19BAE710-FINANCIAL DERIVATIVES

Call and Put Options

Call option and Put option are the two main types of options available in the derivatives market. A Call option is used when you expect the prices to increase/rise. A Put option is used when you expect the prices to decrease/fall.

Definition of Options

Options are derivative contracts which have no value of their own and derive their value from the value of the underlying asset. The underlying asset can be shares, currencies, commodities etc. An options contract gives the buyer the right but not the obligation to buy or sell the underlying asset within a specified date (*known as the expiration date*) and at a specific price (*known as the strike price*). In options, the buyer of the option has the right of exercising the option or cancelling it. The loss for the option buyer is limited to the premium paid. For example, curd is a type of derivative as it has no value of its own. It derives its value from the value of the underlying asset i.e. milk. If you expect the price of milk to increase, then the price of curd will also automatically increase. To benefit from this, you can buy a call option of curd, as you expect the prices to rise.

Types of Options in India

The two main types of options are:

- Call Option
- Put Option

Call Option

A call option gives the buyer the right but not the obligation to **buy** the underlying asset at a particular price (*strike price*) on or before the expiration date.

Put Option

A put option gives the buyer the right but not the obligation to **sell** the underlying asset at a particular price (*strike price*) on or before the expiration date.

Call and Put Options for Beginners

Price of the underlying asset	What to do
Expected to increase	BUY Call Option or SELL Put Option
Expected to decrease	BUY Put Option or SELL Call Option

Types of option contracts - Options contracts can be: US Option contracts: US options can be exercised at any point of time prior to the expiration date. European Option contracts: European options can be exercised only on the expiration date. Note: The options traded in the Indian stock markets are US options as they can squared-off any time prior to the expiration date.

Basic terms relating to call and put options :

- **Strike Price:** Strike price is the price at which buyers and sellers decide to buy or sell the underlying asset after a specified period.
- **Spot Price:** Spot price is the current price of the underlying asset in the stock market.
- **Option Expiry** : Options contracts expire on the last Thursday of the month.
- **Option Premium** : Option premium is the non-refundable amount paid upfront by the option buyer to the option seller (*also known as option writer*).
- **Settlement** : Option contracts are cash settled in India.

Examples of Call Option & Put Option

Call Option Example :

The current price of Reliance Industries on 10th October 2023 is Rs 2,305.70 and its Rs 2,400 call option expiring on 26th October 2023 is currently available at Rs 11.90. 1 lot of Reliance option contract consists of 250 shares.

So, in the above call option example: Spot price - Rs 2,305.70 Strike price - Rs 2,400 Option premium - Rs 11.90 Expiry – 26th October 2023 Lot Size - 250 shares When to buy the call option: If you expect the price of Reliance Industries to increase to Rs 2,400. When to exercise the call option: Once the share price of Reliance Industries rises to Rs 2,400 you have the option to exercise the call option and the seller is obligated to sell you 1 lot of reliance industries at Rs 2,400/share as you have paid him a premium of Rs 11.90, which binds him to the contract. When to cancel the call option: On the other hand, if Reliance industries does not cross Rs 2,400 before 26th October 2023, then you can cancel the contract. Your loss in that case is the Rs 11.90 paid as premium to the option writer. The reason for cancelling the contract is simple: Why will you buy Reliance shares at Rs 2,400 from the seller if you can buy it at a cheaper rate from the stock market? Hence you cancel the contract.

Put Option Example:

So, in the above put option example : **Spot price -** Rs 2,305.70 **Strike price -** Rs 2,200 **Option premium -** Rs 7.20 **Expiry -** 26th October 2023 **Lot Size -** 250 shares

Difference Between Call Option & Put Option

Parameters	**Call Option**	**Put Option**
Meaning	Call option gives the buyer the right but not the obligation to **Buy**	Put option gives the buyer the right but not the obligation to **sell**
Investor's expectation	A call option buyer believes the **stock prices will rise / increase**	A put option buyer believes the **stock prices will fall / decrease**
Gains	For a call option buyer, the **gains are unlimited** .	For a put option buyer, the **gains are limited** as the stock prices will not become zero.
Loss	For a call option buyer, the loss is limited to the premium paid.	For a put option seller, maximum loss is strike price minus premium
Reaction to dividend	Calls lose value as the dividend date nears.	Puts increase in value close to the dividend dates.

What Happens to Call Options on Expiry? - Buying Call Option

When you **buy a call option** , three things can happen on expiry:

- Market Price > Strike Price = In the Money call option = Gains / Profits
- Market Price < Strike Price = Out of Money call option = Loss
- Market Price = Strike Price = At the Money call option = Break - Even (No profit no loss)

What Happens to Call Options on Expiry? - Selling Call Option

When you sell a call option, three things can happen on expiry:

- Market Price > Strike Price = In the Money call option = Loss
- Market Price < Strike Price = Out of Money call option = Gains / Profits
- Market Price = Strike Price = At the Money call option = Profit in the form of premium.

What Happens to Put Options on Expiry? - Buying Put Option

When you buy a put option, three things can happen on expiry:

- Market Price > Strike Price = Out of Money put option = Loss
- Market Price < Strike Price = In the Money put option = Gain / Profits
- Market Price = Strike Price = At the Money call option = Loss of premium paid.

What Happens to Put Options on Expiry? - Selling Put Option

When you **sell a put option** , three things can happen on expiry:

- Market Price > Strike Price = Out of Money put option = Gains / Profits
- Market Price < Strike Price = In the Money put option = Loss
- Market Price = Strike Price = At the Money call option = Profit in the form of premium.

Risk vs Reward - Call Option and Put Option

	Call Buyer	Call Seller	Put Buyer	Put Seller	
Maximum Profit	Unlimited	Premium received	Strike price minus premium	Premium received	
Maximum Loss	Premium Paid	Unlimited	Premium paid	Strike price premium	-
No Profit - No loss	Strike price + premium	Strike price + premium	Strike price - premium	Strike price premium	-
Ideal Action	Exercise	Expire	Exercise	Expire	