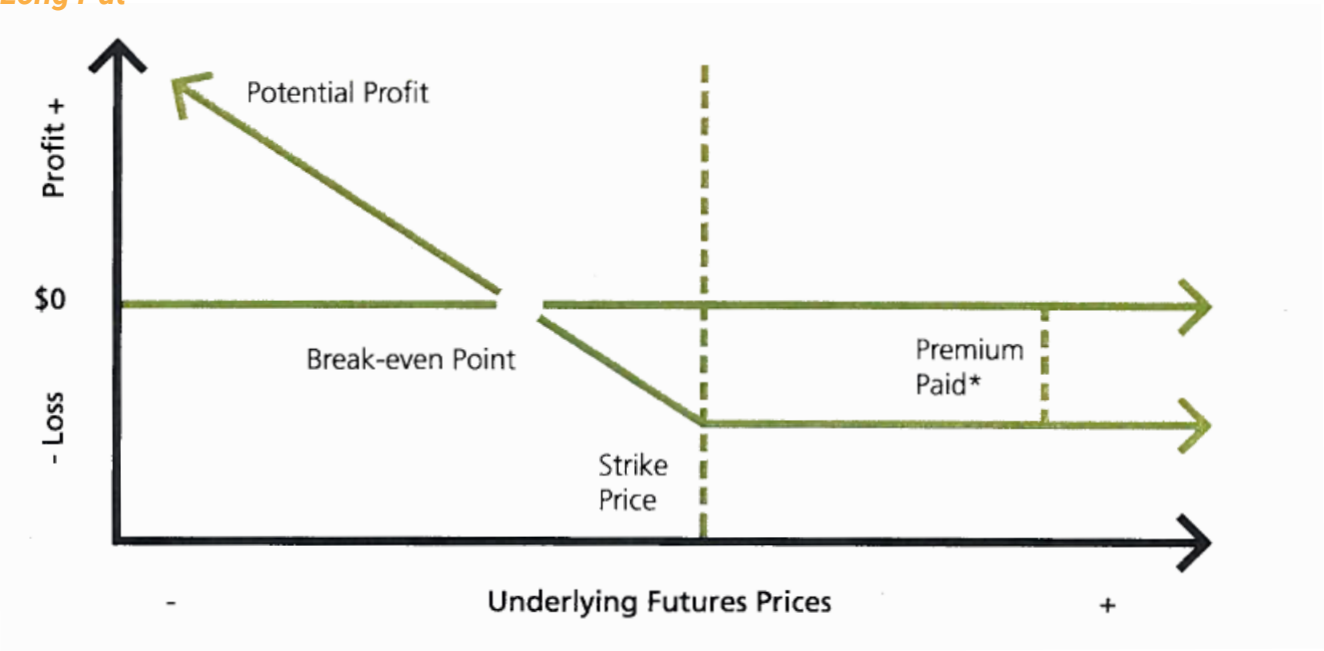
Long Put

Illustration 14



Basic Option Strategies

Buying (or going long) put options is a bearish options strategy a trader can use. A long put gives investors the right to sell the underlying futures contract at a specific price (strike price) on or before a set date (expiration date). Long puts offer the investor a limited risk with similar potential as the underlying futures contract. On a long put strategy, the investor only risks the premium paid for the option plus the transaction costs. The put option increases in value as the underlying futures price decreases. (Illustration 14)

When to Use

Investors should consider the use of long put options when they believe a futures contract is set for a short-term drop in price. Buying put options is a bearish market strategy.

**Traders should also include in their break-even calculations any transaction costs paid as a result of the trade.*