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Options in Derivative Market: A Study on Working and Trends in Option Contracts

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ABSTRACT
Indian derivative market is very vast market. Many assets,securities, products and services are offered in derivative market to the various traders and investors. In India derivative products are offered by both BSE (Bombay stock exchange) and NSE (national stock exchange). Derivatives are classified into two parts Commodity derivatives and financial derivatives. Commodity derivatives are dealt in commodities like soybean, turmeric, oats corns. Financial derivatives include securities, bonds, treasure, foreign exchange, stock index etc. All financial derivatives are performed with the help of futures; options .this paper manly concentrates option contracts. NSE and BSE are also dealt in futures and options. This paper only considers the trends and working of option contracts in BSE. Option contracts are a right to buy or sell security on or before expiry of period at a predetermined price which is called strike price. Options are not an obligation. Call option and put option are two basic positions which are used by trader to manage the risk of buying and selling of underlying asset or security. This paper shows the working and trends of options as indexed options and equity options in BSE.

Keywords: Options, call option, derivatives, hedging, put option, securities, equity.

1. INTRODUCTION

Derivatives are financial instruments that derive their value from an underlying asset that’s why derivatives are called derivatives. Derivatives can be classified into two parts Commodity derivatives and financial derivatives. Commodity derivatives deals in commodities like crude oil, beans, corns, etc.only commodity futurescomes under SEBI regulations not any on spot transaction derivatives comes under SEBI. Financial derivatives entirely comeunder SEBI. The underlying asset can be a commodity, security, currency, or index. Derivatives can be used for hedging purposes or for speculation.

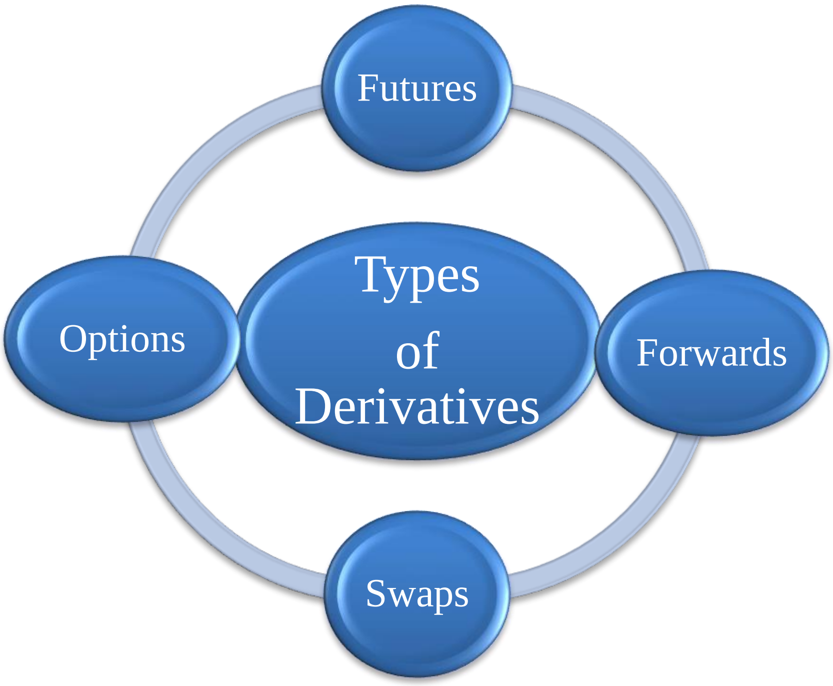
1.1.ORIGIN OF DERIVATIVES IN INDIA

The derivative market in India started in the early 1990s. The first derivatives contract was launched on the Bombay Stock Exchange (BSE) in June 2000. Since then, the derivative market in India has grown at very good pace. In India, Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) offer derivatives trading facilities. NSE’s derivates platform is called Nifty Futures and Options (F&O). BSE offers F&O trading on its own exchange as well as on NSE’s exchange. In India Derivative market provides different types of instruments to help investors to hedge (to cover) risk and speculate on price movements. This study is entirely based on option contracts, theirworking, types, and trends in options whether it isindexed trading or equity trading in option contracts. There are basicallyfour types of instruments in derivative market. These are discussed as follows in brief:

A **Forward contract** is an agreement between two parties to buy and sell a specified asset at a specified price on a specified future date.

Futures are standardized contracts that are listed for trading on exchanges through brokers. Thus Futures are standardized form of Forward contracts.

- **Options** are defined as a right not an obligation to the trader for buying and selling of an asset or security for predefined price on or before expiry date.



- **Swaps** are customizable derivative contracts between two parties to exchange liabilities or cash flows in the future. Swaps are based on underlying assets such as commodities, equities, interest rates, currencies etc. they are traded over-the-counter primarily between financial institutions or businesses.

2. OPTIONS IN INDIAN DERIVATIVE MARKET

Option Contracts or options are the instruments that provide right to buyer or seller to buy or sell security at a specified price on or before specified date but option is not an obligation. In derivative market options are a financial innovation which gives right to buy or sell an asset not any obligation.Option contracts can be traded both on exchanges and in over the counter market. There are two main types of options which are mainly used for option trading. These types are call option and put option. Call options provide you a right not an obligation to purchase an asset or security on a specified price on or before predetermined date. Whereas put option refers to a right to sell an asset or security at a predetermined price at a future date.

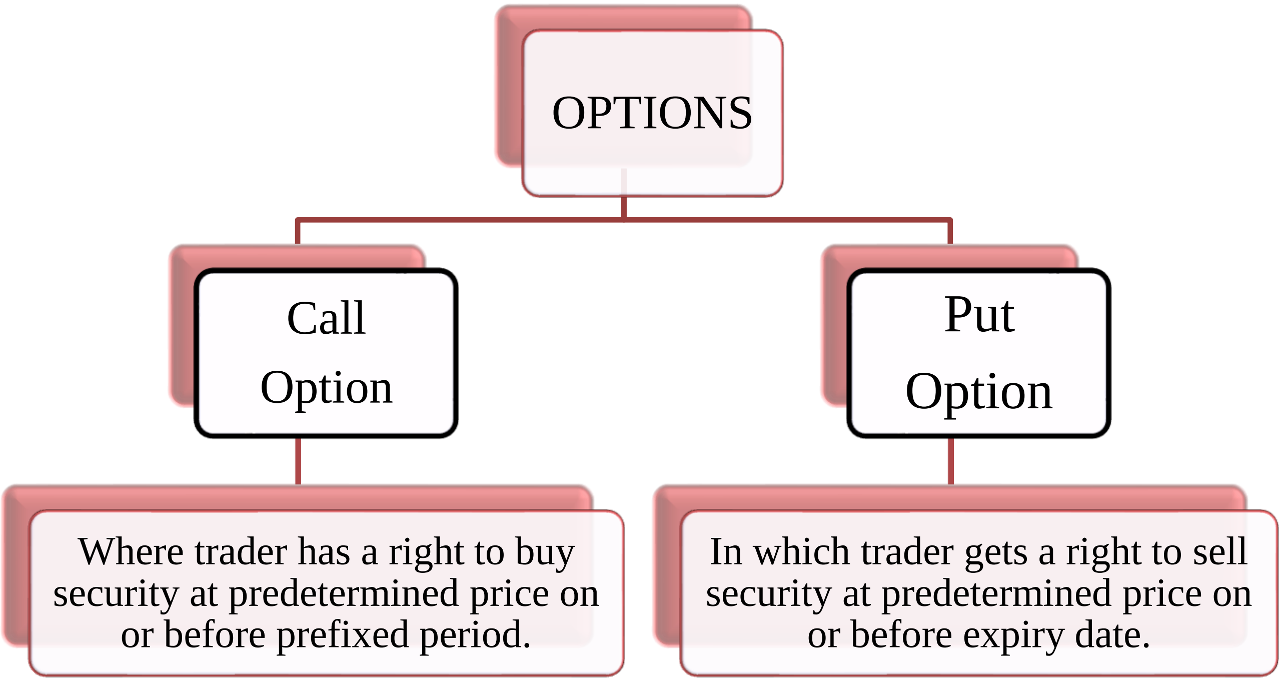
2.1 KEY CONSIDERATIONS

Following are some key considerations which are necessary to keep in mind while trading option contracts.

Indexed options: Investor cannot buy or sell index option before expiry date of underlying asset. Intrinsic value of security or asset will be debited or credited on expiry of predetermined period.
Equity options: Equity or stock options are traded on exchanges. Investor has to sell or buy there asset on within predetermined time period at a strike price.
Strike price: strike price is a predefined price at which trader can buy or sell the underlying security or asset.
Predetermined period: Predetermined period is an expiry date on or before investor has to exercise the right to sell or buy the security.
Premium: premium means a fixed is paid to exercise the right upon underlying asset. If trader does not exercise the right he or she loses the premium amount.

2.2 TYPES OF OPTION CONTRACTS
There are two basic ways to perform option contracts:

2.2.1. CALL OPTION: Call option means owner gets a right to buy not an obligation which means that owner has right to buy the underlying security but it is not mandatory to buy security. If security is not giving profit then owner can ignore the expiry date. Let it understand with the help of an example, suppose Mr. A is an investor who buys the call option of RST co. at strike price of Rs. 1000 and expiry date is one year later. On or before expiry date if security priceraises more than Rs.1000 says 1210 then investor can still buy the security on strike price not on current price.



2.2.2. PUT OPTION: It refers to when investor gets right to sell underlying security or asset on strike price on or before specified date. This is not an obligation to sell underlying security.For example : Mr. A buys put option at a strike price of Rs. 1000 of RST co. for specified period of one year .suppose if price of underlying security falls to 950 still investor can sell the security at Rs. 1000.

3. LITERATURE REVIEW

(Hull, 2018), "Options futures and other derivatives" this book explained all aspects of derivatives. All types of derivatives are discussed in detail. For this paper we have only concentrated on options. In which author explained key points of options likes call options, put options, buying and selling positions for calla and put options. Strike price, specified price, Expiry date etc...

(The economic times, 2023), "What is hedge?" this article focused on risk managing technique hedging which plays an important role in managing risk in trading. In trading, risk arises due to adverse fluctuations in prices of assets and securities. Hedging is a good solution to minimize risk of price fluctuations. This article explained working and way of managing risk by using hedging in depth.

(Margrabe, 1978) "The value of an option to exchange one asset for another" formulated a model which described that option is not only a call option on an asset but also a put option on others. This model was an extension of black schools model. He took the assumptions and notations from black schools model as base. In this paper, author tried to provide best solution for value of one asset for exchange and value of other assets.

(bansal, 2020)"A trend of growth in derivative market" described that derivative is a financial security which can be used to hedge a position, speculate on fluctuations in underlying securities and assets. In 1875, derivative market formed in India. There are four types of derivatives which are used to provide hedge for price fluctuations of underlying asset these are forwards and futures, options and options. Authors specifically collected data from BSE and NSE to study the trends of growth in derivative market.

4. OBJECTIVES OF THE STUDY

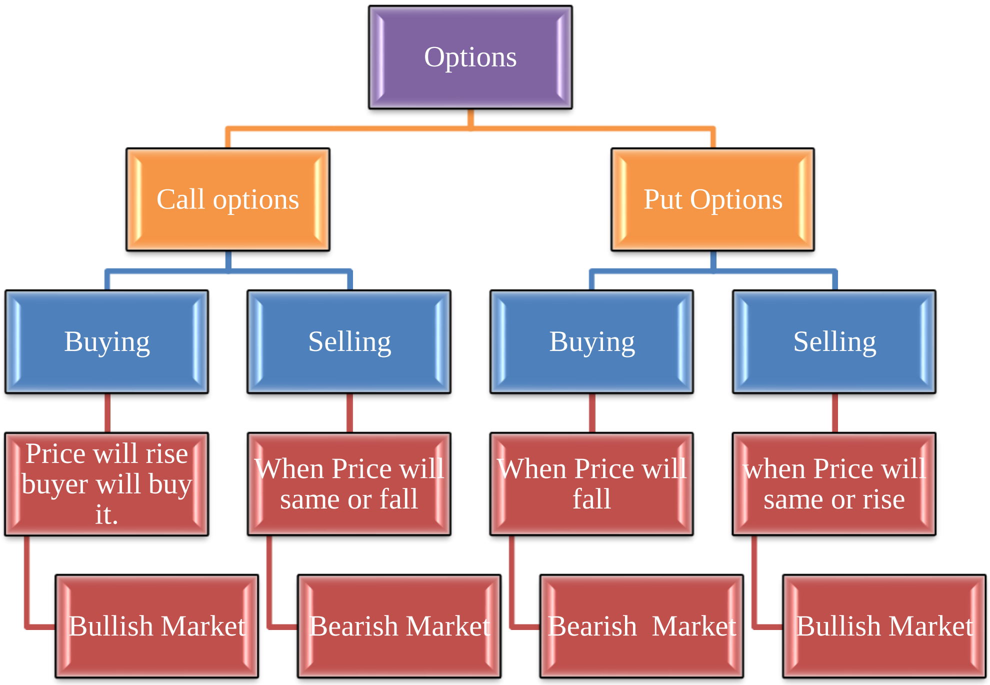
- To emphasis on working of options in Indian derivative market.
- To show the trends in option contracts.

5. RESEARCH METHODOLOGY

Descriptive research design is used to conduct this study. Entire data is collected from secondary sources for last 10 years i.e. BSE website, other websites, research journals, articles, books, newspapers etc...Both Historical and quantitative research has been used for analysis of secondary data. No reliability, validity and sample have been considered because data is directly collected from BSE website.

6. WORKING OF OPTIONS IN INDIAN DERIVATIVE MARKET

Options are an integral part of financial derivatives. There are number of other derivative players but options safer than others. If options and stock transactions are compared on ground of entry cost then Investors can easily enter in option trading with low entry cost. Options are more risk hedging derivative because it minimize the risk of adverse price fluctuations. It can be easily understandable with the help of working process of different ways of options. The use of different ways and positions of options are explained with diagram as below:



BUYING A CALL OPTION: Buying a call option works in bullish market because buyer will only buy if value of asset or security will rise in future. Mr. X is a trader he analyzed the market conditions of Y Ltd. And conclude that value of Y Ltd security will rise in future then he exercises his buying right in present at strike price for predefined period.

SELLING A CALL OPTION: Selling a call option believes that price of security will fall in future or remains same. Let's take an example Ms. G has some securities of Y Ltd and analyzed the market conditions of Y Ltd. And make a conclusion that prices of that company can fall in future. So she sells underlying securities of that company on or before expiry date at a prefixed price.

BUYING A PUT OPTIONmeans investor will buy the asset only price will fall. Otherwise he/she will drop out the right of buying a put option. Suppose Mr. Q buys a put option for particular time at a specified strike price if on or before expiry of particular time price of security falls only then he will buy the security.

SELLING A PUT OPTION is defined as an investor exercise his/her right to sell an underlying security only if price will same or rise on or before expiry date of option contract.

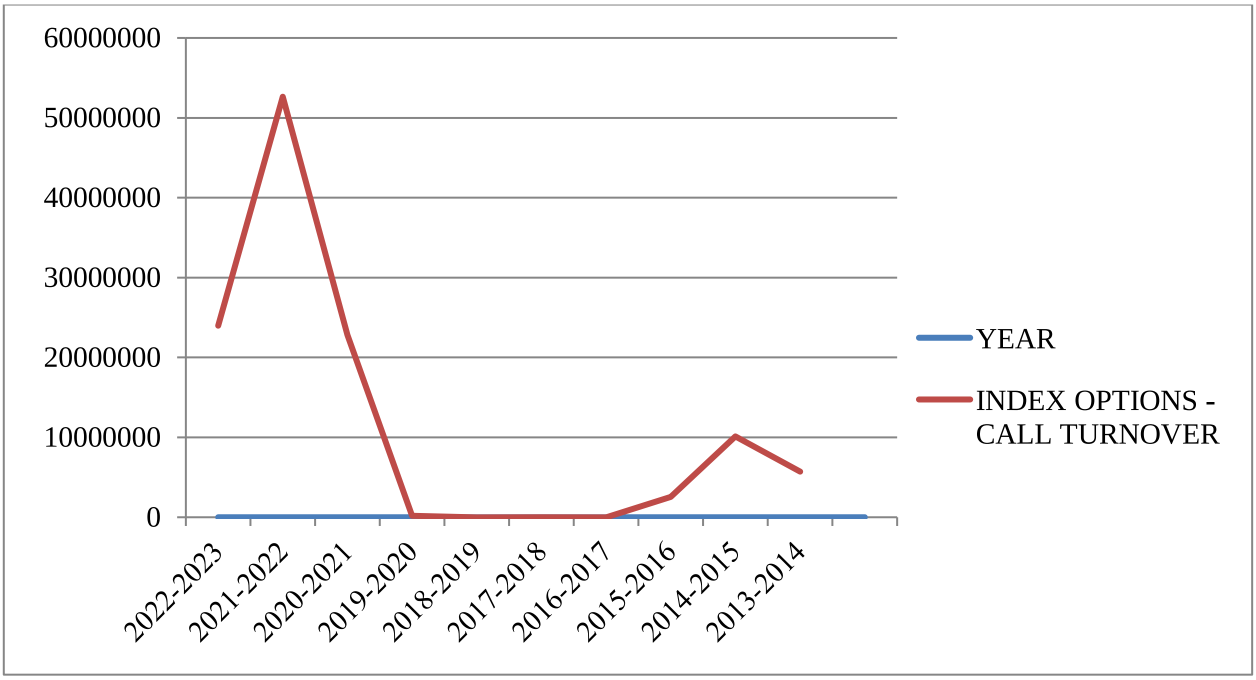
7. TRADING AND TRENDS IN OPTION CONTACTS

On 15 august 2023 we celebrated our 76th independence day. Indian stock market is developing day by day .in India stock trading was started in 1855 under the British rule. But real growth was noticed after independence. BSE and NSE are two leading stock exchanges in India which deals in futures and options. This study entirely based on working and trends of option contracts in BSE. So from the following trends of different types of options contracts for last 10 years are shown with the help of table and graphs:

Equity Derivatives Turnover (BSE)									
Year	**Index Options - Call Contracts**	**Index Options - Call Turnover**	**Index Options - Put Contracts**	**Index Options - Put Turnover**	**Equity Options - Call Contracts**	**Equity Options - Call Turnover**	**Equity Options - Put Contracts**	**Equity Options -Put Turnover**	**Trading Days**
2022-2023	250324175	23977300.64	122260276	10337953.68	-	-	1	0.05	249
2021-2022	516462443	52641382.41	154054127	13436451.92	-	-	-	-	248
2020-2021	202422872	22812071.47	135684457	12243087.33	-	-	-	-	248
2019-2020	2032161	200440.08	480178	45522.49	8473	626.11	7876	583.25	247
2018-2019	19158	1308.5	11298	884.63	2	0.08	-	-	248
2017-2018	82	5.92	32	2.29	3	0.18	-	-	246
2016-2017	24433	1254.9	63916	3214.45	-	-	-	-	248
2015-2016	58773325	2560540.69	44654651	1825708.19	1009439	31904.16	1413452	42408.53	247
2014-2015	244203156	10112605.13	254031531	10016621.34	3010092	93854.5	2700450	81233.84	243
2013-2014	182685008	5705316.57	113674567	3349884.04	667365	22185.51	877355	23945.18	251

Table -1

Source: Compiled from BSE website
https://www.bseindia.com/markets/keystatics/Keystat_turnover_deri.aspx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2021-2022
2020-2021
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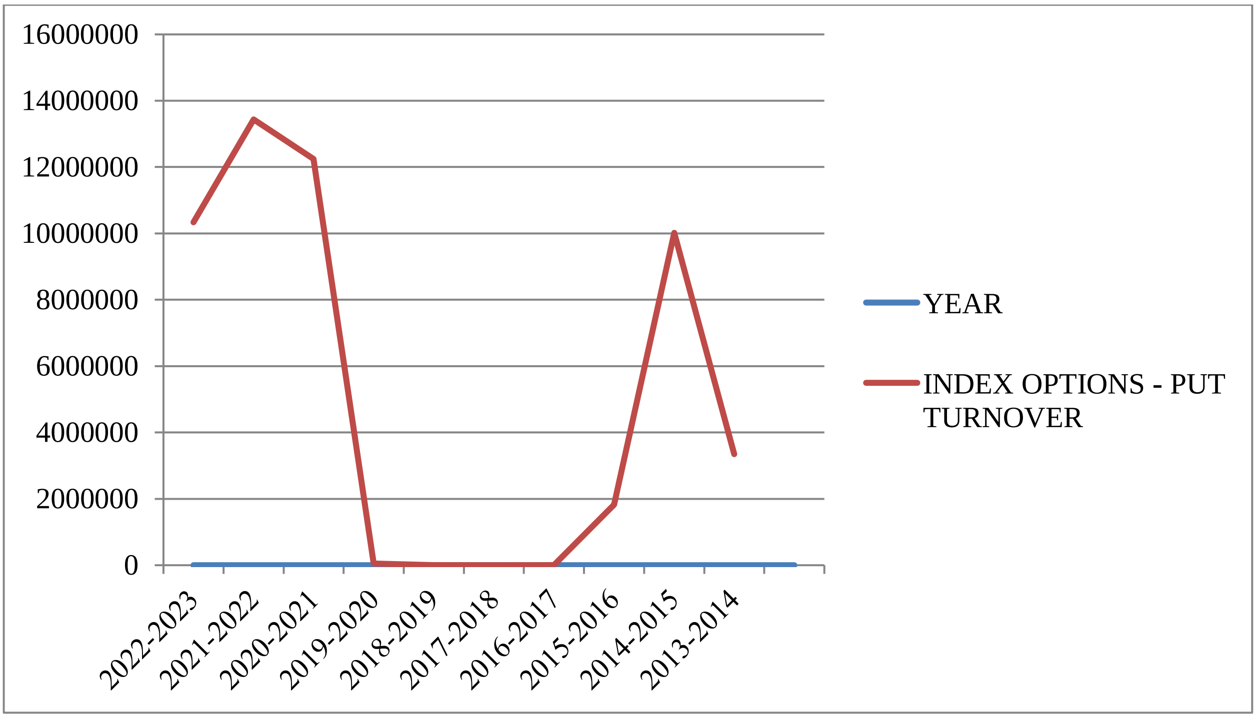
YEAR
INDEX OPTIONS - CALL TURNOVER

Fig.1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2016-2017
2015-2016
2014-2015
2013-2014
YEAR
INDEX OPTIONS - PUT TURNOVER

Fig.2

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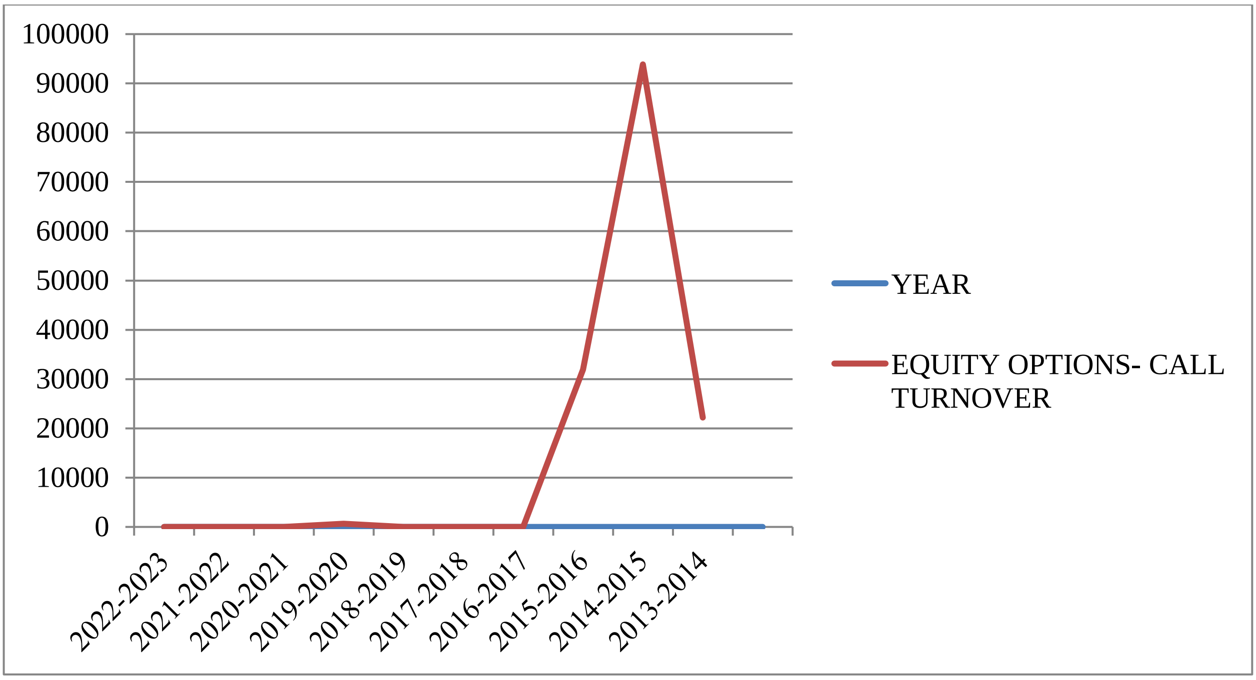

Fig.3

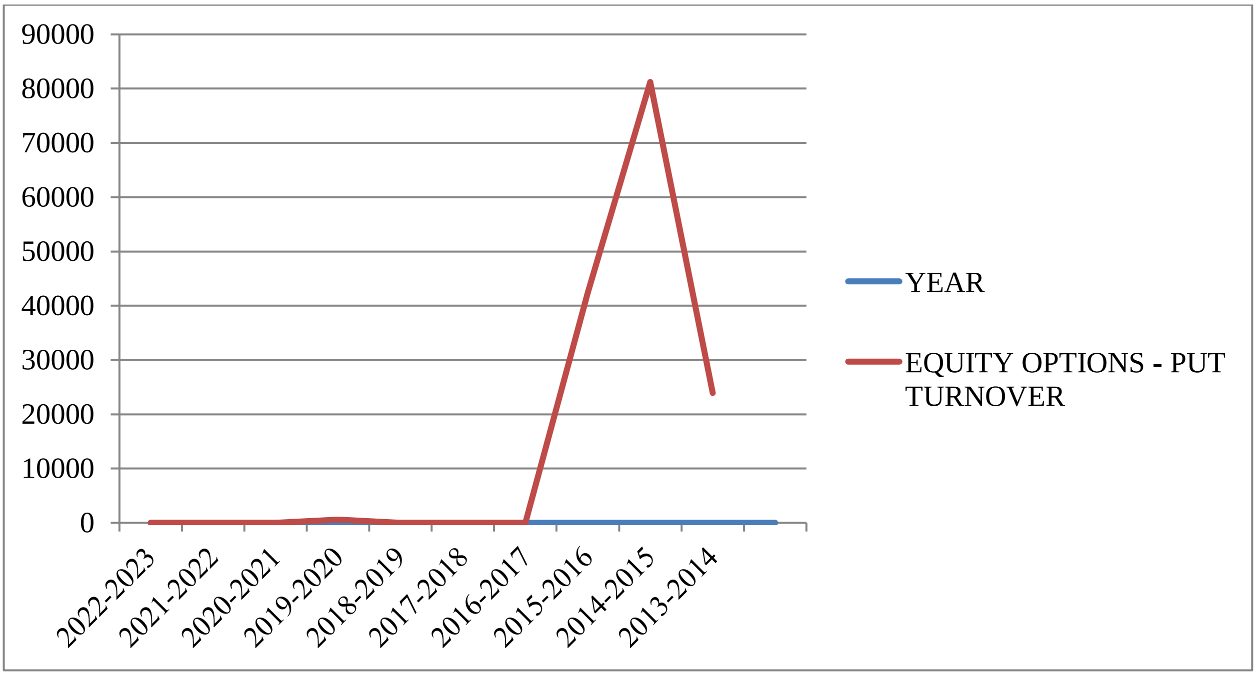

Fig.4

7.1 Explanation of Table and Graph-

As per the data given in the year 2013-14 there were total 182685008 contracts in **Index Call Options** which generates turnover of Rs. 5705316.57 and in the same year 113674567 contracts of **Index Options - Put Contracts** generates the turnover of Rs. 3349884.04.

In the same year total contracts in **Equity Options - Call Contract** were 667365 with the total turnover Rs. 22185.51 and 877355 contracts in **Equity Options - Put Contracts** generated **Rs.** 23945.18. Total no. of trading days in the year was 251.

In the year 2022-23 there were total 250324175 contracts in **Index Call Options** which generates turnover of Rs. 23977300.64 and in the same year 122260276 contracts of **Index Options - Put Contracts** generates the turnover of Rs. 10337953.68.
If we see first quarter of 2023-24 total 673725097 contracts of indexed Call options have generated 44617212.71 turnovers this year till the end of first quarter and in case of Put contracts 651092764 contracts generated 42793944.36 turnovers.
It shows significant growth rate in Index options in Indian derivative market in context to BSE. Options have great future in Indian derivative market. Thus we can say that options are the one of the instrument of derivative market instruments which can help investors in hedging their investments in best possible way.

8. CONCLUSION:

Options are important financial instrument of Indian derivative market. Basically BSE and NSE are covered major fluctuations of derivative market. In both stock exchanges, trading can be done by using options. But this study on consider the data of BSE and comparison is made between indexed options and equity options with the help of diagrams and tables. This study shows that option trading is growing day by day. There are many reasons behind it but one of these reasons is options trading provide risk management with the use of different ways of option contracts i.e. call option and put option. If investor does not exercise his/her right to sell/buy then he/she will only loss the amount of premium nothing else. Trends for the year 2023-24 was not shown in above table because available data is of first quarter which is not comparable but still we can say that call options and put options in first quarter are showing positive moves.

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