



# Introduction to Commodity Options Markets

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# Commodity Options Markets

## What are options?

- An option is a contract that gives the buyer the right, but not the obligation, to buy or sell a particular futures contract at a fixed price for a specific period of time.
- The contract also obligates the seller to meet the terms of delivery if the contract right is exercised by the buyer.
- Buyers of calls and puts receive these rights in return for paying the value (price) of the rights, known as the option premium. The buyer of an option pays a premium to the seller of an option for the right, not the obligation, to take delivery of the underlying futures contract.
- Every option trade has a buyer and seller.
- Traders willing to accept risk can write (sell) options, collecting the premium.

# Two types of options

## Call

- Gives the buyer the right, but not the obligation to buy the underlying futures contract at the state strike price within a specific period of time. The seller is obligated to deliver a long position in the underlying futures contract should the buyer exercise the option.

## Put

- Gives the buyer the right, but not the obligation, to sell the underlying at the strike price within a period of time. The seller is obligated to deliver a short position from the strike price if the buyer chooses to exercise the option.

## Components of an Option

- Strike Price: the price at which the buyer of a call option has the right to purchase the futures contract; or the buyer of a put option has the right to sell a futures contract.
  - Strike price is one of the biggest factors in determining the value of the option
  - The closer the strike price is to the underlying futures contract, the more valuable the option will be.

## Components of an Option

- Option Price = Intrinsic Value + Extrinsic Value
- The intrinsic value of an option is the amount that the market price is higher than the strike price.
  - The amount of money the option would be worth if it expired today.
  - For the option to have intrinsic value, the option must be in-the-money.
- Extrinsic value is based on a combination of the strike price, time, volatility, and demand
  - Due to the nature of its components, it is impossible to estimate extrinsic value

For Call Options:

In-the-money: futures price is above the strike price

At-the-money: futures price is at the strike price

Out-of-the-money: futures price is below the strike price

For put options:

In-the-money: futures price is below the strike price

At-the-money: futures price is at the strike price

Out-of-the-money: futures prices is above the strike price

## Components of an Option

- Time Value: the longer the amount of time until an option's expiration is, the greater the time value of a particular option will be.
  - The longer the buyer possesses the right to exercise the option the more valuable that right is.
  - Anything can happen in commodity trading; a relatively worthless option may suddenly come to life and post abnormal gains (or losses for the seller) before expiration.
  - Time value works against the buyer of an option but works for the seller.
  - Time value constantly erodes until reaching zero at expiration

# Components of an Option

## Volatility

- If the price of the underlying futures contract is fluctuating considerably, there is both a greater profit and greater loss potential
- More expensive to buy when volatility is high.
- Risk and Reward

## Demand

- If the number of traders willing to buy an option at a given price is greater than the number of traders willing to sell the same option, the value of that option appreciates.
- Calls are in high demand when the market is in uptrend; puts when market is in downtrend.

## **Similarities between futures and options**

- Purchasers and sellers of futures contracts are required to put margin in an account. Option sellers are also required to place margin in an account.
- Both options and futures contracts are traded on exchanges and have standardized contract terms. Only their prices are negotiated in the pits of the exchanges.
- Options and futures contracts have a limited lifetime.

## **Differences between futures and options**

- Margin is not required to buy an option
- The premium for an option can decline as the time remaining before the expiration date diminishes; futures margin does not change with time.
- The purchaser of an option is liable only to the extent of the premium paid, therefore has limited risk. The purchaser of a futures contract is liable for more than the margin deposited. Therefore the potential risk is greater for futures.

## Long Option

- Can include the purchase of a single option or an option spread (strangle/straddle)
- The risk is limited but the reward is theoretically unlimited.
  - Worse case scenario – trade loses all the money spent on the option(s)
  - Limited risk – but doesn't mean less risk
- If you buy a call option, just because the market goes up does not guarantee the call option will make money.
  - It takes a substantial price move for a trader to be profitable on a long option at expiration.

## Long Option

- Limit the risk of loss due to price increase or decrease
  - Buy call: protects against price increases
  - Buy put: protects against price decreases
- Form of price insurance

Examples:

- A corn producer would buy corn put options to protect against a decrease in the value of corn.
- A feedlot would buy corn calls to protect against an increase in the value of corn used to feed.

## Short Option

- Short options involve collecting a premium in anticipation of the probability of future payouts. Short options capitalized on probabilities as opposed to entering a position hoping to profit. Similar to insurance agencies, less premium is collected on health people than is collected for sick people.
  - Unlimited risk and limited reward
  - Seller of a call can profit from declining market as well as a market trading sideways
  - Option premium = the actual market price of a particular option at a particular time

## Sources

CME Group



Questions?  
Comments?

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