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I hereby affirm that the contents of this manuscript are original. Furthermore It has neither been published elsewhere in any language fully or partly, nor is it under review for publication anywhere.

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Books

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio," Ohio State University.

Contributions to books

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

Journal and other articles

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

Conference papers

- Chandel K.S. (2009): "Ethics in Commerce Education." Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

Unpublished dissertations and theses

- Kumar S. (2006): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

Online resources

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

Website

- Kelkar V. (2009): Towards a New Natural Gas Policy, Economic and Political Weekly, Viewed on February 17, 2011 http://epw.in/epw/user/viewabstract.jsp

COMMODITIES TRADING WITH SPECIAL REFERENCE TO ALUMINIUM

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ABSTRACT
Commodity trading is the modern technique of reducing risk. The first organized futures market in India was established in 1875 by the 'Bombay Cotton Trade Association' to trade cotton. With the aim to create a nationwide efficient commodity exchange, which could provide price discovery and offer price-risk management to all participants involved in the commodity business cycle, Multi Commodity Exchange (MCX) was created in 2003. The study is conducted to give the concepts of commodities trading in India, various trends in commodity trading with special reference to Aluminium, the Role of Commodities in Financial Markets, to study In Detail the Role of Options in Aluminium commodities with special reference to HINDALCO a leading company in Aluminum sector. With the help of this Study it was the found that Call Option is Profitable for Buyer and Put Option is Profitable for Seller.

KEYWORDS
Commodity derivatives, financial markets, Call option, Put options.

INTRODUCTION
India is a developing country. Many people want to invest in financial market on Equities to get high returns. A better alternative is commodity trading as valuation of shares in India is more event-driven making it difficult to anticipate. On the other hand laws of demand and supply rather than sentiment rule the commodities markets.

Commodity is consumer durable good" certain Commodities used in our day-to-day existence can double up as investment avenues. The Copper is the best non-precious metal conductor of electricity. The wheat used for our breakfast breads. The gold that adorns out watches and our jeweler, the crude energy that is refined to run our cars, are some of the commodities traded on popular Exchanges Worldwide.

THE HISTORY OF COMMODITIES TRADING

Historically, the biggest fortunes have been made in commodities trading. It started centuries before stock markets came into being. The first organized futures market in India was established in 1875 by the 'Bombay Cotton Trade Association' to trade in cotton. In mid 1960's, due to wars, natural calamities and the consequent shortages, futures trading in most commodities were banned. It took three decades before commodity futures could be re-initiated into Indian markets

REASONS FOR FAILURE OF COMMODITY FUTURES EXCHANGES SO FAR

- Single commodity exchanges with low liquidity.
- Open outcry trading, which restricted trading to specific regions and prevented national reach national reach.
- Dominance of speculators band inadequate participation from hedgers, resulted in high basis risk, as integration between physical and futures market was limited.
- Inefficient clearing and settlement procedures.
- Exchanges with inadequate infrastructure, logistics and financial funding

RECENT DEVELOPMENTS

Forward Market Commission (FMC) the governing body for commodity trading in India in 2002 set up a Nation-wide Multi Commodity Exchange (MCX). To create a nationwide efficient commodity exchange, to provide price discovery and offer price-risk management to all participants involved in the commodity business cycle. The issue of single commodity exchanges with low liquidity has been addressed. The modern exchanges will enable multiple commodities trading on online world standard trading platforms, with nationwide reach.

The exchanges will provide real time price and trade data dissemination. The new exchanges maintain capital settlement guarantee funds and have stringent capital adequacy norms for brokers, which ensure trade guarantee to participants.

The exchanges will enable deliveries in electronic form. The institutions managing the new exchanges comprise banks and government organizations, which bring with them institutional building experience, trust, nationwide reach, technology and risk management skills. The new exchanges will have rule-based management by professionals having no trade interest.

NEED FOR THE STUDY
Commodities' trading is the modern technique of reducing risk. Aluminum is a largely used metal because it is light and cheap. So, a study has been undertaken to study the pattern of commodity derivates in HINDALCO a leading company in Aluminum sector.

OBJECTIVES OF THE STUDY

The Study is focused on commodity market with special reference to Aluminum. This is another investment available for investors other than equities and debt instruments, where they need not invest huge amounts of money for long periods and can earn money with relatively less risk.

The study is conducted with the following objectives.

- To study the concepts of commodities trading in India.
- To study various trends in commodity trading with reference to Aluminum.
- To study the Role Of Commodities In Financial Markets
- To study the Role of Options in Aluminum commodities with special reference to HINDALCO.

METHODOLOGY

RESEARCH DESIGN: MEANING OF RESEARCH DESIGN

The formidable problem that follows the task of defining the research problem is the preparation of the design of the research project, popularly known as the "research design", decision regarding what where, how much, by what means concerning inquiry are research design. "A research design is the arrangement of condition or collection and analysis of data in manner that aims to combine relevance to research purpose with economy in procedure." In fact, the research design is the conceptual structure with in which research is conducted; it constitutes the blue print for collection, measurement and analysis to data. As such the design includes out line of what the researcher will do room writing the hypothesis and its operation and implication to the final analysis of data.

The research methodology is a way to systematically solve the research problem. It may be understood as the science of studying how research is done scientifically.

The studying on various steps that are generally adopted by a researcher is studying his research problem along with the logic behind them. It is necessary for the researcher to know not only research methods but also the methodology.

CONCEPTUAL FRAME WORK OF COMMODITY TRADING AND INTRODUCTION TO DERIVATIVES

The emergence of the market for derivative products, most notably forward, 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.

Through the use of derivative products, it is possible to partially of 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. Derivative products minimize the impact of

FLUCTUATIONS IN ASSET PRICES ON THE PROFITABILITY AND CASH FLOW SITUATION OF RISK-AVERSE INVESTORS

DERIVATIVES DEFINED: Derivative is a product whose value is derived from the value of one or more basic variables, called bases (underlying asset, index, or reference rate), in a contractual manner. The underlying asset can be equity, forex, commodity or any other asset. For example, wheat farmers may wish to sell their harvest at a future date to eliminate the risk of a change in prices by that date. Such a transaction is an example of a derivative. The price of this derivative is driven by the spot price of wheat which is the "underlying".

IN THE INDIAN CONTEXT THE SECURITIES CONTRACTS (REGULATION) ACT, 1956 (SC(R) A) defines "derivative" to include.

1. A security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security.
2. A contract which derives its value from the prices, or index of prices, of underlying securities.

TYPES OF DERIVATIVES: The most commonly used derivatives contracts are forwards, futures and options which we shall discuss in detail later. Here we take a brief look at various derivatives contracts that have come to be used.

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:

CALL OPTIONS: Calls give the buyer the right but not the obligation to buy a given a quantity of the underlying asset, at a given price on or before a given future date.

PUT OPTIONS: 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.

SWAPS: Swaps are private agreements 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:

1. Interest rate swaps
2. Currency swaps

DEFINITION:

Commodities can be defined as follows "A commodity is a consumer durable good"

SCOPE OF THE STUDY

The Study is focused on commodity derivatives i.e., Put option and Call Option of HINDALCO. The Study covers a period of 3 months from July 2009 to September 2009.

The Study has been observed on Option Price & Investors profit and their losses.

The scope of the Study is continuing towards price movement and market movement in Aluminum trading. Commodity derivatives is important place in derivatives trading, Aluminum is profitable Commodity Derivatives.

INDUSTRY PROFILE

Hindalco Industries Limited Established in 1958 at Renukoot in Eastern U.P. in 1962. The metals flagship company of the Aditya Birla Group, is an industry leader in aluminium and copper with a consolidated turnover of Rs.600,128 million (US$ 15 billion) and is the world's largest aluminium rolling company and one of the biggest producers of primary aluminium in Asia. Its copper smelter is the world's largest custom smelter at a single location.

DATA ANALYSIS & ANALYSIS

STUDY ON ALUMINIUM

INTRODUCTION

- Aluminum is the third most abundant element in the Earth's crust.
- Aluminum is light. Its density is only one third of steel. Aluminium is resistant to weather, common atmospheric gases and a wide range of liquids. Aluminium has a high reflectivity, and therefore finds more decorative uses. Aluminium has high elasticity. This is an advantage in structures under stock loads.

SUPPLY & DEMAND

GLOBAL SCENARIO

Aluminium occurs mainly in tropical and sub-tropical areas – Africa, West Indies, South America, and Australia. There are also some deposits in Europe.

- The leading producing countries include the United States Russia, Canada, the European Union, China, and Australia.
- Brazil, Norway, South Africa, Venezuela, the gulf states (Bahrain & United Arab Emirates), India and New Zealand together they represent more than 90% of the world primary aluminium production
- The largest Aluminium markets are North America, Europe and East Asia.
- The global production of Aluminium is about 27.7 and 28.9 million tons in 2005 and 2006 respectively.
- China, Russia, Canada and United States produced about 6.1, 3.6, 2.64 and 2.5 million tons of Aluminium in the year 2006 respectively.

INDIAN SCENARIO

- India is considered the fifth largest producer of aluminium in the World.
- The identified reserves are estimated to be 7.5% of the total deposits and installed capacity is about 3% of the world.
- In terms of demand and supply, the situation is not only self-sufficient. India's annual export of aluminium is about 82000 tones.
- India's annual consumption of aluminium is around 6.18 lakh tones and is projected to increase to 7.8 lakh tones by 2010.

WORLD ALUMINUM FUTURES MARKETS

LME, TOCOM, SHFE and NYMEX are the important international markets that provide direction to the aluminium prices.

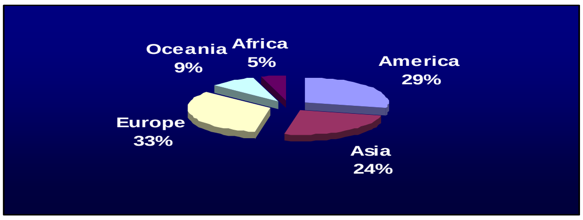
Factors Influencing Aluminium Markets:

- Aluminium prices in India are fixed on basis of the rates that are ruling on LME.
- Changes in the inventory stocks in LME, SHFE and TOCOM warehouses.
- World aluminium mine production through exploration of new mines and expansion of existing mine.
- Growth and demand in building, construction, packaging and transportation industry in major consuming countries such as China, Japan, Germany etc.

DATA ANALYSIS AND ANALYSIS

World Primary Aluminum Production:

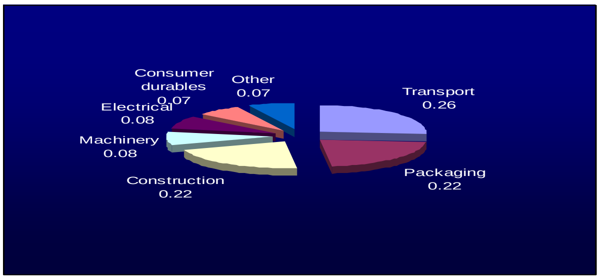
Region	%
America	29
Asia	24
Europe	33
Oceania	9
Africa	5
Total	**100**



ANALYSIS: The Aluminium is maximum produced in Europe 33% followed by America 29%, Asia 24%, Oceania 9% and Africa 5%.

Industry Consumption:

Industry	%
Transport	26
Packaging	22
Construction	22
Machinery	8
Electrical	8
Consumer durables	7
Other	7
Total	**100**



ANALYSIS: Transport Industry consumed maximum 26%, Packaging 22%, Construction 22%, Machinery8%, Electrical 8%, Consumer Durables 7% and other 7%.

TABLE 1: CALL & PUT OPTION FOR THE MONTH OF JULY, 2009

Date	Market Price	CALL OPTION STRIKE PRICE				PUT OPTION STRIKE PRICE			
		125	130	135	140	125	130	135	140
1-Jul	134.75	21.15	18.8	16.65	12.95	5.75	9.95	11.35	19.35
2-Jul	142.5	26.9	24.25	21.8	2.7	11.45	13.7	16.1	21.6
3-Jul	135.55	14.1	11.5	5.95	2.7	14.15	16.65	19.4	25.45
4-Jul	138.3	15.5	12.65	7.25	3.2	12.7	15.1	17.7	23.5
7-Jul	142.2	17.5	14.35	8.8	4.05	10.95	13.2	15.6	21.1
8-Jul	145.3	19.55	16.1	12	5.7	2.25	5	6	12.05
9-Jul	145.65	19.4	15.9	10.1	5.6	3	4.5	5	11.4
10-Jul	153.15	25.7	21.7	18	10.45	4.95	6.45	8.2	12.6
11-Jul	155.2	34.45	31.15	28.1	18.4	6.6	8.2	10.05	11.4
14-Jul	150.05	30.1	27	24.15	14.8	7.45	9.25	11.3	16.05
15-Jul	138.2	23.5	21	18.75	10.4	12.7	15.1	17.75	20.35
16-Jul	137.1	22.15	19.65	17.45	9.3	12.5	14.95	17.6	23.55
17-Jul	139.4	23.15	20.55	18.2	9.85	3.45	10.3	6	12
18-Jul	142.35	24.7	21.95	19.45	10.75	6.85	8.85	11.5	16.7
21-Jul	142.65	24.05	21.25	18.7	9.95	9.05	11.15	13.5	18.95
22-Jul	147.65	27.55	24.5	21.7	12.25	7.55	9.45	11.55	16.5
23-Jul	151.95	30.55	27.3	24.3	14.35	6.3	7.95	9.9	14.4
24-Jul	152.05	30.15	26.85	23.5	13.85	0.2	0.55	0.85	3
25-Jul	149.4	27.75	24.5	21.55	11.9	6.05	7.75	9.7	14.4
28-Jul	146.15	24.7	21.6	18.75	7.6	6.4	8.2	10.3	15.3
29-Jul	139.2	20.5	17.35	14.9	5.55	8.75	10.95	13.45	19.25
30-Jul	139.95	10	2.2	0.6	0.3	8.05	10.15	12.6	18.3
31-Jul	141.35	20.55	17.7	15.1	6	7.15	9.2	11.55	17.05

ANALYSIS:
CALL OPTION

BUYER'S PAYOFF: The above table shows the Market Price and Strike Price of Call Option of HINDALCO for the one month period from 1st July 2009 to 31st July 2009.

The Lot size is 1759 and the investors who buy the lot at a price of 140 will get premium of Rs.6 Per share.
The buyer Payoff is calculated using Black-Scholes model of option and future. The Settlement Price is 141.5.

The Black- Scholes equation for option on forward contracts is:

$$C = e^{-rt}[F_{0,t} N(d_1^*) - E N(d_2^*)]$$

Where
r = risk-free rate of interest
t = time until expiration for the forward and the option
$F_{0,t}$ = forward price for a contract expiring at time t
α = standard deviation of the forward contract's price

$$d^*_2 = d^*_1 - \sigma\sqrt{t}$$

$$d^*_1 = \frac{\ln(F/E) + .5\sigma^2 t}{\sigma\sqrt{t}}$$

If there were no uncertainty, $N(d_1^*)$ and $N(d_2^*)$ will equal 1 and the equation would simplify to:
$C_f = e^{-rt}[F_{0,t} - E]$

Strike Price	140
Spot Price	141.5
	-1.5
Premium	6
	-7.5
Loss (-7.5*1759)	-13192.5

Because it is negative it is out the money contract hence buyer will get loss in case spot price increase buyer loss will decrease.

SELLERS PAYOFF: It is out of the money for buyer so it is in the money for the seller. Hence he is in loss the Profit is equal to the loss of buyer 13192.5

PUT OPTION

BUYER'S PAYOFF: The above Table Shows the Market Price and Strike Price of Put Option of HINDALCO for the one Month period from 1st July 2009 to 31st July 2009.

The Lot size is 1759 and the Investors who buy the lot at a price of 130 will get Premium of Rs.9.2 per share.
The buyer Payoff is calculated using Black-Scholes model of option and future. The Settlement Price is 141.35. (Black-Scholes model mentioned under Table 1)

Spot Price	141.35
Strike Price	130
	11.35
Premium	9.2
	2.15
Profit (2.15*1759)	3781.85

Because it is Positive it is in the money contract hence buyer will get profit, in case Spot Price increase Buyer loss will decrease.

SELLERS PAYOFF: It is in of the money for Buyer so it is Out the money for the Seller. Hence Seller is in loss, the Profit is equal to the loss of Seller 3781.85

TABLE 2: CALL & PUT OPTION FOR THE MONTH OF AUGUST, 2009

Date	Market Price	CALL OPTION STRIKE PRICE				PUT OPTION STRIKE PRICE			
		130	135	140	150	130	135	140	150
1-Aug	141	15.9	16.95	14.35	10.1	15.9	16.95	14.35	10.1
4-Aug	142.15	20	12.75	14.3	9.9	20	12.75	14.3	9.9
5-Aug	142.45	19.75	20.55	13.95	9.5	19.75	20.55	13.95	9.5

6-Aug	141.75	15.1	15.8	13.1	8.7	15.1	15.8	13.1	8.7
7-Aug	142.45	15.35	15.85	10.65	8.6	15.35	15.85	10.65	8.6
8-Aug	144.85	20.55	20.9	18.1	13.3	20.55	20.9	18.1	13.3
11-Aug	144.45	16.25	12.35	9.8	4.95	16.25	12.35	9.8	4.95
12-Aug	142.4	14.3	14.55	11.7	7.2	14.3	14.55	11.7	7.2
13-Aug	139.6	19	16.1	13.55	9.35	19	16.1	13.55	9.35
14-Aug	135.95	16.45	13.8	11.45	7.75	16.45	13.8	11.45	7.75
18-Aug	129.55	7.6	2.1	4.55	2.25	7.6	2.1	4.55	2.25
19-Aug	132.55	4.4	8.2	4.55	2.6	4.4	8.2	4.55	2.6
20-Aug	133.6	14.8	12.3	10.15	6.7	14.8	12.3	10.15	6.7
21-Aug	128.45	6.2	6.1	3.5	2.25	6.2	6.1	3.5	2.25
22-Aug	134.65	16.35	13.85	11.6	8.05	16.35	13.85	11.6	8.05
25-Aug	134.5	15.6	13.05	10.85	7.3	15.6	13.05	10.85	7.3
26-Aug	135.6	15.9	13.25	10.95	7.3	15.9	13.25	10.95	7.3
27-Aug	139.2	8.75	3.8	0.55	0.05	8.75	3.8	0.55	0.05
28-Aug	120.6	3.9	5.75	4.6	0.7	3.9	5.75	4.6	0.7
29-Aug	122.4	10.8	9	4.9	1.05	10.8	9	4.9	1.05

ANALYSIS:
CALL OPTION
BUYER'S PAYOFF: The above Table Shows the Market Price and Strike Price of Call Option of HINDALCO for the one Month period from 1st August 2009 to 29th August 2009.
The Lot size is 1759 and the Investors who buy the lot at a price of 135 will get Premium of Rs.9 per share.
The buyer Payoff is calculated using Black-Scholes model of option and future. The Settlement Price is 122.4. (Black-Scholes model mentioned under Table 1)

Strike Price	135
Spot Price	122.4
	12.6
Premium	9
	3.6
Profit (3.6*1759)	6332.4

Because it is Positive it is in the money contract hence buyer will get profit, in case Spot Price increase Buyer loss will decrease.
SELLERS PAYOFF: It is In of the money for Buyer so it is Out the money for the Seller. Hence Seller is in loss, the Profit is equal to the loss of Seller 6332.4
PUT OPTION
BUYER'S PAYOFF: The above Table Shows the Market Price and Strike Price of Put Option of HINDALCO for the one Month period from 1st August 2009 to 29th August 2009.
The Lot size is 1759 and the Investors who buy the lot at a price of 135 will get Premium of Rs.9 per share.
The buyer Payoff is calculated using Black-Scholes model of option and future. The Settlement Price is 122.4. (Black-Scholes model mentioned under Table 1)

Spot Price	122.4
Strike Price	135
	-12.6
Premium	9
	-21.6
Loss (-21.6*1759)	37994.4

Because it is Negative it is out the money contract hence buyer will get Loss, in case Spot Price increase Buyer loss will decrease.
SELLERS PAYOFF: It is Out of the money for Buyer so it is In the money for the Seller. Hence Seller is in Profit, the Profit is equal to the loss of Buyer 37994.4

TABLE 3: CALL & PUT OPTION FOR THE MONTH OF SEPTEMBER, 2009

Date	Market Price	**CALL OPTION STRIKE PRICE**				**PUT OPTION STRIKE PRICE**			
		110	**115**	**120**	**130**	**110**	**115**	**120**	**130**
1-Sep	122.15	20.25	17.2	14.5	10.05	20.25	17.2	14.5	10.05
2-Sep	123.85	21.25	18.1	15.25	10.55	21.25	18.1	15.25	10.55
4-Sep	126.7	23.3	19.9	16.85	11.8	23.3	19.9	16.85	11.8
5-Sep	123.7	20.85	17.65	14.8	10.1	20.85	17.65	14.8	10.1
8-Sep	125.85	22.15	18.8	15.75	10.75	22.15	18.8	15.75	10.75
9-Sep	126.1	22.05	18.6	15.55	9.15	22.05	18.6	15.55	9.15
10-Sep	124.75	20.75	17.35	14.3	9.45	20.75	17.35	14.3	9.45

11-Sep	122.35	18.7	15.45	12.6	8.05	18.7	15.45	12.6	8.05
12-Sep	121.35	17.65	14.45	11.65	7.25	17.65	14.45	11.65	7.25
15-Sep	115.3	14.04	11.4	9.1	5.65	14.04	11.4	9.1	5.65
16-Sep	113.65	12.7	10.15	8.04	4.8	12.7	10.15	8.04	4.8
17-Sep	112.7	11.8	9.3	7.25	4.2	11.8	9.3	7.25	4.2
18-Sep	112.5	11.3	8.8	6.8	3.8	11.3	8.8	6.8	3.8
19-Sep	112.95	11.3	8.75	6.7	3.7	11.3	8.75	6.7	3.7
22-Sep	110.5	9.55	7.25	5.35	2.8	9.55	7.25	5.35	2.8
23-Sep	108.45	8.2	6.1	4.45	2.2	8.2	6.1	4.45	2.2
24-Sep	108.75	8.05	5.9	4.25	2.05	8.05	5.9	4.25	2.05
25-Sep	104.3	6.25	4.55	3.25	1.55	6.25	4.55	3.25	1.55
26-Sep	99.35	6.65	5.2	2.5	1.2	6.65	5.2	2.5	1.2
29-Sep	96.7	3.7	2.6	1.8	0.85	3.7	2.6	1.8	0.85
30-Sep	98.25	4	2.85	1.95	0.9	4	2.85	1.95	0.9

ANALYSIS

CALL OPTION:

BUYER'S PAYOFF: The above Table Shows the Market Price and Strike Price of Call Option of HINDALCO for the one Month period from 1st September 2009 to 30th September 2009.

The Lot size is 1759 and the Investors who buy the lot at a price of 110 will get Premium of Rs.4 per share.

The buyer Payoff is calculated using Black-Scholes model of option and future. The Settlement Price is 98.25. (Black-Scholes model mentioned under Table 1)

Strike Price	110
Spot Price	98.25
	11.75
Premium	4
Profit (7.75*1759)	13632.25

Because it is Positive it is in the money contract hence buyer will get profit, in case Spot Price increase Buyer loss will decrease.

SELLERS PAYOFF: It is In of the money for Buyer so it is Out the money for the Seller. Hence Seller is in loss, the Profit is equal to the loss of Seller 13632.25

PUT OPTION:

BUYER'S PAYOFF: The above Table Shows the Market Price and Strike Price of Put Option of HINDALCO for the one Month period from 1st September 2009 to 29th Septembe2009.

The Lot size is 1759 and the Investors who buy the lot at a price of 110 will get Premium of Rs.4 per share.

The buyer Payoff is calculated using Black-Scholes model of option and future. The Settlement Price is 98.25. (Black-Scholes model mentioned under Table 1)

Spot Price	98.25
Strike Price	110
	-11.75
Premium	4
	-15.75
Loss (-15.75*1759)	-27704.25

Because it is Negative it is out the money contract hence buyer will get Loss, in case Spot Price increase Buyer loss will decrease.

SELLERS PAYOFF: It is Out of the money for Buyer so it is In the money for the Seller. Hence Seller is in Profit, the Profit is equal to the loss of Buyer 27704.25

CALL OPTION: CALL OPTION FOR THE LOT SIZE OF 1759

Months	Buyer's Payoff	Profit/Loss
July	13192.5	Loss
August	6332.4	Profit
September	13632.25	Profit

ANALYSIS: The above table shows the Buyer's pay off Call Option from July-2009 to September-2009. By Observing 3 month for lot size of 1759 the Call Option is for Buyer is Profitable. The seller is getting loss here.

PUT OPTION: PUT OPTION FOR A LOT SIZE OF 1759

Months	Buyer's Payoff	Profit/Loss
July	3781.85	Profit
August	37994.4	Loss
September	27704.25	Loss

ANALYSIS: The above table shows the Buyer's payoff for Put Option for the month of July-2009 to September-2009. By Observing 3 month for lot size of 1759 the Put Option is for Buyer loss. The seller is getting Profit here.

FINDINGS

- Commodity Derivatives occupy an important place in derivatives trading. Derivatives offer less risk when compared to other securities.
- Aluminium is the third most abundant elements in the earth's crust. It is light in nature. India's annual export of Aluminium is 82,000 tones.
- Aluminium derivatives are found out to be profitable commodity derivatives.
- The calculation of Call Option for the month of July shows a loss to the buyer and Profit to the seller.
- Call Option for the month of August 2009 shows a profit of 6332.4 on a lot size of 1759 to the buyer and the Seller is getting loss here.
- Call Option in the month of September 2009 shows a profit of 13632.25 for the buyer on a lot size of 1759. The shows a Loss to the Seller.
- Put Option for the month of July 2009 shows a Profit of 3781.85 for the Buyer on a lot size of 1759 and shows a position of loss to the seller.
- Put Option for the month of August 2009 shows a Loss of 37994.4 for the Buyer on a lot size of 1759 and Profit for the Seller.
- Put Option for the month of September 2009 shows a Loss of 27704.25 for the Buyer on a lot size of 1759 and Profit for the Seller to the same amount

SUGGESTIONS

- Lot size can be reduced, because small investor can't afford this investment.
- Physical delivery of commodities service can be increased to attract more investors.
- Commodity trading is started in IIPCL recently. So the company can follow advertisement procedures to Create awareness about the commodities to the customers.
- Call Option is better for the investors as it is showing positive Buyer's payoff.

CONCLUSION

With the help of this Study it was the found that Call Option are Profitable for Buyer and Put Option is Profitable for Seller. The Study shows that HIDALCO Call Option and Put Option actively traded in the stock market. Aluminium Options offer minimum risk and scope for earning more profits are in commodities trading. But the status of Commodity market is not that developed when compared to stock market and foreign exchange market. The Organizations dealing with Commodity market have to develop customer's awareness and thus can try to increase the reach ability to individual customers.

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