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STUDY OF FUTURE AND OPTIONS

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ABSTRACT

The emergence of the market for derivatives products, most notably forwards, futures and options, can be traced back to the willingness of risk-averse economic agents to guard themselves against uncertainties arising out of fluctuations in asset prices. Derivatives are risk management instruments, which derive their value from an underlying asset. The following are three broad categories of participants in the derivatives market Hedgers, Speculators and Arbitragers. Prices in an organized derivatives market reflect the perception of market participants about the future and lead the price of underlying to the perceived future level. In recent times the Derivative markets have gained importance in terms of their vital role in the economy. The increasing investments in stocks (domestic as well as overseas) have attracted my interest in this area. Numerous studies on the effects of futures and options listing on the underlying cash market volatility have been done in the developed markets. 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 cash market the profit/loss of the investor depends on the market price of the underlying asset. The investor may incur huge profit or he may incur huge loss. But in derivatives segment the investor enjoys huge profits with limited downside. Derivatives are mostly used for hedging purpose. 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. In a nutshell the study throws a light on the derivatives market.

Keywords: *Securities, Financial Derivatives, Derivatives Market, Option Writer, Option Holder.*

1. INTRODUCTION

The emergence of the market for derivatives products, most notably forwards, futures and options, can be traced back to the willingness of risk-averse economic agents to guard themselves against uncertainties arising out of fluctuations in asset prices. By their very nature, the financial markets are marked by a very high degree of volatility.

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.

A derivative instrument is a contract between two parties that specifies conditions (especially the dates, resulting values of the underlying variables, and notional amounts) under which payments are to be made between the parties.

Industry Profile

- **Overview**

The Indian retail brokerage industry consists of companies that primarily act as agents for the buying and selling of securities (e.g. stocks, shares, and similar financial instruments) on a commission or transaction fee basis. It has two main interdependent segments: Primary market and the Secondary market.

- **Brokerage Industry**

The Indian Brokerage Industry consists of companies that primarily act as agents for the buying and selling of securities (e.g. stocks, shares, and similar financial instruments) on a commission or transaction fee basis.

- **Beginning of a new Equity Culture**

A new phase in the Indian stock markets began in the 1970s, with the introduction of Foreign Exchange Regulation Act (FERA) that led to divestment of foreign equity by the multinational companies, which created a surge in retail investing. The early 1980s witnessed another surge in stock markets when major companies such as Reliance accessed equity markets for resource mobilisation that evinced huge interest from retail investors.

- **Rapid Growth**

The last decade has been exceptionally good for the stock markets in India. In the back of wide ranging reforms in regulation and market practice as also the growing participation of foreign institutional investment, stock markets in India have showed phenomenal growth in the early1990s. The stock market capitalization in mid-2007 is nearly the same size as that of the gross domestic product as compared to about 25 percent of the latter in the early 2000s. Investor base continued to grow from domestic and international markets.

Company Profile

Our Company was originally incorporated as "Vajreshwari Cosmetics Private Limited" on February 30, 1984. The name of our Company was subsequently changed to "Religare Enterprises Private Limited" pursuant to a special resolution of our shareholders dated February 10, 2006 in order to insert the word "Religare". In Latin "Religare" means "to tie fast" or "to bind" and its insertion in our name was done to reflect the ideology of our business. The fresh certificate of incorporation consequent to the change of name was granted to our Company on February 31, 2006, by the Registrar of Companies, Punjab, Himachal Pradesh & Chandigarh at Jalandhar. The word private was deleted from the name of the Company by a special resolution of the members dated July 14, 2006. The fresh certificate of incorporation consequent to the change of name was granted to our Company on August 11, 2006, by the Registrar of Companies, NCT at New Delhi. For details see the Sections and "Our Management".

2. OBJECTIVES OF THE STUDY

- To know the operational concepts of financial derivatives.
- To analyze the operations of futures and options.
- To find the profit/loss position of futures buyer and seller and also the option writer and option holder.
- To give findings and suggestions based on the study.

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 has been taken as a representative sample 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.

Limitations of the Study

- The scrip chosen for analysis is ICICI BANK, SBI and the contract taken is February 2012 ending one – month contract.
- The data collected is completely restricted to ICICI BANK, SBI of February 2012; hence this analysis cannot be taken universal.

3. LITERATURE REVIEW

Behavior of Stock Market Volatility after Derivatives By Golaka C Nath , Research Paper (NSE): Financial market liberalization since early 1990s has brought about major changes in the financial markets in India. The creation and empowerment of Securities and Exchange Board of India (SEBI) has helped in providing higher level accountability in the market. New institutions like National Stock Exchange of India (NSEIL), National Securities Clearing Corporation (NSCCL), National Securities Depository (NSDL) have been the change agents and helped cleaning the system and provided safety to investing public at large. With modern technology in hand, these institutions did set benchmarks and standards for others to follow. Microstructure changes brought about reduction in transaction cost that helped investors to lock in a deal faster and cheaper.

Do Futures and Options trading increase stock market volatility? By Dr. Premalata Shenbagaraman, Research Paper (NSE): Numerous studies on the effects of futures and options listing on the underlying cash market volatility have been done in the developed markets. The empirical evidence is mixed and most suggest that the introduction of derivatives do not destabilize the underlying market.

Derivative Instruments and Their Use for Hedging by U.S. Non-Financial Firms: Derivatives can be defined as financial instruments whose values are derived from some underlying asset or rate/price (such as a rate of interest or the price of gold). The development of the option pricing models by Black and Scholes (1973) and by Merton (1973) has made it possible for derivatives markets to develop and for these financial instruments to become a potentially important tool in risk management. Derivatives are now an important part of the world economy, with a notional value of more than $200 trillion of these derivatives traded on organized and OTC markets in 2004 (Bank for International Settlements, 2005).

An Overview Of The Literature About Derivatives By Chiara Oldani: A derivative is defined by the BIS (1995) as "a contract whose value depends on the price of underlying assets, but which does not require any investment of principal in those assets. As a contract between two counterparts to exchange payments based on underlying prices or yields, any transfer of ownership of the underlying asset and cash flows becomes unnecessary". This definition is strictly related to the ability of derivatives of replicating financial instruments.

4. RESEARCH METHODOLOGY

The term „research" refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solution(s) towards the concerned problem or in certain generalizations for some theoretical formulation

Research Design

Research design states that "A research design is the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure."

Period of Study

The period of study is from 1st Feb 2012 to 1st Mar 2012.

Type of Research

The research design of the study is analytical research design. In analytical study, one has to use facts or information already available and analyze these to make critical evaluation of the material.

5. DATA ANALYSIS AND INERPRETATIONS

Analysis o f ICICI

The objective of this analysis is to evaluate the profit/loss position of futures and options. This analysis is based on sample data taken of ICICI BANK scrip. This analysis considered the Mar 2012 contract of ICICI BANK. The time period in which this analysis done is from 1-02-2012 to 1.03.2012.

Date	Market Price	Future Price
1-Feb-12	914.45	899.1
2-Feb-12	908.75	907.8
3-Feb-12	906.35	924.4
6-Feb-12	934.05	929.2
7-Feb-12	942	941.15
8-Feb-12	931.25	927.7
9-Feb-12	925.35	949.3
10-Feb-12	945	935.5
13-Feb-12	939.1	945.25
14-Feb-12	937.9	952.55
15-Feb-12	963.3	990.25
16-Feb-12	983.65	979.45
17-Feb-12	988.15	991.45
21-Feb-12	988.3	1002.3
22-Feb-12	997.85	966.2
23-Feb-12	961.4	955
24-Feb-12	945.1	940.15
27-Feb-12	941	899.35
28-Feb-12	906.3	924.4
29-Feb-12	922.45	915.35
1-Mar-12	911.05	892.75

Observations

If a person buys 1 lot i.e. 250 futures of ICICI BANK on 1st Feb 12 and sells on 1st Mar, 12 then he will get a loss of 892.75 – 899.1 = -6.35 per share. So he will get a loss of 1587.5 i.e. -6.35 * 250

If he sells on 21st Feb 2012 then he will get a profit of 1002.3 – 899.1 = 103.2 i.e. a profit of

103.2 per share. So his total profit is 25800 i.e. 103.2 * 250.

The closing price of ICICI BANK at the end of the contract period is 911.05 and this is considered as settlement price.

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

- The first column explains trading date
- Second column explains the SPOT market price in cash segment on that date.

The third column explains call premiums amounting at these strike price; 920, 980.

□ Call Options

Column1	Column2	Column3	Column4
Date	market price	**Strike price** 920	**Strike price** 980
1-Feb-12	914.45	53.95	20.2
2-Feb-12	908.75	26.6	19.05
3-Feb-12	906.35	38.45	30
6-Feb-12	934.05	42	33
7-Feb-12	942	43.2	56.7
8-Feb-12	931.25	39.5	47.2
9-Feb-12	925.35	43.55	31.6
10-Feb-12	945	55.65	28.8
13-Feb-12	939.1	40.35	35
14-Feb-12	937.9	42	32.5
15-Feb-12	963.3	63.5	51.5
16-Feb-12	983.65	54.5	49.75
17-Feb-12	988.15	75.45	55
21-Feb-12	988.3	76.9	62
22-Feb-12	997.85	59.1	45
23-Feb-12	961.4	45.25	36
24-Feb-12	945.1	38.35	30.05
27-Feb-12	941	22.8	17.45
28-Feb-12	906.3	30.25	23.85
29-Feb-12	922.45	26.6	20.2
1-Mar-12	911.05	18.9	14.3

□□ Put Options

Column1	Column2	Column3	Column4
Date	market price	**strike price** 920	**strike price** 980
1-Feb-12	914.45	85.15	122.5
2-Feb-12	908.75	76.85	112.8
3-Feb-12	906.35	68.5	102.85
6-Feb-12	934.05	60.15	93.05
7-Feb-12	942	53.9	85.55
8-Feb-12	931.25	59.5	93.5
9-Feb-12	925.35	35.6	81.65
10-Feb-12	945	41	84.6
13-Feb-12	939.1	38	78.95
14-Feb-12	937.9	31.05	71.95
15-Feb-12	963.3	20.65	41.8
16-Feb-12	983.65	33.2	51.05
17-Feb-12	988.15	27.75	43.3
21-Feb-12	988.3	17.2	39
22-Feb-12	997.85	35.6	56
23-Feb-12	961.4	34.45	57.25

24-Feb-12	945.1	38.1	74.2
27-Feb-12	941	56.95	100.35
28-Feb-12	906.3	43.95	79
29-Feb-12	922.45	47.45	85.15
1-Mar-12	911.05	58.5	101.45

Analysis of SBI

The objective of this analysis is to evaluate the profit/loss position of futures and options. This analysis is based on sample data taken of SBI scrip. This analysis considered the Mar 2012 contract of SBI. The lot size of SBI is 132, the time period in which this analysis done is from 1-02-2012 to 1.03.12.

Date	Market Price	Future Price
1-Feb-12	2030	2065.9
2-Feb-12	2083	2041
3-Feb-12	2040	2073
6-Feb-12	2126.95	2129.85
7-Feb-12	2144.95	2134.7
8-Feb-12	2141.45	2159.95
9-Feb-12	2146	2175.65
10-Feb-12	2174	2163.8
13-Feb-12	2169	2126.95
14-Feb-12	2133.45	2197.95
15-Feb-12	2222	2257.25
16-Feb-12	2242	2345
17-Feb-12	2364.7	2419
21-Feb-12	2418.65	2463.9
22-Feb-12	2462.15	2276.9
23-Feb-12	2270	2280
24-Feb-12	2293.7	2230.2
27-Feb-12	2230	2149.95
28-Feb-12	2160	2260.8
29-Feb-12	2289.75	2267.65
1-Mar-12	2251.55	2235.25

Observations

If a person buys 1 lot 1st Feb, 2012 and sells on 1st Mar, 2012 then he will get a profit of 2235.25- 2065.9 = 169.35 per share. So he will get a profit of 21168.75 i.e. 169.35 * 125

If he sells on 23rd Feb, 2012 then he will get a profit of 2280 - 2065.9 = 214.1 i.e. a profit of per share. So his total profit is 26762.5 i.e. 214.1 * 125

The closing price of SBI at the end of the contract period is 2251.55 and this is considered as settlement price.

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

- The first column explains trading date
- Second column explains the SPOT market price in cash segment on that date.
- The third column explains call premiums amounting at these strike prices; 2250, 2400.

Call Options

Column1	Column2	Column3	Column4
Date	market price	**strike price** 2250	**strike price** 2400
1-Feb-12	2030	53.05	52.45
2-Feb-12	2083	83.55	21.5
3-Feb-12	2040	55	25
6-Feb-12	2126.95	80.05	66.6
7-Feb-12	2144.95	80.25	58.8
8-Feb-12	2141.45	84.05	62.45
9-Feb-12	2146	84.2	59.55
10-Feb-12	2174	82	42
13-Feb-12	2169	61.1	28.5
14-Feb-12	2133.45	86.1	40.9
15-Feb-12	2222	107.35	52.45
16-Feb-12	2242	165	87.85
17-Feb-12	2364.7	215	131.55
21-Feb-12	2418.65	273.25	154.9
22-Feb-12	2462.15	133.55	73.4
23-Feb-12	2270	140.05	77.45
24-Feb-12	2293.7	111.05	57.4
27-Feb-12	2230	75.8	35.9
28-Feb-12	2160	122.25	62
29-Feb-12	2289.75	128.65	67.95
1-Mar-12	2251.55	108.25	63.2

Put Options

Column1	Column2	Column3	Column4
Date	market price	**strike price** 2250	**strike price** 2400
1-Feb-12	2030	228.85	337.95
2-Feb-12	2083	226.8	337.5
3-Feb-12	2040	205.3	312.6
6-Feb-12	2126.95	171.45	270.3
7-Feb-12	2144.95	171.6	272.8
8-Feb-12	2141.45	154.45	252.15
9-Feb-12	2146	146.35	243.75
10-Feb-12	2174	149.5	248.6
13-Feb-12	2169	169.7	278.3

14-Feb-12	2133.45	135.2	230.85
15-Feb-12	2222	99.6	197.7
16-Feb-12	2242	71.4	144.55
17-Feb-12	2364.7	54.8	110.55
21-Feb-12	2418.65	41.6	93.5
22-Feb-12	2462.15	109.2	196.25
23-Feb-12	2270	112.25	190.2
24-Feb-12	2293.7	131.8	223.05
27-Feb-12	2230	174.6	280.25
28-Feb-12	2160	111.1	195
29-Feb-12	2289.75	111.85	200
1-Mar-12	2251.55	121.05	224.75

6. FINDINGS

ICICI BANK LTD

Call Option

O **Buyers Pay Off**

- Those who have purchase call option at a strike price of 920, the premium payable is 53.5
- On the expiry date the spot market price enclosed at 911.05. As it is out of the money for the buyer and in the money for the seller, hence the buyer is in loss.
- So the buyer will lose only premium i.e. 53.5 per share.
- So the total loss will be 13375 i.e. 53.5*250

O **Sellers Pay Off**

- As Seller is entitled only for premium if he is in profit.
- So his profit is only premium i.e. 53.5 * 250 = 13375

Put Option

O **Buyers Pay Off**

- As brought 1 lot of ICICI that is 250, those who buy for 920 paid 85.15 premium per share.
- Settlement price is 911.05

O **Sellers Pay Off**

- It is in the money for the seller so it is in out of the money for the buyer, hence he is in loss.
- The profit is equal to the loss of buyer i.e. 19050.

O **Interpretation**

□□ The future price of ICICI is moving along with the market price.

□□ If the buy price of the future is less than the settlement price, than the buyer of a future gets profit.

□□ If the selling price of the future is less than the settlement price, than the seller in losses.

□ **S B I**

- **All Option**

Buyers Pay Off

□□ Those who have purchased call option at a strike price of 2250, the premium payable is 53.05

□□ On the expiry date the spot market price enclosed at 2251.55. As it is in the money to the buyer and out of the money for the seller, hence the buyer is in profit.

□□ So the buyer will get profit only premium i.e. 53.05 per share.

□□ So the total profit will be 6631.25 i.e. 53.05*125

Sellers Pay Off

□□ As Seller is entitled only for premium if he is in loss.
□□ So his loss is only premium i.e. 53.05 * 125 = 6631.25

PUT OPTION

o **BUYERS PAY OFF**

□□ As brought 1 lot of SBI that is 125, those who buy for 2250 paid 228.85 premium per share.

□□ Settlement price is 2251.55O

Sellers Pay Off

□□ It is out of the money for the buyer so it is in the money for the seller, hence he is in profit.

□□ The profit is equal to the loss of buyer i.e. 1144.375O

Interpretation

□□ The future price of SBI is moving along with the market price.

□□ If the buy price of the future is less than the settlement price, than the buyer of a future gets profit.

□□ If the selling price of the future is less than the settlement price, than the seller in losses.

7. SUGESSTIONS

- The derivatives 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 can revise some of their regulations like contract size, participation of FII in the derivatives market.
- Contract size can 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.

8. CONCLUSION

In bullish market the call option writer incurs more losses so the investor is suggested to go for a call option to hold, where as 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, where as 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 SBI is having low volatility, so the call option writer enjoys more profits to holders. The future price of SBI is moving along with the market price. If the buy price of the future is less than the settlement price, than the buyer of a future gets profit. If the selling price of the future is less than the settlement price, than the seller incur losses. The future price of ICICI is moving along with the market price. If the buy price of the future is less than the settlement price, than the buyer of a future gets profit. If the selling price of the future is less than the settlement price, than the seller incur losses.

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