Derivative Management

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I. INTRODUCTION

The emergence of the market for derivative products, most notably forwards, futures and options, can be traced back to the willingness of risk averse economic agents to guard themselves against uncertainties a rising out of fluctuations in asset prices. By their very nature, the financial markets are marked by a very high degree of volatility. Through the use of derivative products, it is possible to partially or fully transfer price risks by locking-in asset Prices. As instruments of risk management, these generally do not influence the Fluctuations in the underlying asset prices However, by locking-in asset prices, Derivative products minimize the impact of fluctuations in asset prices on the Profitability and cash flow situation of risk-averse investors. Derivatives are risk management instruments, which derive their value from an underlying asset. The underlying asset can be bullion, index, share, bonds, Currency, interest, etc., Banks, Securities firms, companies and investors to hedge risks, to gain access to cheaper money and to make profit, use derivatives. Derivatives are likely to grow even at a faster rate in future.

DEFINATION OF DERIVATIVES

"Derivative is a product whose value is derived from the value of anunderlying asset in a contractual manner .The underlying asset can be equity, For ex, commodity or any other asset."

- Securities Contract (regulation) Act, 1956 (SC(R) A)defines "debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security".
- A contract which derives its value from the prices, or index of prices, of underlying securities.

HISTORY OF DERIVATIVES MARKETS

Early forward contracts in the US addressed merchants concerns about ensuring that there were buyers and sellers for commodities. However "credit risk" remained a serious problem. To deal with this problem, a group of Chicago; businessmen formed the Chicago Board of Trade (CBOT)in 1848. The primary intention of the CBOT was to provide a centralized location known In advance for buyers and sellers to negotiate forward contracts. In 1865, the CBOT went one step further and listed the first "exchange traded" derivatives Contract in the US; these contracts were called "futures contracts". In 1919, Chicago Butter and Egg Board, a spinoff CBOT was reorganized to allow futures trading. Its name was changed to Chicago Mercantile Exchange (CME). The CBOT and the CME remain the two largest organized futures exchanges, indeed the two largest “financial" exchanges of any kind in the world today.

The first stock index futures contract was traded at Kansas City Board of Trade. Currently the most popular stock index futures contract in the world is based on S&P 500 index, traded on Chicago Mercantile Exchange. During the Mid-eighties, financial futures became the most active derivative instruments Generating volumes many times more than the commodity futures. Index futures, futures on T-bills and Euro-Dollar futures are the three most popular Futures contracts traded today. Other popular international exchanges that trade derivatives are LIFE in England, DTB in Germany, SGX in Singapore, TIFFE in Japan, MATIF in France, Eurex etc.

THE GROWTH OF DERIVATIVES MARKET

Over the last three decades, the derivatives markets have seen a phenomenal growth. A large variety of derivative contracts have been launched at exchanges across the world. Some of the factors driving the growth of financial derivatives are:

- Increased volatility in asset prices in financial markets
- Increased integration of national financial markets with the international markets
- Marked improvement in communication facilities and sharp decline in their costs
- Development of more sophisticated risk management tools, providing economic agents a wider choice of risk management.
- Strategies and Innovations in the derivatives markets, which optimally combine the risks and returns over a large number of financial assets leading to higher returns, reduced risk as well as transactions costs as compared to individual financial assets.

DERIVATIVE PRODUCTS (TYPES)

The following are the various types of derivatives. They are:

Forwards:

A forward contract is a customized contract between two entities, where settlement takes place on a specific date in the future at today's pre-agreed price

Futures:

A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. Futures contracts are special types of forward contracts in the sense that the former are standardized exchange-traded contracts.

Options:

Options are of two types-calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

Warrants:

Options generally have lives of up to one year; the majority of options traded on options exchanges having a maximum maturity of nine months Longer-dated options are called warrants and are generally traded Over-the counter.

Leaps:

The acronym LEAPS means Long-Term Equity Anticipation Securities. These are options having a maturity of up to three years.

Baskets:

Basket options are options on portfolio of underlying assets. Theunderlying asset is usually a moving average of a basket of assets. Equityindex options are a form of basket options.

Swaps:

Swaps are private agreement between two parties to exchange cash flows in the future according to a prearranged formula. They can be regarded as portfolios of forward contracts. The two commonly used swaps are:

Interest rate swaps:

The entail swapping only the interest related cash flows between the parties in the same currency.

Currency swaps:

These entail swapping both principal and interest between the parties, with the cash flows in one direction being in a different currency than those in the opposite direction.

Swaptions:

Swaptions are options to buy or sell a swap that will become operative at the expiry of the options. Thus a swaption is an option on a forward swap. Rather than have calls and puts, the swaptions market has receiver swaptions and payer swaptions.

PARTICIPANTS IN THE DERIVATIVES MARKETS

The following three broad categories of participants:

HEDGERS:

Hedgers face risk associated with the price of an asset. They use futures or options markets to reduce or eliminate this risk.

SPECULATORS:

Speculators wish to bet on future movements in the price of an asset. Futures and options contracts can give them an extra leverage; that is, the can increase both the potential gains and potential losses in a speculative eventure

ARBITRAGEURS:

Arbitrageurs are in business to take advantage of a discrepancy between prices in two different markets. If, for example they see the futures prices of an asset getting out of line with the cash price, they will take offsetting positions in the two markets to lock in a profit.

SCOPE OF THE STUDY

The Study is limited to “Derivatives” with special reference to futures and Option in the Indian context and the Inter-Connected Stock Exchange have been Taken as are presentatives ample for the study. The study can’t be said as totally perfect. Any alteration may come. The study has only made a humble Attempt at evaluation derivatives market only in India context. The study is not Based on the international

perspective of derivatives markets, which exists in NASDAQ, CBOT etc

OBJECTIVESOFTHESTUDY

- To analyze the derivatives market in India.
- To analyze the operations of futures and options.
- To find the profit/loss position of futures buyer and also the option writer and option holder.
- To study about risk management with the help of derivatives.

LIMITATIONSOFTHESTUDY

The following are the limitation of this study.

- The scrip chosen for analysis is OIL&NATURALGAS CORPORATION LTD and the contract taken is March2007 ending one-month contract.
- The data collected is completely restricted to the OIL&NATURALGAS CORPORATION LTD of March 2007; hence this analysis cannot be taken universal.

NATURE OF THE PROBLEM

The turnover of the stock exchange has been tremendously increasing form last 10 years. The number of trades and the number of investors, who are participating, have increased. The investors are willing to reduce their risk, so they are seeking for the risk management tools.

Prior to SEBI abolishing the BADLA system, the investors had this system as a source of reducing the risk, as it has many problems like no strong margining System, unclear expiration date and generating counter party risk. In view of this problem SEBI abolished the BADLA system.

After the abolition of the BADLA system, the investors are seeking for a Hedging system, which could reduce their portfolio risk. SEBI thought the Introduction of the derivatives trading, as a first step it has setup a 24 member Committee under the chairmanship of Dr. L. C. Gupta to develop the appropriate Framework for derivative strhiading in India, SEBI accepted the recommendation of the committee on May 11, 1998 and approved the phase introduction of the Derivative strading beginning with stock index futures.

There are many investors who are willing to trade in the derivatives segment, Because of its advantages like limited loss unlimited profit by paying the small Premiums.

REGULATORY FRAMEWORK

The trading of derivatives is governed by the provisions contained in the SCR) A, the SEBI Act, the rules and regulations framed there under and the rules and bye-laws of stock exchanges.

In this chapter we look at the broad regulatory framework for derivatives trading and the requirement to become a member and an authorized dealer of the F&0 segment and the position limits as they apply to various participants.

Regulation for derivatives trading:

SEBI set up a 24-members committee under the Chairmanship of Dr.L.C.GUPTA to develop the appropriate regulatory framework for derivatives trading in India. On May 11, 1998 SEBI accepted the recommendations of the committee and approved the phased introduction of derivatives trading in India beginning with stock index futures.

The provision in the SC(R) A and the regulatory framework developed there under govern trading in securities. The amendment of the SC(R) A to include derivatives within the ambit of "securities" in the SC(R) A made trading in derivatives possible within the framework of that Act.

- Any Exchange fulfilling the eligibility criteria as prescribed in the L.C.Gupta committee report can apply to SEBI for grant of recognition under Section 4 of the SC(R) A, 1956 to start trading derivatives. The derivatives exchange/segment should have a separate governing council and representation of trading/clearing members shall be limited to maximum of 40% of the total members of the governing council. The exchange would have to regulate the sales practices of its members and would have to obtain prior approval of SEBI before start of trading in any derivative contract.
- The Exchange should have minimum 50 members.
- The members of an existing segment of the exchange would not automatically become the members of derivative segment. The members of the derivative segment would need to eligibility conditions as laid down by the L.C.Gupta com.
- The clearing and settlement of derivatives trades would be through a SEBI approved clearing corporation/house. Clearing corporations/houses complying with the eligibility as laid down by the committee have to apply to SEBI for grant of approval.

- Derivatives brokers/dealers and clearing members are required to seek registration from SEBI. This is in addition to the registration as brokers of existing stock exchanges. The minimum net worth for clearing members of the derivatives clearing corporation/house shall be Rs.300 Lakh. The net worth of the member shall be computed as follows:
    - Capital Free reserves
    - Less non-allowable assets viz.,
    - Fixed assets
    - Pledged securities
    - Member's card
    - Non-allowable securities (unlisted securities)
    - Bad deliveries
    - Doubtful debts and advances
    - Prepaid expenses
    - Intangible assets
    - 30% marketable securities
- The minimum contact value shall not be less than Rs.2 Lakh Exchanges have to submit details of the futures contract they propose to introduce.
- The initial margin requirement, exposure limits linked to capital adequacy and margin demands related to the risk of loss on the position will be prescribed by SEBI / Exchanged from time to time.
- The L.C.Gupta committee report requires strict enforcement of "Know your customer "rule and requires that every client shall
- The trading members are required to have qualified approved user and sales person who have passed a certification programmed approved by SEBI.

ELIGIBILITY OF ANY STOCK TO ENTER IN DERIVATIVES MARKET

- Non Promoter holding (free float capitalization) not less than Rs. 750 Crores from last 6 months
- Daily Average Trading value not less than 5 Crores in last 6 Months
- At least 90% of Trading days in last 6 months
- Non Promoter Holding at least 30%
- BETA not more than 4 (previous last 6 months)

DESCRIPTION OF THE METHOD

The following are the steps involved in the study.

Selection of the scrip:

The scrip selection is done on a random and the scrip selected is OIL & NATURAL GAS CORPORATION LTD. The lot is 225. Profitability position of the futures buyers and seller and also the option holder and option writers is studied.

Data Collection:

The data of the ONGC Ltd has been collected from the "the Economic Times and the internet. The data consist of the March Contract and period of Data collection is from 23 FEBRUARY 2019-29th MARCH 2019

Analysis:

The analysis consist of the tabulation of the data assessing the profitability Positions of the futures buyers and sellers and also option holder and the option Writer, representing the data with graphs and making the interpretation using Data.

INTRODUCTION OF FUTURES

Futures markets were designed to solve the problems that exist in forward markets. A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. But unlike forward contract, the futures contracts are standardized and exchange traded. To facilitate liquidity in the futures corexchange specifies certain standard features of the contract standardized contract with standard underlying instrument, a standard quantity and quality of the underlying instrument that can be delivered,(Or which can be used for reference purpose in settlement) and a standard timing of such settlement. A futures contract may be offset prior to maturity by entering into an equal and opposite transaction. More than 90% of futures transactions are offset this way.

The standardized items in a futures contract are:

- Quantity of the underlying
- Quality of the underlying
- The date and the month of delivery
- The units of price quotation and minimum price change
- Location of settlement

DEFINATION

A Futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. Futures contracts are special types of forward contracts in the sense that the former are standardized exchange-traded contracts.

HISTORY OF FUTURES

Merton Miller, the 1990 Nobel Laureate had said that "financial futures represent the most significant financial innovation of the last twenty years. The first exchange that traded financial derivatives was launched in Chicago in the year 1972. A division of the Chicago Mercantile Exchange, it was called the international monetary market (IMM) and traded currency futures. The brain behind this was a man called Leo Melamed, acknowledged as the "father of financial futures who was then the Chairman of the Chicago Mercantile Exchange. Before IMM opened in1972, the Chicago Mercantile Exchange sold contracts whose value was counted in millions. By 1990, the underlying value of all contracts traded atthe Chicago Mercantile Exchange totaled 50 trillion dollars.

These currency futures paved the way for the successful marketing of a dizzying array of similar products at the Chicago Mercantile Exchange, the Chicago Board of Trade and the Chicago Board Options Exchange. By the1990s, these exchanges were trading futures and options on everything from Asian and American stock indexes to interest-rate swaps, and their success transformed Chicago almost overnight into the risk-transfer capital of the world.

DISTINCTION BETWEEN FUTURES AND FORWARDS CONTRACTS

Forward contracts are often confused with futures contracts. The confusion is primarily because both serve essentially the same functions of allocating risk in the presence of futures price. However futures are a significant improvement over the forward contracts as they eliminate counterparty risk and offer more liquidity. Comparison between two as follows:

FUTURES	FORWARDS
1.Trade on an Organized Exchange	1. OTC in nature
2. Standardized contract contract terms	2. Customized
3 Hence more liquid	3. Hence less liquid
4. Requires margin payment Payment	4. No margin
5.Follows daily settlement.	5.Settlement happens at end of Period

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FEATURES OF FUTURES

- Futures are highly standardized.
- The contracting parties need not pay any down payment.
- Hedging of price risks.
- They have secondary markets too.

TYPES OF FUTURES

On the basis of the underlying asset they derive, the futures are divided into two types:

- Stock Futures
- Index Futures

PARTIES IN THE FUTURES CONTRACT

There are two parties in a futures contract, the buyers and the seller. The buyer of the futures contract is one who is LONG on the futures contract and the seller of the futures contract is who is SHORT on the futures contract.

PAY-OFF FOR A BUYER OF FUTURES

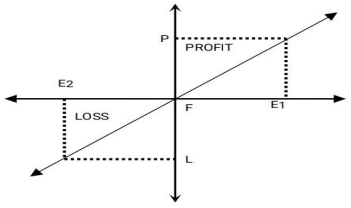

Figure 2.1

CASE 1:- The buyers bought the futures contract at (F); if the futures Price Goes to E_1 then the buyer gets the profit of (FP).

CASE 2:- The buyers gets loss when the futures price less then (F); if The Futures price goes to E_2 then the buyer the loss of (FL).

PAY-OFF FOR A SELLER OF FUTURES

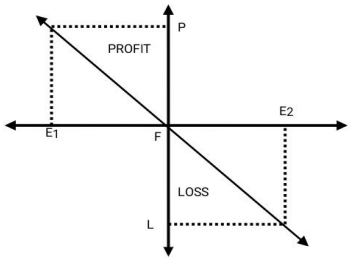

Figure 2.2

F = FUTURES PRICE

E_1, E2 = SETLEMENT PRICE

CASE 1:- The seller sold the future contract at (F); if the future goes to E_1 Then the seller gets the profit of (FP).

CASE 2:- The seller gets loss when the future price goes greater than (F); If the future price goes to E_2 then the seller get the loss of (FL).

FUTURES TERMINOLOGY

Spot price:

The price at which an asset trades in the spot market.

Futures Price:

The price at which the futures contract trades in the futures market.

Contract cycle:

The period over which a contract trades. The index futures contracts on the NSE have one-month and three-month expiry cycles which expire on the last Thursday of the month. Thus a January expiration contract expires on the last Thursday of January and a February expiration contract ceases trading on the last Thursday of February. On the Friday following the last Thursday, a new contract having a three-month expiry is introduced for trading.

Expiry date:

It is the date specified in the futures contract. This is the last day the contract will be traded, at the end of which it will cease to exist.

Contract size:

The amount of asset that has to be delivered under one contract. For instance, the contract size on NSE's futures markets is 200 Nifties.

Basis:

In the context of financial futures, basis can be defined as the futures price minus the spot price. These will be a different basis for each delivery month for each contract. In a normal market, basis will be positive. This reflects that futures prices normally exceed spot prices

Cost of carry:

The relationship between futures prices and spot prices can be summarized in terms of what is known as the cost of carry. This measures the storage cost plus the interest that is paid to finance the asset less the income earned on the asset.

Initial margin:

The amount that must be deposited in the margin account at the time a futures contract is first entered into is known as initial margin.

Marking-to-market:

In the futures market, at the end of each trading day, the margin account is adjusted to reflect the investor's gain or loss depending upon the futures closing price. This is called marking-to-market.

Maintenance margin:

This is some what lower than the initial margin. This is set to ensure that the balance in the margin account never becomes negative. If the balance in the margin account falls below the maintenance margin, the investor receives a margin call and is expected to top up the margin account to the initial margin level before trading commences on the next day

INTRODUCTION TO OPTIONS

In this section, we look at the next derivative product to be traded on the NSE, namely options. Options are fundamentally different from forwardand futures contracts. An option gives the holder of the option the right todo something. The holder does not have to exercise this right. In contrast, in a forward or futures contract, the two parties have committed themselves to doing something. Whereas it costs nothing

(except margin requirement) to enter into a futures contracts, the purchase of an option requires as up-front payment

DEFINITION

Options are of two types- calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying a given price on or before a given future date. Puts give the buyer but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

HISTORY OF OPTIONS

Although options have existed for a long time, they we traded OTC without much knowledge of valuation. The first trading in options began in Europe and the US as early as the seventeenth century. It was only in the early 1900s that a group of firms set up what was known as the put and call Brokers and Dealers Association with the aim of providing a mechanism for bringing buyers and sellers together. If someone wanted to buy an option, he or she would contact one of the member firms. The firms would then attempt to find a seller or writer of the option either from its own clients of those of other member firms. If no seller could be found, the firm would undertake to write the option itself in return for a price.

This market however suffered form two deficiencies. First, there was no secondary market and second, there was no mechanism to guarantee that the writer of the option would honour the contract. In 1973, Black, Merton and scholes invented the famed Black-Scholes formula. In April 1973,CBOE was set up specifically for the purpose of trading options. The market for option developed so rapidly that by early 80s, the number of shares underlying the option contract sold each day exceeded the daily volume of shares traded on the NYSE. Since then, there has been no looking back.

Option made their first major mark in financial history during the tulip bulb mania in seventeenth-century Holland. It was one of the most spectacular get rich quick brings in history. The first tulip was brought Into Holland by a botany professor from Vienna. Over a decade, the tulip became the most popular and expensive item in Dutch gardens. The more popular they became, the more Tulip bulb prices began rising. That was when options came into the picture. They were initially used for hedging.

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PROPERTIES OF OPTION

Options have several unique properties that set them apart from other securities. The following are the properties of option:

- Limited Loss
- High leverages potential
- Limited Life

PARTIES IN AN OPTION CONTRACT

There are two participants in Option Contract.

Buyer/Holder/Owner of an Option:

The Buyer of an Option is the one who by paying the option premium buys the right but not the obligation to exercise his option on the seller/writer.

Seller/writer of an Option:

The writer of a call/put option is the one who receives the option premium and is thereby obliged to sell/buy the asset if the buyer exercises on him.

TYPES OF OPTIONS

The Options are classified into various types on the basis of various variables. The following are the various types of options

1. On the basis of the underlying asset

On the basis of the underlying asset the option are divided in to two types:

Index options:

These options have the index as the underlying. Some options are European while others are American. Like index futures contracts, index options contracts are also cash settled.

Stock options:

Stock Options are options on individual stocks. Options currently trade onover 500 stocks in the United States. A contract gives the holder the rightto buy or sell shares at the specified price.

2. On the basis of the market movements:

On the basis of the market movements the option are divided into two types. They are:

Call Option:

A call Option gives the holder the right but not the obligation to buy an asset by a certain date for a certain price. It is brought by an investor when he seems that the stock price moves upwards

Put Option:

A put option gives the holder the right but not the obligation to sell an assetby a certain date for a certain price. It is bought by an investor when he seems that the stock price moves downwards.

3. On the basis of exercise of option:

On the basis of the exercise of the Option, the options are classified into two Categories

American Option:

American options are options that can be exercised at any time up to the expiration date. Most exchange - traded options are American.

European Option:

European options are options that can be exercised only on the expiration date itself. European options are easier to analyze than American options, and properties of an American option are frequently deduced from those of its European counterpart

PAY-OFF PROFILE FOR SELLER OF A CALL OPTION

The pay-off of seller of the call option depends on the spot price of the underlying asset. The following graph shows the pay-off of seller of a call option:

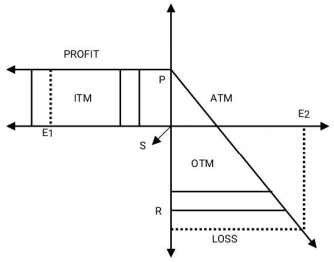

Figure 2.4

S = Strike price ITM = In the Money
SP = Premium / profit ATM = At The money
E_1 = Spot price 1 OTM = Out of the Money
E_2 = Spot price 2
SR = Profit at spot price E_1

CASE 1: (Spot Price > Strike price)
As the Spot price (E_1) of the underlying asset is more than strike price (S). The buyer gets profit of (SR), if price increases more than E_1 then profit also increase more than (SR)

CASE 2: (Spot Price < Strike Price)
As a spot price (E_2) of the underlying asset is less than strike price (S) The buyer gets loss of (SP); if price goes down less than E_2 then also his loss is limited to his premium (SP)

PAY-OFF PROFILE FOR BUYER OF A PUT OPTION

The Pay-off of the buyer of the option depends on the spot price of the underlying asset. The following graph shows the pay-off of the buyer of a call option.

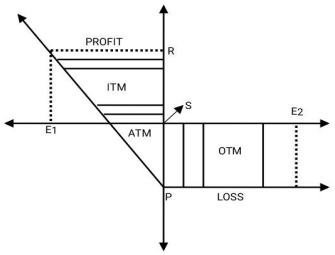

Figure 2.5

E_1 = Spot Price 1 OTM = Out of the Money
E_2 = Spot Price 2
SR = loss at spot price E_2

CASE 1: (Spot price < Strike price)
As the spot price (E_1) of the underlying is less than strike price (S). The seller gets the profit of (SP), if the price decreases less than E_1 then also profit of the seller does not exceed (SP).

CASE 2: (Spot price > Strike price)
As the spot price (E_2) of the underlying asset is more than strike price (S) the Seller gets loss of (SR), if price goes more than E_2 then the loss of the seller also increase more than (SR).

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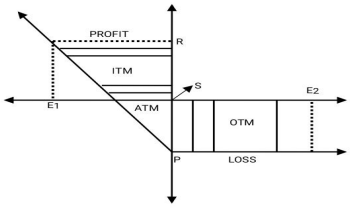
The Pay-off of the buyer of the option depends on the spot price of the underlying asset. The following graph shows the pay-off of the buyer of a call option.



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SR = Profit at spot price E_1

CASE 1: (Spot price < Strike price)
As the spot price (E_1) of the underlying asset is less than strike price (S). The buyer gets the profit (SR), if price decreases less than E_1 then profit also increases more than (SR).

CASE 2: (Spot price > Strike price)
As the spot price (E_2) of the underlying asset is more than strike price (S), The buyer gets loss of (SP), if price goes more than E_2 than the loss of the buyer is limited to his premium (SP).

PAY-OFF PROFILE FOR SELLER OF A PUT OPTION

The pay-off of a seller of the option depends on the spot price of the underlying asset. The following graph shows the pay-off of seller of a put option.

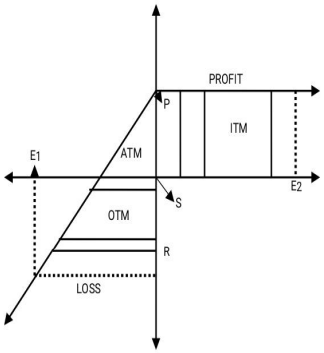

Figure 2.6

S = Strike price ITM = In The Money
SP = Premium/profit ATM = At The Money
E_1 = Spot price 1 OTM = Out of the Money
E_2 = Spot price 2
SR = Loss at spot price E_1

CASE 1: (Spot price < Strike price)
As the spot price (E_1) of the underlying asset is less than strike price (S), the seller gets the loss of (SR), if price decreases less than E_1 than the loss also increases more than (SR).

CASE 2: (Spot price > Strike price)
As the spot price (E_2) of the underlying asset is more than strike price (S), the seller gets profit of (SP), of price goes more than E_2 than the profit of seller is limited to his premium (SP).

FACTORS AFFECTING THE PRICE OF AN OPTION

The following are the various factors that affect the price of an option they are:

Stock Price:

The pay-off from a call option is an amount by which the stock price exceeds the strike price. Call options therefore become more valuable as the stock price increases and vice versa. The pay-off from a put option is the amount; by which the strike price exceeds the stock price. Put options therefore become more valuable as the stock price increases and vice versa.

Strike price:

In case of a call, as a strike price increases, the stock price has to make a larger upward move for the option to go in-the -money. Therefore, for a call, as the strike price increases option becomes less valuable and as strike price decreases, option become more valuable.

Time to expiration:

Both put and call American options become more valuable as a time to expiration increases.

Volatility:

The volatility of a stock price is measured of uncertain about future stock price movements. As volatility increases, the chance that the stock will do very well or very poor increases. The value of both calls and puts therefore increases as volatility increase.

Risk-free interest rate:

The put option prices decline as the risk-free rate increases whereas the price of call always increases as the risk-free interest rate increases.

Dividends:

Dividends have the effect of reducing the stock price on the X- dividend rate. This has a negative effect on the value of call options and a positive effect on the value of put options.

PRICING OPTIONS

An option buyer has the right but not the obligation to exercise on the seller. The worst that can happen to a buyer is the loss of the premium paid by him. His downside is limited to this premium, but his upside is potentially

unlimited. This optionality is precious and has a value, which is expressed in terms of the option price. Just like in other free markets, it is the supply and demand in the secondary market that drives the price of an option.

There are various models which help us get close to the true price of an option. Most of these are variants of the celebrated Black-Scholes model for pricing European options. Today most calculators and spreadsheets come with a built-in Black- Scholes options pricing formula so to price options we don't really need to memorize the formula. All we need to know is the variables that go into the model.

OPTIONS TERMINOLOGY

Option price/premium:

Option price is the price which the option buyer pays to the option seller. Itis also referred to as the option premium.

Expiration date:

The date specified in the options contract is known as the expiration date,the exercise date, the strike date or the maturity

Strike price:

The price specified in the option contract is known as the strike price or the exercise price.

In-the-money option:

An in-the-Money (TM) option is an option that would lead to a positive cash flow to the holder if it were exercised immediately. A call option on the index is said to be in the money when the current index stand level higher than the strike price (e spot price strike price) Of 39/95 much higher than the strike price, the call is said to be deep IT. case of a put the put is ITM If the index is below the strike price

At-the-money option:

An at the money (ATM) option is an option that would lead to zero cash flow if it were exercised immediately. An option on the index is at the money when the current index equals the strike price (i.e., spot price strike price)

Out-of-the money option:

An out of the money (OTM) option is an option that would lead to a negative cash flow it was exercised immediately. A call option on the index is out-of-the-the money when the current index stands at a level which is less than the strike price i.e. spot price < strike price). If the index is much lower than the strike price, the call is said to be deep OTM. In the case of a put, the put is OTM if the index is above the strike price

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Intrinsic value of an option:

The option premium can be broken down into two components intrinsic value and time value. The intrinsic value of a call is the amount the option is ITM, if it is ITM. If the call is OTM, its intrinsic value is zero.

Time value of an option:

The time value of an option is the difference between its premium and its intrinsic value. Both calls and puts have time value. An option that is OTM or ATM has only time value. Usually, the maximum time value exists when the option is ATM The longer the time to expiration, the greater is an option's time value, all else equal At expiration, an option should have no time value.

DISTINCTION BETWEEN FUTURES AND OPTIONS

FUTURES	OPTIONS
1. Exchange traded with Novation	1. Same as futures
2. Exchange defines the product	2. Same as futures
3. Price is zero, strike price moves	3. Strike price is fixed, price moves
4. Price is Zero	4. Price is always positive
5. Linear payoff	5. Nonlinear payoff
6. Both long and short at risk.	6. Only short at risk

SWAPS AND THE SWAP MARKET

A swap is an agreement that lets two entities swap their cash flows with each other. This is done without any initial monetary transactions which makes it more viable as an instrument as no transaction fees or limitations due to bound capital have to be dealt with.

Swaps can involve any kind of cash flows and the main idea is to let a floating cash flow where there is a risk that it can be either too high or too low be exchanged for a fixed cash flow or another floating cash flow which has a different risk profile.

When entering into such a contract it is set up so that both cash flows in the contract has the same expected net

present value, i.e. the contract is set up so that it is fair to both parties. This basically means that the value of the contract is zero when being entered into but may change value over time depending on circumstances.

From a risk-neutral perspective it is hard to see any reason for anyone to enter into a swap agreement since it is a fair game and there is no comparative advantage for either party to enter into such an agreement in an arbitrage free world. In the real world however, an institution or company may face limitations that can only be overcome by entering into such agreements. One party may have legally bound contracts that no longer match his risk profile due to changed circumstances or he may face any other type of institutional frictions. There may be tax differences between the two parties or information asymmetries may motivate a party to enter into a swap agreement with another. In other words the incentives behind entering into a swap agreement cannot be quantified by risk neutral measurements.

Swaps are rarely traded directly between parties, unless the parties are financial institutions. In the case of financial institutions, trades are more direct and they generally know exactly with whom they enter their swap agreements. Otherwise swaps are usually traded over the counter through financial intermediaries and it is generally not known with whom one swapsone's cash flows. These intermediaries serve the function of taking the opposite side of each transaction of the swaps and carry the responsibility of matching and covering for defaulting counterparties in the swap agreement. The spread inherent in the swap agreement is intended to cover for the default risk involved in the counterparties managed by the financial intermediary.

COMPANY

SHAREKHAN

SSKI, a veteran equities solutions company with over 8 decades of experience in the Indian stock markets. The SSKI Group comprises of institutional Broking and Corporate Finance. The institutional broking division caters to domestic and foreign institutional investors, while the Corporate Finance Division focuses on niche areas such as infrastructure, telecom and media, SSKI has been voted as the Top Domestic Brokerage House in their search category, by the Euro Money survey and Asia Money survey.

Share khan is also about focus. Share khan does not claim expertise in too many things. Share khan expertise lies in stocks and that's what he talks about with authority. So when he says that investing in stocks should not be confused with trading in stocks or a portfolio-based strategy is better than betting on a single horse, it is something that is spoken with years of focused learning and experience in the stock markets. And these beliefs are reflected in everything Share khan does for you!

Share khan India's leading stockbroker is the retail arm of SSKI, An organization with over eighty years experience in the stock market. With over240share shops in 110Cities, and India's premier online trading destinationswww.sharekhan.com, ours customer enjoy multi-channel access at the stock markets, share khan offer u trade execution facilities for cash as well as derivatives on the BSE & NSE and most importunity we bring you investment advice tempered by eighty years of broking experience.Through our portal Sharekhan.com, we've been providing investors a powerful online trading platform, the latest news, research and other knowledge-based tools for over 5years now. We have dedicated terms for fundamental and technical research so that you get all the information you need to take the right investment decisions. With branches and outlets across the country, our ground network is one of the biggest in India. We have a talent pool of experienced professionals specially designated to guide you when you need assistance, which is why investing with us is bound to be a hassle-free experience for you! Reason why you should choose Share Khan

1. Experience:

SSKI has more than eight decades of trust and credibility in the Indian stock market. In the Asia Money Brokers poll held recently, SSKI won the ‘India’s best broking division in February 2000, it has been providing institutional-level research and broking services to individual investors.

2. Technology:

With our online trading account you can buy and sell shares in an instant from any PC with an Internet connection. You will get access to our powerful online trading tools that will help you take complete control over your investment in shares.

3. Accessibility:

In addition to our online and phone trading services, we also have aground network of 240 share shops across 110 cities in India where you can get personalized services

4. Knowledge:

In a business where the right information at the right time can translate into direct profit, you get access to wide range of information on our content rich portal, Sharekhan.com. You will also get a useful set of knowledge-based tools that will empower you to take informed decisions

5. Convenience:

You can all our Dial-n-Trade number to get investment and execute your transaction. We have a dedicated call-center to provide this service via a toll free number from anywhere in India.

6. Customer service:

Our customer service team will assist you for any help that you need relating to transactions, billing, demat and other queries, our customer service can be contacted via a toll-free number, email or live chat onsharekhan.com

7. Investment Advice:

Sharekhan has dedicated research teams for fundamental and technical research. Our analysts constantly track the pulse of the market and provide timely investment advice to you in the form of daily research emails, onlinechat, printed reports on SMS on your phone.Customers of Share Khan

Experience language, presentation style, content or for that matter the online trading facility find a common thread; one that helps the customers make informed decisions and simplifies investing in stocks. The common thread of empowerment is what Sharekhan all about! Sharekhan is also about focus Share khan does not claim expertise in too many things. Sharekhan expertise lies in stocks and that's what he talks about with authority. So when he says that investing in stocks should not be confused with trading in stocks or a portfolio-based strategy is better than betting on a single horse, it is something that is spoken with years of focused learning and experience in the stock markets. And these beliefs are reflected in everything Sharekhan does for customers.

To sum up, Share khan brings to customers a user-friendly online trading facility, coupled with a wealth of content that will help customers stalk the right shares.

Those of customers who feel comfortable dealing with a human being and would rather visit a brick-and-mortar outlet than talk to a PC; Sharekhan offers customers the facility to visit (or talk to) any of share khan share shops across the country. In fact Share khan runs India's largest chain of share shops with over hundred outlets in 80 cities!

Share khan services:

Share khan, one of India's leading brokerage houses, is the retail arm of SSKI. With over 510 share shops in 170 cities, and India's premier online trading portal www.sharekhan.com, share khan customers enjoy multichannel access to the stock markets.

Online Services to Suit customer's Needs:

With a Share khan online trading account, customers can buy and sell shares in an instant! Anytime customers like trading account that suits customer's trading habits and preferences the Classic Account for most investors and Speed trade for active day traders. Customer's Classic Account also comes with Dial-n-Trade completely free, which is an exclusive service for trading shares by using customer's telephone.

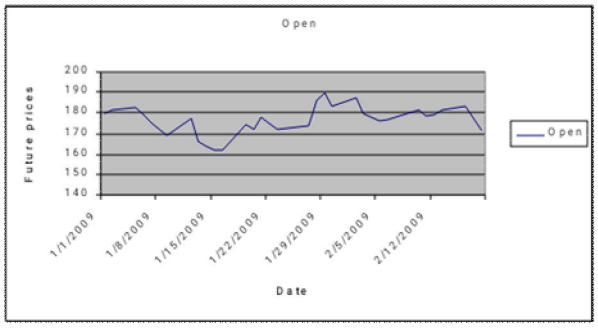
When beginning customer's foray in investing in shares, customers need a lot of things from the right information at customer's disposal, to assistance when customers need it and advice on investing. Share khan have been in this business for over 80 years now, and with share khan customers get a host of services and tools that are difficult to fang in one place anywhere.

II. ANALYSIS

The Objective of this analysis is to evaluate the profit/loss position futuresand options. This analysis is based on sample data taken of NTPC Scrip.This analysis considered the JANUARY contract of NTPC. The lot Size ofNTPC is 1625, the time period in which this analysis done is from 01-1-2019 to 18-2-2019.

Date	Open	High	Low	Close	Qty
1-Jan-19	179.4	181.4	178.1	180.9	43441780
2-Jan-19	181.2	184.2	178.55	182.85	43378320
5-Jan-19	182.5	182.5	177.5	179.4	50263850
6-Jan-19	178.9	179	172.7	174.75	64962540
7-Jan-19	175.05	175.05	165.55	168.85	49464510
9-Jan-19	168.9	174.8	165.8	173.9	54847000
12-Jan-19	177.5	177.5	165	166.55	60508820
13-Jan-19	166.1	167	162	163.15	1.26E+08
14-Jan-19	164.15	166.3	161.85	164.7	4.37E+08
15-Jan-19	162.25	164.45	160	160.8	2.05E+08
16-Jan-19	162	175.8	162	174.45	3.12E+08
19-Jan-19	174.25	175.5	172.4	174.1	1.46E+08
20-Jan-19	172.05	182.15	169.3	180.4	5.67E+08
21-Jan-19	178	181.1	173.4	174.95	1.07E+09
22-Jan-19	174.95	176.5	171.65	173.05	7.17E+08
23-Jan-19	172.1	173.45	167.45	170.55	1.13E+09
27-Jan-19	173.85	186.3	171.6	185.25	2.33E+09
28-Jan-19	185.9	188.8	183	187.35	2.06E+09
29-Jan-19	189.8	189.8	181.1	184.55	2.83E+09
30-Jan-19	183	188.9	182.2	188.05	2.58E+09
2-Feb-19	187	187	177.5	178.05	2.38E+09
3-Feb-19	179.8	181.4	174.3	175.95	3.67E+09
4-Feb-19	178.1	179.8	173.55	175.4	2.35E+09
5-Feb-19	176.25	176.7	173.25	175.8	1.52E+09
6-Feb-19	176.5	181.25	176.5	179.45	2.21E+09
9-Feb-19	180.1	182.9	177	182.4	2.29E+09
10-Feb-19	181.5	183.35	178.1	180.2	2.61E+09
11-Feb-19	178.5	182.5	177.4	180.5	1.87E+09
12-Feb-19	179.15	181.75	179.15	180	1.54E+09
13-Feb-19	181.45	184.6	180.9	182.75	2.12E+09
16-Feb-19	182.9	182.9	176.75	177.6	2.31E+09
17-Feb-19	177.25	177.25	172.75	173.4	2.01E+09
18-Feb-19	171.6	176.55	171.55	175.75	15089750

GRAPH ON PRICE MOVEMENTS OF NTPC FUTURES:



FUTUREMARKET

	BUYER	SELLER
15/1/2019(buying)	162.25162.25	
17/2/2019(Closingperiod)177.25		177.25
Profit 15.0	Loss	15.00
Profit15x1625=24375,Loss		15 x 1625 = 24375

Because buyer future price will increase so, profitable so increases, seller future price also increase so, and he can get loss. In case seller future will decrease, he can get profit.
The closing price of NTPC at the end of the contract period is 177.25and this is considered as settlement price.

The following table explains the market price and premiums of calls.

- The first column explains TRADINGDATE.
- Second column explains the SPOTMARKETPRICE in cash segment on that date.
- The fifth column explains the FUTUREMARKETPRICE in cash segment on that date.

III. SUGGESTIONS

- In bullish market the call option writer incurs more losses so the investor is suggested to go for a call option to hold, whereas the put option holder suffers in a bullish market, so he is suggested to write a put option.
- In bearish market the call option holder will incur more losses so the investor is suggested to go for a call option to write, whereas the put option writer will get more losses, so he is suggested to hold a put option.
- In the above analysis the market price of ONGC is having low volatility, so the call option writer enjoys more profits to holders.
- The derivative market is newly started in India and it is not known by every investor, so SEBI has to take steps to create awareness among the investors about the derivative segment.
- In order to increase the derivatives market in India, SEBI should revise some of their regulations like contract size, participation of FII in the derivatives market.
- Contract size should be minimized because small investors cannot afford this much of huge premiums.
- SEBI has to take further steps in the risk management mechanism
- SEBI has to take measures to use effectively the derivatives segment as a tool of hedging.

IV. CONCLUSION

- Derivatives market is an innovation to cash market approximately its daily turnover reaches to the equal stage of cash market. The average daily turnover of the NSE derivative segments
- In cash market the profit/loss of the investor depend the market price of the underlying asset. The investor may incur Hugh profit is or he may incur Hugh loss. But in derivative segment the investor enjoys Hugh profits with limited downside.
- In cash market the investor has to pay the total money, but in derivatives the investor has to pay premiums or margins, which are some percentage of total money.
- Derivatives are mostly used for hedging purpose.
- In derivative segment the profit/loss of the option writer is purely depend on the fluctuations of the underlying asset.

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