



## Options and Futures Trading of Investment Analysis & Portfolio Management – Overview

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### Abstract

In this article it mentioned about option trading introduction, parties in the option trading, types of options, factors determining the options value, characteristics of options, option strategies, American & European options, Asian options, advantages and disadvantages of options trading, futures trading, how futures differ from options, forwards and futures and differences between futures and options.

**Keywords:** Derivatives; Options; Futures; Contracts and Portfolio Management.

### Introduction

An option is a derivative financial instrument that specifies a contract between two parties for a future transaction to buy or sell an asset at a specific time for an agreed price. An option is a contract that gives the buyer the right, but not the obligation, to buy or sell an underlying asset at a specific price on or before a certain date. An option, just like a stock or bond, is a security. It is also a binding contract with strictly defined terms and properties.

Example: Mr. John discovers a house that he would love to purchase. Unfortunately, he won't have the cash to buy it for another three months. Mr. John talks to the owner and negotiates a deal that gives him an option to buy the house in three months for a price of Birr 10,00,000. The owner agrees, but for this option, Mr. X pays a price of Birr 10,000 as an advance.

Now, consider two theoretical situations that might arise:

1. As a result, the market value of the house skyrockets to Birr 7,00,000. But the owner sold you the option, he is obligated to sell you the house for Birr 3,00,000. In the end, you stand to make a profit of Birr 3,90,000 (Birr 7,00,000 - 300,000 = 4,00,000 - 10,000 = 3,90,000).
2. Mr. X now considers that house is worthless. On the upside, because he bought an option, he is under no obligation to go through with the sale. Of course, he still loses the Birr 10,000 price of the option.

In general speaking, stock options are considered as speculative vehicles. As found in any option, there is a risk of loss to the contracting parties. There are three parties in the option trading namely, the option seller, buyer and broker.

The option seller is also called as the option writer. He/She is a person who grants the other person the option to buy. So, he becomes bound to respond to the buyer's decision.

**Option Buyer:** The person

**Option Broker:** The broker spots the option buyer and the seller and receives a commission or fee for it.

## Types of Options

- Put Option
- Call Option

### Put Option

A put gives the holder the right to sell an asset at a certain price within a specific period of time. Puts are very similar to having a short position on a stock. Buyer of puts hope that the price of the stock will fall before the option expires.

Ex: AtoWorku expects one company stock price to decline from its current level of Birr 450 per share during the next two months. So, AtoWorku could buy a put option to sell the 100 shares at Birr. 465 which is the striking price. AtoWorku, the buyer of the option induces the Writer John to sign the contract and to assume the risk.

### The Contract for the Put Option Contains:

- ❖ **The name of the company shares to be sold**
- ❖ **Number of shares to be sold**
- ❖ **The selling price or striking price**
- ❖ **Expiration date of option**

### Call Option

A call gives the holder the right to buy an asset at a certain price within a specific period of time. Calls are similar to having a long position on a stock. Buyers of calls hope that the stock will increase substantially before the option expires.

Example: Mr. "Mohammed" owns 100 shares of ABC Ltd. And he gives "Abdi" the right to buy those 100 shares at any time during the next 3 months at a price of Birr. 130. The price of Birr 130 is known as striking price or exercise price. For providing this option, Mr. Mohammed charges Birr. 10 per share from Mr. Abdi. Then Mr. Abdi has to pay Birr 1000 (100\*10) to Mr. Mohammed to make him sign the contract.

If the price rises beyond Birr. 130 per share, Mr. Mohammed gets profit. If the price of the stock falls, the loss of "Mr. Abdi" could be limited to only Birr. 1000(100\*10).

The contract for a call option gives the particulars of:

- **The name of the company whose shares to be bought.**
- **Number of shares to be bought**
- **The purchase price (Exercise or striking price)**
- **The expiration date of the contract**

## Factors Determining the Options Value

### Stock Volatility:

Buyers of option view volatile stocks favorably because their chances of getting profit are more. If at all there is a loss, it can be limited to the amount of premium.

On the other hand, the seller dislikes volatility as it can work against him. The probability of rise and fall in prices affects the owner of the stock. As a result, Option sellers demand higher prices for writing options on volatile stocks.

### Expiration Date or Option Period:

The expiration date of the option considerably affects the premium. If the period of the option is longer, the buyer will have better chances of making a profit. If extended the periods of time which sellers suffer. In other words, longer the option period, higher will be the option price.

### Striking Prices:

The price at which stock may be put or called is the contract price. It is also referred to as the contract price. During the life of the contract, the striking price remains fixed. As an exemption to this general rule, the amount of any dividend paid during the option period will reduce the striking price.

### Dividends:

Dividends are one of the important factors which affects option value. Generally, stocks paying higher dividends do not increase very much in price.

Naturally, option writers prefer to write options on high dividend stocks as they collect dividends in addition to their premium income. So, buyers and sellers agree to lower premiums for high dividend paying stocks.

### Interest Rates:

When the interest rates are higher, the value of the striking price would be lower and at the same time the call price would be higher. At higher interest rates, holding bonds would fetch higher income in the form of interest.

As a result, an option writer demands a higher price for writing at a time when interest rates are higher.

### Characteristics of Options

The characteristics of options mainly relate to the buyer and writer. When one tends to gain, the other loses as stock price changes. This is due to the fact that the exercise price and expiration date are fixed irrespective of changes in the market prices.

The characteristics of the options may be discussed under the headings namely:

1. **Option Buyer**
2. **Option Seller**
3. **Naked Seller**

#### Option Buyer:

Purchase calls with options enable the optimistic investors to increase their profit potential by commanding more shares directly.

Example: An ordinary investor purchases 1000 equity shares of a company at Birr 25 per share and then sells his shares at Birr 30 per share. In this case, he would gain 20 per cent (5/25) on his investment.

Alternatively, the same investor may buy call option for Birr 25 per share instead of buying the share. If the share price is rose to Birr 32, he would sell the option for Birr 45. Thus, his gain would be 80% (20/25)

#### Option Seller:

An optimistic investor purchases puts to gain profit.

Example: An investor purchases 100 shares at a premium of Birr 1600 with an exercise price of Birr 260. The option period is 6 months. If the price does not rise above Birr. 260 during the life of the option, the call will not be used. In this case the earnings of the investor (seller) would be as follows:

|                        |                     |
|------------------------|---------------------|
| Total Investment =     | 100*260 = 26000     |
| Premium received =     | 1600                |
| (-) Commission =       | 200                 |
|                        | 1400                |
| (+)6 months dividend = | 600                 |
| Total receipts =       | 2000                |
| Six months return =    | 2000/26000 = 7.69 % |

#### Naked Seller:

If the writer sells the option without the stock, it is called naked option. In this case, the option seller does not own the stock but ensures that his call will be borrowed. The naked seller for this arrangement has to deposit 50% margin with his commission broker. This 50% would be the sellers outlay.

Naked sellers profitable position can be ascertained from the following:

|                    |        |
|--------------------|--------|
| Total Investment = | 15,000 |
| Premium received = | 1700   |
| (-) Commission =   | 350    |
| Net proceeds       | 1350   |

Six months return = 1350/15,000 = 9 %

If the price of the stock rises, the seller will incur a loss. Because the option will be exercised and the naked seller will have to buy shares at a higher market price and sell them at low option price.

## Option Strategies

### Protective Put:

An investor would like to invest in a stock, because its upside potential attracts him. However he is concerned about the fall in its price. To protect himself against potential losses beyond some given level, he can invest in the stock simultaneously purchase a put option on it. Such a strategy is called a protective put strategy.

A covered call strategy involves writing a call option on an asset along with buying the asset. The covered call is a strategy in which an investor sells a Call option on a stock for getting him a premium.

Example: Mr. Abel bought XYZ Ltd. for Birr 3850 and simultaneously sells a Call option at a strike price of Birr 4000 with Birr 80 premium. If the stock price stays at or below Birr. 4000, the Call option will not get exercised and Mr. Abel can retain the Birr. 80 premium, which is an extra income. If the stock price goes above Birr 4000, the Call option will get exercised by the Call buyer.

### Straddle: (Buy Put + Buy Call)

A long straddle involves buying a call as well as a put on a stock at the same exercise price and date. Straddles are useful strategies for investors who believe a stock will move a lot in price but are uncertain about the direction of the move.

If the price of the stock increases, the call is exercised while the put expires worthless and if the price of the stock decreases, the put is exercised, the call expires worthless.

### Spread:

A spread involves combining two or more call options (or two or more put options) on the same stock with differing exercise prices or times to maturity. Some options are bought and some options are sold.

### Collar:

A collar is an options strategy that limits the value of a portfolio within two bounds. A collar can be established by holding shares of an underlying stock, purchasing a protective put and writing a covered call on that stock. The option portions of this strategy are referred to as a combination.

## American and European Options

Options can be either American-Style Options or European-Style Options and the only difference is that, While American option may be exercised anytime before the expiration date of option, so for example if option is of 31<sup>st</sup> December 2013 then American option can be exercised any time before 31<sup>st</sup> December 2013. Whereas European option can be exercised only on the expiration date of option, in case of above example if it is a European option then it can be exercised only on 31<sup>st</sup> December and not before that. In other words American style option is more flexible than European style option as it can be exercised anytime unlike European option which can be exercised only at particular date.

## Asian Option

An option contract in which the payoff is related to the average price of the underlying instrument over a set period of time. There are two basic types of an Asian option. In an average strike option, the underlying instrument is bought or sold at its average price over the period of the contract.

In an average rate option, the payoff is the difference between the average price of the underlying asset over the life of the contract. One advantage of Asian options is that these reduce the risk of market manipulation of the underlying instrument at maturity.

## Advantages and Disadvantages of Option Trading.

To make money is not as difficult like most people think. The only thing required is that the mind of the person should be smart enough to use it in the right direction. Stock Market Investment has always been known as a good investment to make huge amount of money without much of hard work. But today there are growing numbers of people who are taking this up as a side business.

Likewise, online option trading is another possibility when it comes to investing and trading. It can be defined as a specific contract that fixes the price of the stocks over a chosen period of time and options trading deals with the trading on different exchanges like New York Stock Exchange and American Stock Exchange. When it comes to option investing, it is not easy as it seems to be. It has its own set of advantages and disadvantages that you should know before investing your money into it.

### **Hedging:**

Options investing allows the investors to protect their positions against any price fluctuations when it is not advantageous to modify the underlying position.

### **Limited Risk:**

Risk is limited to the option premium (except when writing options for a security that is not already owned).

### **Unique Strategies:**

Options allow you to create unique strategies to take advantage of different characteristics of the market - like volatility and time decay.

### **Disadvantages of Options Trading**

**Costs:** The costs of trading options including both commission is significantly higher on a percentage basis than trading the underlying stock, and these costs can drastically eat into any profits.

**Time decay:** Option trading is time-sensitive in nature and leads to the result that most options trading expire worthless. This is only applied to the traders that purchase options.

**Complexity.** Options are very complex and require a great deal of observation and maintenance.

**Less information.** Options can be a pain when it is harder to get quotes or other standard analytical information like the implied volatility.

**Options not available for all stocks.** Although options are available on a good number of stocks, this still limits the number of possibilities available to the investor.

**Less Liquidity:** With the wide range of prices available, some will suffer from very low liquidity making trading difficult.

### **Futures Trading**

A futures contract is an agreement to buy or sell an asset at a certain time in the future for a certain price. A forward or futures contract, however, imposes a firm obligation to go through the transaction.

Example: A farmer growing cotton enters into contract to sell his harvest at a future date to avoid the risk of change in price by that date. Such transactions take place through the forward or future markets.

### **How Futures Differ from Options**

- In options, the delivery is optional for buyer but obligatory for seller of the option. The buyer pays the seller a premium in the beginning itself while there is no premium paid on the future contract.
- Future contract can be performed only at the settlement date but not before that. The buyer of the options has a right to exercise the option either at expiration date or prior to that.

### **Forwards and Futures**

In a forward contract, two parties agree to buy or sell an asset on some future date at an agreed price and quantity. At the time of signing the deal, the forward contract does not involve any money transaction.

The forward contract is intended to safeguard and eliminate the price risk at a future date. But the forward market lacks centralization of trading, liquidity and counter parties risk. As it involves no third party guarantee. In order to solve these problems of forward contracts, future markets are designed.

### **Differences Between Futures and Forwards**

#### **Futures**

1. Traded at organized stock exchanges.
2. Standardized contract in terms of size, time and price.
3. All participants required to deposit margins.
4. Trading is regulated.
5. Price fixation is transparent and publicly disclosed.
6. **In a futures contract wishes to transfer his obligation to another party.**

## Forwards

1. Forward contracts are private agreements.
2. Chance for negotiation for privately by parties.
3. No money exchanges hands until delivery.
4. Trading is mostly unregulated.
5. Price fixation is may not be transparent and is not publicly disclosed.
6. No secondary market to transfer the obligation.

## Who Trades Futures

### Hedgers:

Hedgers typically include producers and consumers of a commodity or the owner of an asset. Hedgers buy or sell futures contracts to protect themselves against the risk of price changes.

Example: A farmer may sell his crop 'wheat' futures and the investor may sell his stock index futures. By doing so, they can shield themselves against risk of unexpected price changes.

### Speculators:

Speculators play a very important role in the proper functioning of the futures market. They buy or sell futures contracts in an attempt to earn a profit.

Speculators do not have a prior position that they want to hedge against price fluctuation. Rather they are willing to assume the risk of price fluctuation in the hope of profiting from them.

## Mechanics of Futures Trading

Trading in futures is more complex than trading in stocks. It involves in intermediation by

- **Clearing house**
- **Margins**
- **Marking –to-market**
- **Price limits**

### Clearing House:

In a traded futures contract, the clearing house of the exchange is a mediator between buyer and seller. It means that it becomes the seller to the buyer and the buyer to the seller. Because it is obligated to perform on its side of each contract, it is the only party that can be hurt if any trader fails to fulfill his obligation.

### Margins:

When an investor executes the futures trade, he has to provide the initial margin which may be about 10% of the value of contract. It is fixed by the exchange. The margin has to be posted by both the parties to the futures contract as both are exposed to losses.

The margin consists of cash or its equivalents, is to ensure that traders will honour the obligations rising out of the futures contract.

### Marking –to-Market:

While forward contracts are settled on the maturity date, futures contracts are 'marker-to-market' on a periodic basis. It means that the profits and losses on futures contracts are settled on a periodic basis (Day to day).

Example: Suppose on Monday morning an investor take a position in a futures contract that matures on Friday afternoon, but is marked to market on a daily basis. The agreed price is, say 100 Birr. At the trade of closing on Monday, the futures price is rises to 105 Birr.

Now Marking –to-market futures means hat three things would occur.

1. He will receive a cash profit of Birr. 5
2. The existing futures contract with a price of Birr. 100 would be cancelled.
3. He will receive a new futures contract at Birr. 105.

In essence, the Marking –to-market feature implies that the value of the features contract is set to zero at the end of each trading day.

### Price Limits:

In general, futures exchanges impose limits on price movements of futures contracts. If the price of the contract crossed the limit price, the trading is generally suspended for the day.

### Conclusion

In this article it discussed theoretically with example about options trading introduction, parties in the option trading, types of options, factors determining the options value, characteristics of options, option strategies, American & European options, Asian options, advantages and disadvantages of options trading, futures trading, how futures differ from options, forwards and futures and differences between futures and options. Derivatives markets are very important for every business organization. They can create a derivative markets of their different products and services and promote those products and services through the derivative markets. Also they can appoint the promoters as a sales representatives to markets their products and services of their derivatives. If they cannot do such kind of derivatives they can request the financial institutions to do their functions on the commission basis. Whether profit making companies or service orientated companies, the derivatives markets will applicable to promote their products so that it gives an employment opportunities for the people to make them to engage in the life, domestic goods, circulations and exchanges are also happening so that the economy also will improve to bring the standard of living of the people in the companies, why? even in the country.

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