Types of Options

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Table of Contents

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There are different types of options that can be traded and these can be categorised in many ways. In the previous section, we learnt about two main types of options: call and put.

Call Option: Gives the buyer the right to buy the underlying.

Put Option: Gives the buyer the right to sell the underlying.

Along with this distinction, options can be classified on the basis of exercisability, tradability, and the underlying security they relate to. There are also a number of exotic options that exist. In this document, we will provide information on many such types.

Based on Exercisability

- **European Options:** Exercisable only on the expiry date. Options traded on NSE are European style options.
- **American Options:** Exercisable any time before the expiry date.
- **Bermudan Options:** Exercisable on specific dates till the expiry date.

Based on Tradability

- **Exchange Traded Options/Listed Options:** These are regulated, standardised, and typically liquid.
- **Over The Counter (OTC) Options:** Trades in the OTC market are relatively less regulated. OTC options are customisable and involve counterparty credit risk.

Based on Underlying

- **Financial options:** Include equity options, index options, bond options, interest rate options, and currencies options.

- **Options on Futures:** Give the holder the right to buy or sell a specified futures contract at a given futures price (strike price). Call/Put options on futures contracts give the holder the right to enter the long/short side of the futures contract.
- **Commodity options:** Give the holder the right to either buy or sell a physical commodity such as oil, natural gas, gold, soya bean, etc. at a given strike price.

Plain Vanilla and Exotic options

Plain Vanilla Options are standard options with standard features such as simple expiration and strike price with no other additional features altering the behaviour of the general options. An example of this is a call or a put option on the Nifty Index.

Exotics options, on the other hand, have additional contingencies added, which alter the components of the traditional options to make them more complex in nature, and are mostly traded over the counter. Examples of a few exotic options are Asian options, Barrier options, Binary options, etc.

1. Asian Options

An Asian option is also called average-price option or average option. In Asian option, option payoff is dependent on the average price of the underlying asset, over a pre-specified period, during the lifetime of the option.

Asian option payoff can be calculated in two ways:

a) Average Price Options: The payoff at maturity is equal to the average price of the underlying asset over the specified time period minus the fixed strike price of the option.

b) Average Strike Options: The payoff is equal to the price of the underlying asset at maturity minus a variable strike, which is equal to the average price of the underlying asset over a specified time period.

2. Binary Options

A binary option, also known as all or nothing option, digital option, or fixed-return option in which payoff is either some fixed amount or nothing at all. A fixed amount of money is rewarded if the option expires in the money, otherwise nothing at all if the option expires out of the money.

3. Barrier Options

Barrier options are option contracts whose payoffs depend on whether or not the underlying price crosses a certain barrier during the option's life. Barrier options are classified as either knock-in or knock-out. In the knock-in type of option, the option comes into existence when the underlying security reaches a certain price during the option's life. Conversely, a knock-out barrier option is terminated if the underlying price reaches a barrier during the life of the option.

Knock-in options are further classified as up-and-in and down-and-in. In an up-and-in option, the option only comes into existence when the price rises above the predefined barrier. For example, if the stock is trading at INR 500 and you purchase an up-and-in call option with a strike price of INR 510 on a stock, and with a barrier of INR 520, then the option would come into existence when the price of the stock rises above INR 520. Conversely, a down-and-in option only comes into existence when the underlying asset price moves below a predefined barrier.

Similar to the knock-in options, the knock-out options are classified as up-and-out and down-and-out. In an up-and-out option, if the price rises above the barrier, the option is knocked-out and ceases to exist. Conversely, a down-and-out option ceases to exist when the underlying price falls below the barrier. For example, if the stock is trading at INR 500 and you purchase an up-and-out put option with a strike price of INR 510 on that stock and with a barrier of INR 520. The price rises above the INR 520 during the option's life, and thus, the option ceases to exist.