IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 3, Issue 3. (Mar-Apr. 2014), PP 25-42
www.iosrjournals.org

A Study of Derivatives Market in India and its Current Position in Global Financial Derivatives Markets

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Abstract: *The past decade has witnessed the multiple growths in the volume of international trade and business due to the wave of globalization and liberalization all over the world. As a result, the demand for the international money and financial instruments increased significantly at the global level. In this respect, change in exchange rates, interest rates and stock prices of different financial markets have increased the financial risk to the corporate world. Adverse changes in the macroeconomic factors have even threatened the very survival of business world. It is therefore essential to develop a set of new financial instruments known as derivatives in the Indian financial markets, to manage such risk. The basic purpose of these instruments is to provide commitments to prices for future dates for giving protection against adverse movements in future prices, in order to reduce the extent of financial risks. Today, the financial derivatives have become increasingly popular and most commonly used in the world of finance. This has grown with a phenomenal speed all over the world that now it is called as the derivatives revolution. In India, the emergence and growth of derivatives market is relatively a recent phenomenon. Since its inception in June 2000, derivatives market has exhibited exponential growth both in terms of volume and number of contract traded. The market turnover has grown from Rs.2365 Cr. in 2000-2001 to Rs. 26444804.86 Cr. in 2013-14. Within a short span of twelve years, derivatives trading in India has surpassed cash segment in terms of turnover and number of traded contracts. The passed study encompasses in its scope, history, concept, definition, types, features, regulation, market, trend, growth, Future prospects and challenges of derivatives in India and status of Indian derivatives market vis-à-vis global derivative market.*

Keywords: Bombay stock exchange, Derivatives, Exchange rate, Forward, Futures, National stock exchange, Notional value underlying asset, Options, Risk management, Swaps.

I. Introduction

The most significant milestone in financial innovation is achieved with the issuance and trading of derivatives. Along with this positive element, the proponents of derivatives also admit that this term arouses more controversies and most people look at them with suspicion and few would believe that they do contribute to the society's welfare. But the matter of fact is that derivatives are a standard risk management tool that enables risk- sharing and facilitates the efficient allocation of capital to productive investment activities. In this study, we will try and examine the veracity of a few misconceptions that surround derivatives along with their economic benefits.

The present study attempts to discuss the genesis of derivatives trading by tracing its historical development, types, regulation and policy developments, trend & growth, future prospects and challenges of derivative market in India.

II. Methodology

The study is organized into five sections. Section - I deals with the concept, features, definition, types and classification of derivatives. Section - II has been devoted to a discussion of evolution and growth of derivatives market, and regulation and policy development. Section - III discusses the statistical information (data). Section - IV discusses the status of Indian derivative market vis–a-vis global derivative market. The last Section - V specifies summary and concluding remarks.

SECTION-I

Concept of Financial Derivatives: At present the Indian stock markets are not having any risk hedged instruments that would allow the investors to manage and minimize the risk. In industrialized countries apart from money market and capital market securities, a variety of other securities known as 'derivatives' have now become available for investment and trading. The derivatives originate in mathematics and refer to a variable which has been derived from another variable. A derivative is a financial product which has been derived from another financial product or commodity. The derivatives do not have independent existence without underlying product and market. Derivatives are contracts which are written between two parties for easily marketable

assets. Derivatives are also known as deferred delivery or deferred payment instruments. Since financial derivatives can be created by means of a mutual agreement, the types of derivative products are limited only by imagination and so there is no definitive list of derivative products.

A derivative is a financial product which has been derived from another financial product or commodity.

D.G. Gardener defined the derivatives as "A derivative is a financial product which has been derived from market for another product."

The securities contracts (Regulation) Act 1956 defines "derivative" as under section 2 (ac). As per this "Derivative" includes

(a) "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."

(b) "a contract which derived its value from the price, or index of prices at underlying securities."

The above definition conveys that the derivatives are financial products. Derivative is derived from another financial instrument/ contract called the underlying. A derivative derives its value from underlying assets.

Accounting standard SFAS133 defines "a derivative instrument is a financial derivative or other contract which will comprise of all three of the following characteristics:

(i) It has one or more underlying asset, and one or more notional amount or payments provisions or both. Those terms determine the amount of the settlement or settlements.

(ii) It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contract that would be expected to have a similar response to changes in market factors.

(iii) Its terms require or permit net settlement. It can be readily settled net by a means outside the contract or it provides for delivery of an asset that puts the recipients in a position not substantially different from net settlement.

From the aforementioned, derivatives refer to securities or to contracts that derive from another whose value depends on another contract or assets. As such the financial derivatives are financial instrument whose prices or values are derived from the prices of other underlying financial instruments or financial assets. The underlying instruments may be an equity share, stock, bond, debenture, Treasury bill, foreign currency or even another derivative asset.

Hence, financial derivatives are financial instruments whose prices are derived from the prices of other financial instruments.

As defined above, its value is entirely derived from the value of the underlying asset. The underlying asset can be securities, commodities, bullion, currency, livestock or anything else. In other way the underlying asset may assume many forms:

(i) Commodities including grain, coffee beans, orange juice;

(ii) Precious metals like gold & silver;

(iii) Foreign exchange rates or currencies;

(iv) Bonds of different types, including medium to long term negotiable debt, securities issued by governments, companies etc;

(v) Shares and share warrants of companies traded on recognized stock exchanges and stock index;

(vi) Short term securities such as T-bills;

(vii) Over the counter (OTC) money market products such as loans or deposits.

MAJOR PLAYERS IN THE FINANCIAL DERIVATIVES TRADING

There are three major players in the financial derivatives trading:

1. Hedgers: Hedgers are traders who use derivatives to reduce the risk that they face from potential movements in a market variable and they want to avoid exposure to adverse movements in the price of an asset. Majority of the participants in derivatives market belongs to this category.

2. Speculators: Speculators are traders who buy/sell the assets only to sell/buy them back profitably at a later point in time. They want to assume risk. They use derivatives to bet on the future direction of the price of an asset and take a position in order to make a quick profit. They can increase both the potential gains and potential losses by usage of derivatives in a speculative venture.

3. Arbitrageurs: Arbitrageurs are traders who simultaneously buy and sell the same (or different, but related) assets in an effort to profit from unrealistic price differentials. They attempts to make profits by locking in a riskless trading by simultaneously entering into transaction in two or more markets. They try to earn riskless profit from discrepancies between futures and spot prices and among different futures prices.

USES OF FINANCIAL DERIVATIVES

Derivatives are supposed to provide some services and these services are used by investors. Some of the uses and applications of financial derivatives can be enumerated as following:

1. Management of risk: One of the most important services provided by the derivatives is to control, avoid, shift and manage efficiently different types of risk through various strategies like hedging, arbitraging, spreading etc. Derivative assist the holders to shift or modify suitable the risk characteristics of the portfolios. These are specifically useful in highly volatile financial conditions like erratic trading, highly flexible interest rates, volatile exchange rates and monetary chaos.
2. Price discovery: The important application of financial derivatives is the price discovery which means revealing information about future cash market prices through the future market. Derivative markets provide a mechanism by which diverse and scattered opinions of future are collected into one readily discernible number which provides a consensus of knowledgeable thinking.
3. Liquidity and reduce transaction cost : As we see that in derivatives trading no immediate full amount of the transaction is required since most of them are based on margin trading. As a result, large number of traders, speculators, arbitrageurs operates in such markets. So, derivatives trading enhance liquidity and reduce transaction cost in the markets of underlying assets. Measurement of Market: Derivatives serve as the barometers of the future trends in price which result in the discovery of new prices both on the spot and future markets. They help in disseminating different information regarding the future markets trading of various commodities and securities to the society which enable to discover or form suitable or correct or true equilibrium price in the markets. As a result, the assets will be in an appropriate and superior allocation of resources in the society.
4. Efficiency in trading: Financial derivatives allow for free trading of risk components and that leads to improving market efficiency. Traders can use a position in one or more financial derivatives as a substitute for a position in underlying instruments. In many instances, traders find financial derivatives to be a more attractive instrument than the underlying security. This is mainly because of the greater amount of liquidity in the market offered by derivatives as well as the lower transaction costs associated with trading a financial derivative as compared to the costs of trading the underlying instruments in cash market.
5. Speculation and arbitrage: Derivatives can be used to acquire risk, rather than to hedge against risk. Thus, some individuals and institutions will enter into a derivative contract to speculate on the value of the underlying asset, betting that the party seeking insurance will be wrong about the future value of the underlying asset. Speculators look to buy an asset in the future at a low price according to a derivative contract when the future market price is high, or to sell an asset in the future at a high price according to derivative contract when the future market price is low. Individual and institutions may also look for arbitrage opportunities, as when the current buying price of an asset falls below the price specified in a futures contract to sell the asset.
6. Hedging : Hedge or mitigate risk in the underlying, by entering into a derivative contract whose value moves in the opposite direction to their underlying position and cancels part or all of it out. Hedging also occurs when an individual or institution buys an asset and sells it using a future contract. They have access to the asset for a specified amount of time, and can then sell it in the future at a specified price according to the futures contract of course; this allows them the benefit of holding the asset.
7. Price stabilization function: Derivative market helps to keep a stabilizing influence on spot prices by reducing the short term fluctuations. In other words, derivatives reduce both peak and depths and lends to price stabilization effect in the cash market for underlying asset.
8. Gearing of value: Special care and attention about financial derivatives provide leverage (or gearing), such that a small movement in the underlying value can cause a large difference in the value of the derivative.
9. Develop the complete markets : It is observed that derivative trading develop the market towards "complete markets" complete market concept refers to that situation where no particular investors be better of than others, or patterns of returns of all additional securities are spanned by the already existing securities in it, or there is no further scope of additional security.
10. Encourage competition : The derivatives trading encourage the competitive trading in the market, different risk taking preference at market operators like speculators, hedgers, traders, arbitrageurs etc. resulting in increase in trading volume in the country. They also attract young investors, professionals and other experts who will act as catalysts to the growth of financial market.
12. Other uses : The other uses of derivatives are observed from the derivatives trading in the market that the derivatives have smoothen out price fluctuations, squeeze the price spread, integrate price structure at different points of time and remove gluts and shortage in the markets. The derivatives also assist the investors, traders and managers of large pools of funds to device such strategies so that they may make proper asset allocation increase their yields and achieve other investment goals.

TYPES AND CLASSIFICATION OF DERIVATIVES

There are many ways in which the derivatives can be categorized based on the markets where they trade, based on the underlying asset and based on the product feature etc. some ways of classification are following:

(1) On the basis of linear and non-linear: On the basis of this classification the financial derivatives can be classified into two big class namely linear and non-linear derivatives:
(a) Linear derivatives: Those derivatives whose Over-the-counter (OTC) traded derivative: These values depend linearly on the underlying's value are called linear derivatives. They are following:
(i) Forwards
(ii) Futures
(iii) Swaps

(b) Non-linear derivatives: Those derivatives whose value is a non-linear function of the underlying are called non-linear derivatives. They are following:
(i) Options
(ii) Convertibles
(iii) Equity linked bonds
(iv) Reinsurance

(2) On the basis of financial and non-financial: On the basis of this classification the derivatives can be classified into two category namely financial derivatives and non-financial derivatives.

(a) Financial derivatives: Those derivatives which are of financial nature are called financial derivatives. They are following:

(i) Forwards
(ii) Futures
(iii) Options
(iv) Swaps

The above financial derivatives may be credit derivatives, forex, currency fixed-income, interest, insider trading and exchange traded.

(b) Non-financial derivatives: Those derivatives which are not of financial nature are called non-financial derivatives. They are following:

(i) Commodities
(ii) Metals
(iii) Weather
(iv) Others

(3) On the basis of market where they trade: On the basis of this classification, the derivatives can be classified into three categories namely; OTC traded derivatives, exchange-traded derivative and common derivative. Derivative contracts are traded (and privately negotiated) directly between two parties, without going through an exchange or other intermediary. The OTC derivative market is the largest market for derivatives and largely unregulated with respect to disclosure of information between parties. They are following:
(i) Swaps
(ii) Forward rate agreements
(iii) Exotic options
(iv) Other exotic derivative

(b) Exchange traded derivative: Those derivative instruments that are traded via specialized derivatives exchange of other exchange. A derivatives exchange is a market where individual trade standardized contracts that have been defined by the exchange. Derivative exchange act as an intermediary to all related transactions and takes initial margin from both sides of the trade to act as a guarantee. They may be followings:

(i) Futures
(ii) Options
(iii) Interest rate
(iv) Index product
(v) Convertible
(vi) Warrants
(vii) Others

(c) Common derivative: These derivatives are common in nature/trading and classification. They are following:

(i) Forwards
(ii) Futures
(iii) Options
(iv) Binary options
(v) Warrant
(vi) Swaps

The various types of financial derivatives based on their different properties like, plain. Simple or straight forward, composite, joint or hybrid, synthetic, leveraged, mildly leveraged, customized or OTC traded, standardized or organized exchange traded, regulated and unregulated etc. are available in the market.

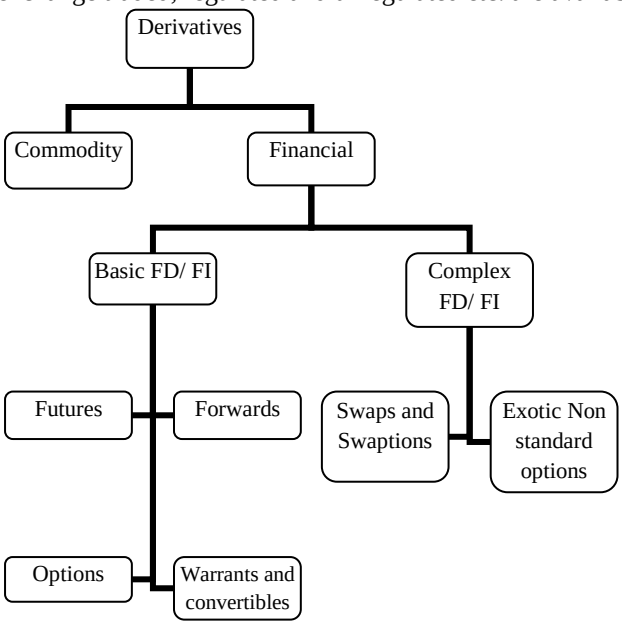

Figure 1: Classification of derivatives

Classification of derivatives contracts in India:
The Indian financial market woke up to the new generation of financial instrument and the Indian derivatives markets' Odyssey in modern times commenced with FOREX derivatives in 1997 has also seen the introduction of many derivatives on different underlying. Currently the following contracts are allowed for trading in Indian markets:

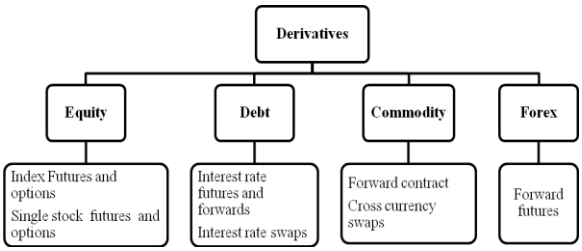

Figure 2: Derivative contracts traded in India

FORWARD CONTRACT
A forward contract is a customized contract between the buyer and the seller where settlement takes place on a specific date in future at a price agreed today. In case of a forward contract the price which is paid/ received by the parties is decided at the time of entering into contract. It is simplest form of derivative contract mostly entered by individual in day to day life.
The holder of a long (short) forward contract has an agreement to buy (sell) an asset at a certain time in the future for a certain price, which is agreed upon today. The buyer (or seller) in a forward contract:

- Acquires a legal obligation to buy (or sell) an asset (known as the underlying asset)
- At some specific future date (the expiration date)
- At a price (the forward price) which is fixed today.

The basic features of a contract are given in brief here as under:

1. Forward contracts are bilateral contracts, and hence, they are exposed to the counter party risk. There is risk of non-performance of obligation either of the parties, so these are riskier than to futures contracts.
2. Each contract is custom designed, and hence, is unique in terms of contract size, expiration date, the asset type, quality etc.
3. In forward contract, one of the parties takes a long position by agreeing to buy the asset at a certain specified future date. The other party assumes a short position by agreeing to sell the same asset at the same date for the same specified price. A party with no obligation offsetting the forward contract is said to have an open position. A party with a close position is, sometimes, called a hedger.
4. The specified price in a forward contract is referred to as the delivery price. The forward price for a particular forward contract at a particular time is the delivery price that would apply if the contract were entered into at that time. It is important to differentiate between the forward price and the delivery price. Both are equal at the time the contact is entered into. However, as time passes, the forward price is likely to change whereas the delivery price remains the same.
5. In the forward contract, derivative asset can often be contracted from the combination of underlying assets; such assets are often known as synthetic assets in the forward market.
6. In the forward market, the contract has to be settled by delivery of the asset on expiration date. In case the party wishes to reverse the contract, it has to compulsory go to the same counter party, which may dominate and command the price it wants as being in a monopoly situation.
7. In a forward contract, covered party or cost of carry relations are relation between the prices of forward and underlying assets.
8. Forward contract are very popular in foreign exchange market as well as interest rate bearing instruments. Most of the large and international banks quote the forward rate through their 'forward desk' lying within their foreign exchange trading room. Forward foreign exchange quotes by these banks are displayed with the spot rates.

III. Futures Contracts

Futures contract is an agreement between two parties to buy or sell a specified quantity of an asset at a specified price and at a specified time and place. Future contracts are normally traded on an exchange which sets the certain standardized norms for trading in futures contracts. The features of a futures contract may be specified as follows:

1. Futures are traded only in organized exchanges.
2. Futures contract required to have standard contract terms.
3. Futures exchange has associated with clearing house.
4. Futures trading required margin payment and daily settlement.
5. Futures positions can be closed easily.
6. Futures markets are regulated by regulatory authorities like SEBI.
7. The futures contracts are executed on expiry date.
8. The futures prices are expressed in currency units, with a minimum price movement called a tick size.

The quality of positive economic theory explains about its ability with precision clarity and simplicity. The main characteristics of futures explained by a good economic theory are as follows:

1. There are a limited number of actively traded products with futures contracts.
2. The trading unit is large and indivisible.
3. It has no more than maturity of 3 months.
4. The success ratio of new contract is about 25% in the world financial markets.
5. Futures are seldom used by farmers.
6. There are both commercial and non-commercial users of futures contract in interest rates and foreign exchange.
7. The main use of the future by the commercial users is to hedge corresponding cash and forward positions.
8. The positions of the non-commercial users take almost entirely speculative positions.

In foreign exchange futures, the positions of the commercials users are unbalanced.

There are different types of contracts in financial futures which are traded in the various futures market of the world. The followings are the important types of financial futures contract:

1. Stock future or equity futures
2. Stock index futures
3. Currency futures
4. Interest rate futures

OPTIONS CONTRACTS

Options are derivative contract that give the right, but not the obligation to either buy or sell a specific underlying security for a specified price on or before a specific date. In theory, option can be written on almost any type of underlying security. Equity (stock) is the most common, but there are also several types of non-equity options, based on securities such as bonds, foreign currency, indices or commodities such as gold or oil.

The person who buys an option is normally called the buyer or holder. Conversely, the seller is known as the seller or writer. Again we can say "An option is a particular type of a contract between two parties where one person gives the other person the right to buy or sell a specific asset at a specified price within a specified time period." Today, options are traded on a variety of instruments like commodities, financial assets as diverse as foreign exchange, bank times deposits, treasury securities, stock, stock indexes, petroleum products, food grains, metals etc. The main characteristics of options are following:

1. Options holders do not receive any dividend or interest.
2. Option yield only capital gains.
3. Options holder can enjoy a tax advantages.
4. Options are traded on OTC and in all recognized stock exchanges.
5. Options holders can control their rights on the underlying assets.
6. Options create the possibility of gaining a windfall profit.
7. Options holder can enjoy a much wider risk- return combinations.
8. Options can reduce the total portfolio transaction costs.
9. Options enable with the investors to gain a better returns with a limited amount of investment.

A call which is the right to buy shares under a negotiable contract and which do not carry any obligation. The buyers have the right to receive the delivery of assets are known as 'call option.'

In this option the owner has the right to sell the underlying asset under the negotiable contract. Put option holder has the right to receive the payment by surrendering the asset.

The writer of an option is a stock broker, member or a security dealer. The buyer of an option pays a price depending on the risk of underlying security and he as an investor or a dealer or trader.

The basic features of options or followings:

1. The option is exercisable only by the owner namely the buyer of the option.
2. The owner has limited liability.
3. Owners of options have no voting rights and dividend right.
4. Options have high degree of risk to the option writers.
5. Options involving buying counter positions by the option sellers.
6. Flexibility in investors needs.
7. No certificates are issued by the company.
8. Options are popular because they allow the buyer profits from favorable movement in exchange rate.

Options can be classified into different categories like:

(i) Call options
(ii) Put options
(iii) Exchange traded options
(iv) OTC traded options
(v) American options
(vi) European options
(vii) Commodity options
(viii) Currency options
(ix) Stock options
(x) Stock Index options

SWAPS CONTRACT

A swap is an agreement between two or more people or parties to exchange sets of cash flows over a period in future.

Swaps are agreements between two parties to exchange assets at predetermined intervals. Swaps are generally customized transactions. The swaps are innovative financing which reduces borrowing costs, and to increase

control over interest rate risk and FOREX exposure. The swap includes both spot and forward transactions in a single agreement.

Swaps are at the centre of the global financial revolution.

Swaps are useful in avoiding the problems of unfavorable fluctuation in FOREX market. The parties that agree to the swap are known as counter parties. The two commonly used swaps are interest rate swaps and currency swaps.

Interest rate swaps which entail swapping only the interest related cash flows between the parties in the same currency.

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

SECTION – II
HISTORICAL DEVELOPMENT OF DERIVATIVE MARKET IN INDIA

The origin of derivatives can be traced back to the need of farmers to protect themselves against fluctuations in the price of their crop. From the time it was sown to the time it was ready for harvest, farmers would face price uncertainty. Through the use of simple derivative products, it was possible for the farmer to partially or fully transfer price risks by locking-in asset prices. These were simple contracts developed to meet the needs of farmers and were basically a means of reducing risk.

Derivative markets in India have been in existence in one form or the other for a long time. In the area of commodities, the Bombay Cotton Trade Association started future trading way back in 1875. This was the first organized futures market. Then Bombay Cotton Exchange Ltd. in 1893, Gujarat Vyapari Mandall in 1900, Calcutta Hesstan Exchange Ltd. in 1919 had started future market. After the country attained independence, derivative market came through a full circle from prohibition of all sorts of derivative trades to their recent reintroduction. In 1952, the government of India banned cash settlement and options trading, derivatives trading shifted to informal forwards markets. In recent years government policy has shifted in favour of an increased role at market based pricing and less suspicious derivatives trading. The first step towards introduction of financial derivatives trading in India was the promulgation at the securities laws (Amendment) ordinance 1995. It provided for withdrawal at prohibition on options in securities. The last decade, beginning the year 2000, saw lifting of ban of futures trading in many commodities. Around the same period, national electronic commodity exchanges were also set up. The more detail about evolution of derivatives are shown in table No.1 with the help of the chronology of the events.

A Chronology of events: Financial Derivatives in India:

Sl. No.	Progress Date	Progress of Financial Derivatives
1	1952	Enactment of the forward contracts (Regulation) Act.
2	1953	Setting up of the forward market commission.
3	1956	Enactment of Securities Contract Regulation Act 1956
4	1969	Prohibition of all forms of forward trading under section 16 of SCRA.
5	1972	Informal carry forward trades between two settlement cycles began on BSE.
6	1980	Khuso Committee recommends reintroduction of futures in most commodities.
7	1983	Govt. amends bye-laws of exchange of Bombay, Calcutta and Ahmedabad and introduced carry forward trading in specified shares.
8	1992	Enactment of the SEBI Act.
9	1993	SEBI Prohibits carry forward transactions.
10	1994	Kabra Committee recommends futures trading in 9 commodities.
11	1995	G.S. Patel Committee recommends revised carry forward system.
12	14th Dec. 1995	NSE asked SEBI for permission to trade index futures

13	1996	Revised system restarted on BSE.
14	18th Nov. 1996	SEBI setup LC Gupta committee to draft frame work for index futures
15	11th May 1998	LC Gupta committee submitted report
16	1st June 1999	Interest rate swaps/forward rate agreements allowed at BSE
17	7th July 1999	RBI gave permission to OTC for interest rate swaps/forward rate agreements
18	24th May 2000	SIMEX chose Nifty for trading futures and options on an Indian index
19	25th May 2000	SEBI gave permission to NSE & BSE to do index futures trading
20	9th June 2000	Equity derivatives introduced at BSE
21	12th June 2000	Commencement of derivatives trading (index futures) at NSE
22	31st Aug. 2000	Commencement of trading futures & options on Nifty at SIMEX
23	1st June 2001	Index option launched at BSE
24	Jun 2001	Trading on equity index options at NSE
25	July 2001	Trading at stock options at NSE
26	9th July 2001	Stock options launched at BSE
27	July 2001	Commencement of trading in options on individual securities
28	1st Nov. 2001	Stock futures launched at BSE
29	Nov. 2001	Commencement of trading in futures on individual security
30	9th Nov. 2001	Trading of Single stock futures at BSE
31	June 2003	Trading of Interest rate futures at NSE
32	Aug. 2003	Launch of futures & options in CNX IT index
33	13th Sep. 2004	Weekly options of BSE
34	June 2005	Launch of futures & options in Bank Nifty index
35	Dec. 2006	'Derivative Exchange of the Year by Asia risk magazine
36	June 2007	NSE launches derivatives on Nifty Junior & CNX 100
37	Oct. 2007	NSE launches derivatives on Nifty Midcap -50
38	1st Jan. 2008	Trading of Chhota (Mini) Sensex at BSE
39	1st Jan. 2008	Trading of mini index futures & options at NSE
40	3rd March 2009	Long term options contracts on S&P CNX Nifty index
41	NA	Futures & options on sectoral indices (BSE TECK, BSE FMCG, BSE Metal, BSE Bankex & BSE oil & gas)
42	29th Aug. 2008	Trading of currency futures at NSE
43	Aug. 2008	Launch of interest rate futures
44	1st Oct. 2008	Currency derivative introduced at BSE
45	10th Dec. 2008	S&P CNX Defty futures & options at NSE
46	Aug. 2009	Launch of interest rate futures at NSE
47	7th Aug. 2009	BSE-USE form alliance to develop currency & interest rate derivative markets
48	18th Dec. 2009	BSE's new derivatives rate to

		lower transaction costs for all
49	Feb. 2010	Launch of currency future on additional currency pairs at NSE
50	Apr. 2010	Financial derivatives exchange award of the year by Asian Banker to NSE
51	July 2010	Commencement trading of S&P CNX Nifty futures on CME at NSE
52	Oct. 2010	Introduction of European style stock option at NSE
53	Oct. 2010	Introduction of Currency options on USD INR by NSE
54	July 2011	Commencement of 91 day GOI trading Bill futures by NSE
55	Aug. 2011	Launch of derivative on Global Indices at NSE
56	Sep. 2011	Launch of derivative on CNX PSE & CNX infrastructure Indices at NSE
57	30th March 2012	BSE launched trading in BRICSMART indices derivatives
58	29th November 2013	BSE launched currency derivative segment

REGULATION OF DERIVATIVES TRADING IN INDIA

The regulatory frame work in India is based on L.C. Gupta Committee report and J.R. Varma Committee report. It is mostly consistent with the international organization of securities commission (IUSCO). The L.C. Gupta Committee report provides a perspective on division of regulatory responsibility between the exchange and SEBI. It recommends that SEBI's role should be restricted to approving rules, bye laws and regulations of a derivatives exchange as also to approving the proposed derivatives contracts before commencement of their trading. It emphasizes the supervisory and advisory role of SEBI. It also suggests establishment of a separate clearing corporation.

DERIVATIVES MARKET IN INDIA

In India, there are two major markets namely National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) along with other Exchanges of India are the market for derivatives. Here we may discuss the performance of derivatives products in Indian market.

DERIVATIVE PRODUCTS TRADED AT BSE

The BSE started derivatives trading on June 9, 2000 when it launched "Equity derivatives (Index futures-SENSEX) first time. It was followed by launching various products which are shown in table no.2. They are index options, stock options, single stock futures, weekly options, stocks for: Satyam, SBI, Reliance Industries, Tata Steel, Chhota (Mini) SENSEX, Currency futures, US dollar-rupee future and BRICSMART indices derivatives. The table No.2 summarily specifies the derivative products and their date of introduction at BSE.

Sl. No.	Date of commencement	Derivatives products
1	9th June 2000	Equity derivatives (Index futures - SENSEX)
2	1st June 2001	Index Options – S&P CNX Nifty
3	9th July 2001	Stock options launched (Stock option on 109 stocks)
4	9th Nov. 2002	Stock futures launched (Stock futures on 109 Stocks)
5	13th Sep. 2004	Weekly options on 4 Stocks
6	1st Jan. 2008	Chhota (mini) SENSEX
7	NA	Futures options on sectoral indices (namely BSE TECK, BSE FMCG, BSE metal, BSE Bankex & BSE oil & gas)
8	1st Oct. 2008	Currency derivative introduced (currency futures on US Dollar)
9	30th March 2012	Launched BRICSMART indices derivatives

Source: Compiled from BSE website

DERIVATIVE PRODUCTS TRADED AT NSE

The NSE started derivatives trading on June 12, 2000 when it launched "Index Futures S & P CNX Nifty" first time. It was followed by launching various derivative products which are shown in table no.3. They are index options, stock options, stock future, interest rate, future CNX IT future and options, Bank Nifty futures and options, CNX Nifty Junior futures and options, CNX100 futures and options, Nifty Mid Cap-50 future and options, Mini index futures and options, Long term options. Currency futures on USD-rupee, Defty future and options, interest rate futures, SKP CNX Nifty futures on CME, European style stock options, currency options on USD INR, 91 days GOI T.B. futures, and derivative global indices and infrastructures indices. The table no.3 presents a description of the types of derivative product traded at NSE and their data of introduction at NSE.

Sl. No.	Introduction date	Derivative Products
1	12th June 2000	Index futures – S&P CNX Nifty
2	4th June 2001	Index Options – S&P CNX Nifty
3	2nd July 2001	Stock options – on 233 stocks
4	9th Nov. 2001	Stock futures on 233 stocks
5	23rd June 2003	Interest rate futures – T. Bills & 10 years Bond
6	29th Aug. 2003	CNX IT futures & options
7	13th June 2005	Bank Nifty futures & options
8	1st June 2007	CNX Nifty Junior Futures & Options
9	1st June 2007	CNX 100 futures & options
10	5th Oct. 2007	Nifty midcap – 50 futures & options
11	1st Jan. 2008	Mini index futures & options – S&P CNX Nifty Index
12	3rd March 2008	Long term options contracts on – S&P CNX Nifty Index
13	29th Aug. 2008	Currency futures on US Dollar Rupee
14	10th Dec. 2008	S&P CNX Defty Futures & options
15	Aug. 2009	Launch of Interest rate futures
16	Feb. 2009	Launch of currency futures on additional currency pair
17	July 2010	S&P CNX Nifty futures on CME
18	Oct. 2010	Introduction of European style stock options
19	Oct. 2010	Introduction of Currency options on USD INR
20	July 2011	start 91 day GOI Treasury Bill-futures
21	Aug. 2011	Launch of derivatives on global indices
22	Sep. 2011	Launch of derivatives on CNX PSE & CNX Infrastructure indices

Source: Compiled from NSE website

GROWTH OF INDIAN DERIVATIVES MARKET

The NSE and BSE are two major Indian markets have shown a remarkable growth both in terms of volumes and numbers of traded contracts. Introduction of derivatives trading in 2000, in Indian markets was the starting of equity derivative market which has registered on explosive growth and is expected to continue the same in the years to come. NSE alone accounts 99% of the derivatives trading in Indian markets. Introduction of derivatives has been well received by stock market players. Derivatives trading gained popularity after its introduction in very short time.

If we compare the business growth of NSE and BSE in terms of number of contracts traded and volumes in all product categories with the help of table no.4, table no.5 and table no.12 which shows the NSE traded 636132957 total contracts whose total turnover is Rs.16807782.22 cr in the year 2012-13 in futures and options segment while in currency segment in 483212156 total contracts have traded whose total turnover is Rs.2655474.26 cr in same year.

In case of BSE the total numbers of contracts traded are 150068157 whose total turnover is Rs.3884370.96 Cr in the year 2012-13 for all segments. In the above case we can say that the performance of BSE is not encouraging both in terms of volumes and numbers of contracts traded in all product categories. The table no.4, table no.5 and table no.12 summarily specifies the updated figures since 2003-04 to 2012-13 about number of contracts traded and total volumes in all segments.

Year	Total No. of Contracts	Total Turnover (Rs. Cr.)	Average Daily Turnover (Rs. Cr.)
2013-2014	911118963	26444804.86	155557.68
2012-2013	1131467418	31533003.96	126638.57
2011-2012	1205045464	31349731.74	125902.54
2010-2011	1034212062	29248221.09	115150.48
2009-2010	679293922	17663664.57	72392.07
2008-2009	657390497	11010482.20	45310.63
2007-2008	425013200	13090477.75	52153.30
2006-2007	216883573	7356242	29543
2005-2006	157619271	4824174	19220
2004-2005	77017185	2546982	10107
2003-2004	56886776	2130610	8388
2002-2003	16768909	439862	1752
2001-2002	4196873	101926	410
2000-2001	90580	2365	11

Source: Compiled from NSE website.

Table 5: Business growth of NSE in CD Segment

Year	Total Number of Contracts	Total Turnover (Rs. Crs)	Average Daily Turnover (Rs. Crs)
2013-2014	54,88,48,391	32,94,408.65	19,727.00
2012-2013	95,92,43,448	52,74,464.65	21,705.62
2011-2012	97,33,44,132	46,74,989.91	19,479.12
2010-2011	74,96,02,075	34,49,787.72	13,854.57
2009-2010	37,86,06,983	17,82,608.04	7,427.53
2008-2009	3,26,72,768	1,62,272.43	1,167.43

Source: Compiled from NSE website.

SECTION – III

Statistical data (Information): This section contains the statistical data or information about Indian derivatives markets namely: product wise turnover of FO segment at NSE, product wise turnover of CD segment at NSE, Number of contract traded at NSE in FO segment, number of contracts traded at NSE in CD segment, Average daily transaction at NSE in FO segment, average daily transactions at NSE in CD segment, Product wise turnover of futures at BSE, product wise turnover of options at BSE, number of contract traded at BSE in future segment, number of contract, traded at BSE in option segment and average daily transaction at BSE in all segments.

After analyzing the data given in table no.6, 7, 8, 9, 10, 11, 13, 14, 15, 16, and 17) we can say that they are encouraging growth and developing. Industry analyst feels that the derivatives market has not yet, realized its full potential in terms of growth and trading. Analyst points out that the equity derivative market on the NSE and BSE has been limited to only four product Index-futures, index options and individual stock future and options, which in turn are limited to certain select stock only.

Table No. 6: Product wise turnover at NSE

Year	Index Futures Turnover (₹ cr.)	Stock Returns Turnover (₹ cr.)	Index Options Notional Turnover (₹ cr.)	Stock Options Notional Turnover (₹ cr.)	Total Turnover (₹ cr.)	Average Daily Turnover (₹ cr.)
2013-14	2176314.26	3203112.18	19462635.85	1602742.62	26444804.86	155557.68
2012-13	2527130.76	4223872.02	22781574.14	2000427.29	31533003.96	126638.57
2011-12	3577998.41	4074670.73	22720031.64	977031.13	31349731.74	125902.54
2010-11	4356754.53	5495756.70	18365365.76	1030344.21	29248221.09	115150.48
2009-10	3934388.67	5195246.64	8027964.20	506065.18	17663664.57	72392.07
2008-09	3570111.40	3479642.12	3731501.84	229226.81	11010482.20	45310.63
2007-08	3820667.27	7548563.23	1362110.88	359136.55	13090477.75	52153.30
2006-07	2539574	3830967	791906	193795	7356242	29543
2005-06	1513755	2791697	338469	180253	4824174	19220
2004-05	772147	1484056	121943	168836	2546982	10107
2003-04	554446	1305939	52816	217207	2130610	8388
2002-03	43952	286533	9246	100131	439862	1752
2001-02	21483	51515	3765	25163	101926	410
2000-01	2365	-	-	-	2365	11

Source: Compiled from NSE website

Table No. 7: Product wise Turnover of CD Segment at NSE

Year	**Currency Futures Turnover (₹ cr.)**	**Currency Options Notional Turnover (₹ cr.)**	**Total Turnover (₹ cr.)**	**Average Daily Turnover (₹ cr.)**
2013-2014	23,66,882.14	9,27,526.51	32,94,408.65	19,727.00
2012-2013	37,65,105.33	15,09,359.32	52,74,464.65	21,705.62
2011-2012	33,78,488.92	12,96,500.98	46,74,989.91	19,479.12
2010-2011	32,79,002.13	1,70,785.59	34,49,787.72	13,854.57
2009-2010	17,82,608.04	-	17,82,608.04	7,427.53
2008-2009	1,62,272.43	-	1,62,272.43	1,167.43

Table 8: Number of Contract traded at NSE in FO Segment

Year	Index Futures No. of contracts	Stock Futures No. of contracts	Index Options No. of contracts	Stock Options No. of contracts	Total No. of contracts
2013-14	75537352	116676854	663033020	55871737	911118963
2012-13	96100385	147711691	820877149	66778193	1131467418
2011-12	146188740	158344617	864017736	36494371	1205045464
2010-11	165023653	186041459	650638557	32508393	1034212062
2009-10	178306889	145591240	341379523	14016270	679293922
2008-09	210428103	221577980	212088444	13295970	657390497
2007-08	156598579	203587952	55366038	9460631	425013200
2006-07	81487424	104955401	25157438	5283310	216883573
2005-06	58537886	80905493	12935116	5240776	157619271
2004-05	21635449	47043066	3293558	5045112	77017185
2003-04	17191668	32368842	1732414	5583071	56886776
2002-03	2126763	10676843	442241	3523062	16768909
2001-02	1025588	1957856	175900	1037529	4196873
2000-01	90580	-	-	-	90580

Source: Compiled from NSE Website

Table 9: Number of Contract traded at NSE in CD Segment

Year	**Currency Futures No. of contracts**	**Currency Options No. of contracts**	**Total No. of contracts**
2013-2014	39,00,52,130	15,87,96,261	54,88,48,391
2012-2013	68,41,59,263	27,50,84,185	95,92,43,448

2011-2012	70,13,71,974	27,19,72,158	97,33,44,132
2010-2011	71,21,81,928	3,74,20,147	74,96,02,075
2009-2010	37,86,06,983	-	37,86,06,983
2008-2009	3,26,72,768	-	3,26,72,768

Source: Compiled from NSE Website

Table 10: Average daily transaction at NSE in FO Segment

Year	**Total No. of contracts**	**Total Turnover (₹ cr.)**	**Average Daily Turnover (Rs. Cr.)**
2013-14	1279243623	38034680.30	151532.59
2012-13	1131467418	31533003.96	126638.57
2011-12	1205045464	31349731.74	125902.54
2010-11	1034212062	29248221.09	115150.48
2009-10	679293922	17663664.57	72392.07
2008-09	657390497	11010482.20	45310.63
2007-08	425013200	13090477.75	52153.30
2006-07	216883573	7356242	29543
2005-06	157619271	4824174	19220
2004-05	77017185	2546982	10107
2003-04	56886776	2130610	8388

Source: Compiled from NSE website

Table 11: Average Daily transaction at NSE in CD Segment

Year	**Total No. of contracts**	**Total Turnover (₹ cr.)**	**Average Daily Turnover (Rs. Cr.)**
2013-2014	47,83,01,579	29,40,885.92	16,444.73
2012-2013	68,41,59,263	37,65,105.33	21,705.62
2011-2012	70,13,71,974	33,78,488.92	19,479.12
2010-2011	71,21,81,928	32,79,002.13	13,854.57
2009-2010	37,86,06,983	17,82,608.04	7,427.53
2008-2009	3,26,72,768	1,62,272.43	1,167.43

Source: Compiled from NSE Website

Table 12: Business growth at BSE in all segments

Year	Total Contracts	Total Turnover (Rs Cr)	Average Daily Turnover (Rs Cr)	Trading Days
2013-14	7503405	19421854.8	308283.4	247
2012-13	150068157	3884370.96	30828.34	241
2011-12	32222825	808475.99	3246.89	249
2010-11	5623	154.33	0.61	255
2009-10	9028	234.06	1.04	224
2008-09	496502	11774.83	48.46	243
2007-08	7453371	242308.41	965.37	251
2006-07	1781220	59006.62	259.94	227
2005-06	203	8.78	0.14	61
2004-05	531719	16112.32	77.09	209
2003-04	143224	5021.81	81.00	62

Source: Compiled from BSE Website

Table 13: Product wise turnover of futures at BSE

Year	**Index Futures Turnover (Rs Cr)**	**Equity Futures Turnover (Rs. Cr.)**	**Trading Days**
2013-14	215647.78	32560.80	247
2012-13	194188.65	21390.60	241
2011-12	178448.83	10215.70	249
2010-11	154.08	0.00	255
2009-10	96.00	0.30	224
2008-09	11757.22	8.49	243
2007-08	234660.16	7609.24	251
2006-07	55490.86	3515.50	227
2005-06	5.00	0.49	61

2004-05	13599.66	212.85	209
2003-04	3082.63	1680.34	62

Source: Compiled from BSE Website

Table 14: Product wise turnover of option at BSE

Year	Index option Call Turnover (Rs. Cr.)	Index Option Put Turnover (Rs. Cr.)	Equity Option Call Turnover (Rs. Cr.)	Equity option Put Turnover (Rs. Cr.)	Trading days
2013-14	17680872.23	9063791.85	1487.98	298.54	247
2012-13	1967091.23	1812758.37	1367.87	245.32	241
2011-12	200089.57	418252.79	1277.27	191.82	249
2010-11	0.00	0.25	0.00	0.00	255
2009-10	137.76	0.00	0.00	0.00	224
2008-09	6.11	3.01	0.00	0.00	243
2007-08	31.00	7.66	0.21	0.14	251
2006-07	0.06	0.00	0.16	0.04	227
2005-06	3.20	0.00	0.09	0.00	61
2004-05	1470.61	826.62	2.08	0.50	209
2003-04	0.00	0.00	139.07	119.77	62

Source: Compiled from BSE Website

Table 15: Number of contracts traded at BSE in Future segment

Year	Index Futures Contracts	Equity Futures Contracts	Trading Days
2013-14	42440004	1958052	247
2012-13	14146668	652684	241
2011-12	7073334	326342	249
2010-11	5613	0	255
2009-10	3744	8	224
2008-09	495830	299	243
2007-08	7157078	295117	251
2006-07	1638779	142433	227
2005-06	89	12	61
2004-05	44630	6725	209
2003-04	103777	33437	62

Source: Compiled from BSE Website

Table 16: Number of contracts traded at BSE in Options Segment

Year	Index Options Call Contracts	Index Options Put Contracts	Equity Options Call Contracts	Equity Options Put Contracts	Trading Days
2013-14	28387467	278474689	5425	39584	247
2012-13	14413028	143044388	3498	15314	241
2011-12	7206514	17569130	39848	7657	249
2010-11	0	10	0	0	255
2009-10	5276	0	0	0	224
2008-09	251	122	0	0	243
2007-08	951	210	9	6	251
2006-07	2	0	5	1	227
2005-06	100	0	2	0	61
2004-05	48065	27210	72	17	209
2003-04	0	0	3466	2544	62

Source: Compiled from BSE Website

Table 17: Average Daily Turnover at BSE in all segment

Year	Total Contracts	Total Turnover (Rs. Cr.)	Average Daily Turnover (Rs. Cr.)	Trading Days
2013-14	698497492	127464748	128344.60	247
2012-13	300067817	6884370.9	60828.43	241
2011-12	32222825	808475.99	3246.89	249
2010-11	5623	154.33	0.61	255
2009-10	9028	234.06	1.04	224
2008-09	496502	11774.83	48.46	243
2007-08	7453371	242308.41	965.37	251

2006-07	1781220	59006.62	259.94	227
2005-06	203	8.78	0.14	61
2004-05	531719	16112.32	77.09	209
2003-04	143224	5021.81	81.00	62

Source: Compiled from BSE Website

SECTION – IV

Status of Indian derivatives market vis-à-vis global derivatives market

The derivative segment has expanded in the recent years in substantial way both globally as well as in the Indian capital market. The figures revealed by "world federation of exchanges (WFE)" website to compare the trading figures of 14 selected stock exchanges of America (four exchanges), Asia Pacific (seven exchanges) and EAME (three exchanges) region. Which are summarily specifies in Table No.18, Table No.19, Table No.20 and Table No.21 related to the number of contracts traded and notional value since 2003 to 2012. These tables show the Indian segment has expanded phenomenally as compared to the global segment. The Notional value of NSE options is 354648.1941 lakhs USD and number of contracts are 67458468 and the notional value at NSE futures is 39228.38563 lakhs USD and number of contracts are 7815624 in 2012 which are so more in compare of 2003. These figures are displaying a more than six to seven times increase over the 10 years period. In case of BSE, the notional value of BSE options is 56993.49322 lakhs USD and number of contracts are 10937357 and the notional value of BSE future is 856.1076879 lakhs USD and number of contracts are 163740 upto Sep. 2012 at global level the increase is less. While Korea, NYSE Euronext (Europe). Hongkong, Tokyo are growing fast in global level, other exchanges are also following at global level which are shown in followings tables:

Table 18: Global trend in Notional value of futures trading (Unit of currency: 000000 USD)

Exchange Name	31.12.2003	31.12.2004	31.12.2005	31.12.2006	31.12.2007	31.12.2008	31.12.2009	31.12.2010	31.12.2011	31.12.2012
BM& FBOVESPA	NA	NA	NA	NA	NA	NA	NA	31682.33012	30231.27647	31110.21786
Bourse de Montrial	228036.9582	25550.82624	36111.96713	64060.32483	85857.14286	45724.51247	57761.35063	68982.39032	67433.95856	72174.79675
Chicago Board Options Exchange	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NASDAQ OMX PHLX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ASX SFE Derivatives Trading	34976.10006	48939.78992	53007.62911	97447.57626	124437.1762	73206.13973	101212.4292	115567.8557	119797.2934	137009.6402
BSE India	NA	NA	NA	2094.498418	5146.666751	6.190574192	0.148275492	2.889410712	7070.046135	856.1076879
Hong Kong Exchange	49088.28894	77293.99031	90289.93358	174351.8959	324920.1292	203888.9892	318204.0469	343339.851	237628.6921	320249.7001
Korea Exchange	194839.5099	230599.4735	283750.0638	327117.3914	435325.4751	415430.8971	615112.7044	684910.2282	607762.9922	602458.5273
NSE India	14329.35627	13419.15091	40722.75761	50901.14008	72905.49791	55566.43548	70806.09434	72189.03276	57847.21966	39228.38563
Singapore Exch.	508.3907437	66798.83288	149360.6988	143270.0124	194260.2779	NA	NA	NA	NA	NA
Tokyo SE Group	110464.4576	148225.0939	297894.8218	225176.0042	288126.9588	174631.7364	190211.9686	183282.8369	157606.1124	191645.3605
BME Spanish Exchanges	32907.66902	44174.39174	51643.66596	104626.9778	121917.8216	58307.5101	72488.60832	63655.71505	31424.97728	35420.95716
Johannesburg SE	14860.44644	22019.58358	34757.55617	51856.2777	87066.66715	28814.62604	48081.95904	63868.22758	56199.58506	64154.72659
NYSE Euronext (Europe)	298427.0938	33864.211	417280.0189	630297.9958	832355.2632	493151.7347	352050.2132	377432.3746	476932.364	355762.254

Source : Compiled from wfe website.

Table 19: Global trends in Number of contracts traded in future trading

Exchange Name	31.12.2003	31.12.2004	31.12.2005	31.12.2006	31.12.2007	31.12.2008	31.12.2009	31.12.2010	31.12.2011	31.12.2012
BM& FBOVESPA	NA	NA	NA	NA	NA	NA	NA	1241180	1618153	1708490
Bourse de Montrial	327596	302033	333219	500314	522706	511123	435789	444196	491890	507288
Chicago Board Options Exchange	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NASDAQ OMX PHLX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ASX SFE Derivatives Trading	610359	667962	662465	941257	986053	1239110	961977	949215	1116824	1202003
BSE India	NA	NA	NA	271796	678222	2131	27	435	1569569	163740
Hong Kong Exchange	722056	1028257	1155795	1764072	2552382	3253788	3287830	3377983	3360793	3693018
Korea Exchange	4492804	4252688	3344465	3330666	3353004	7550226	6655197	5917951	5740679	5187052
NSE India	1875468	1447464	6613032	5798118	9609209	20007895	13337833	11406712	13886601	7815624
Singapore Exch.	1276126	1567684	2678538	2583404	3552242	3801287	4890823	4632726	4906518	6343560
Tokyo SE Group	1187790	1380132	2196354	1653729	2090937	2038901	2172504	1786557	17744361	2329106
BME Spanish Exchanges	337192	357888	407899	560910	723094	653321	590129	685398	437300	506199
Johannesburg SE	1103367	1170370	1530453	1873847	2642656	1630389	1961306	2020441	2085377	2128495
NYSE Euronext (Europe)	4798271	4822112	5244250	6342391	7238890	8375026	7551988	7704204	7141702	7939869

Source : Compiled from wfe website.

Table 20: Global trend in National value of Option Trading (Currency: 000000 USD)

Exchange Name	31.12.2003	31.12.2004	31.12.2005	31.12.2006	31.12.2007	31.12.2008	31.12.2009	31.12.2010	31.12.2011	31.12.2012
BM& FBOVESPA	1266.970537	1676.37259	1160.920574	4018.875878	4882.617978	1755.047414	5367.232676	11807.86747	14304.06369	19165.56092
Bourseda Montrial	71.19640922	9.180437323	154.0832049	67.02758443	89.15906788	175.2653666	97.29111026	444.8022545	321.123441	352.6422764
Chicago Board Options Exchange	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NASDAQ OMX PHLX	232.6	124.78	281.63	151.17	351.04	31926.73	279.28	NA	NA	NA
ASX SFE Derivatives Trading	2606.992164	3037.077683	3265.544308	3595.499933	8224.778295	889.7035992	3104.146956	4161.541615	3323.30326	4619.540349
BSE India	NA	NA	NA	0	0	0	0.674760933	0	1302.672065	56993.49322
Hong Kong Exchange	9316.167757	13747.21783	24228.41297	52870.01916	56997.2042	37272.72727	100410.2346	140463.8718	92439.93511	148671.4044
Korea Exchange	2002755.779	1888663.188	2932627.871	3548080.057	4273950.803	2758703.467	483307.533	5470040.647	4687462.066	NA
NSE India	1195.691178	2234.030136	9550.514552	18011.51491	26174.14944	64543.20231	162603.8638	339769.7149	397090.9048	354648.1941
Singapore Exch.	476.9475358	697.8559177	1515.004811	2994.14716	1433.650573	NA	NA	NA	NA	NA
Tokyo SE Group	3.429317906	14.41826876	55.36609337	NA	NA	NA	NA	NA	NA	NA
BME Spanish Exchanges	3038.218971	3775.587875	5202.642133	12818.43354	14317.04678	11313.2228	11483.27116	5563.442447	3106.114501	4898.829281
Johannesburg SE	0.458426966	519.8675849	648.9176192	294.6034493	1467.051972	293.5525261	380.4611749	334.357145	183.4011454	158.5720865
NYSE Euronext (Europe)	121083.5015	148508.9031	182822.5997	307198.0485	428906.4327	344570.1547	277474.8924	208312.3155	177455.5368	213911.3598

Source : Compiled from wfe website.

Table 21: Global trend in Number of contract traded in options trading

Table 21: Global trend in "Number of Contract Traded" in Option trading

Exchange Name	31.12.2003	31.12.2004	31.12.2005	31.12.2006	31.12.2007	31.12.2008	31.12.2009	31.12.2010	31.12.2011	31.12.2012
BM& FBOVESPA	172655	174397	81859	63070	13839	10447	13875	28320	46185	64961
Bourse de Montrial	2043	2238	2802	1053	1086	3916	1475	5734	4688	49542
Chicago Board Options Exchange	10367410	NA	16489906	21585986	15337828	16147785	19604960	19539761	20570901	26494033
NASDAQ OMX PHLX	367729	347362	536781	374977	471615	188236	303185	NA	NA	NA
ASX SFE Derivatives Trading	50073	43745	43004	42478	58339	14148	29474	34256	30830	40680
BSE India	NA	NA	NA	0	0	0	120	0	281600	10937357
Hong Kong Exchange	117753	158696	268035	459780	359831	497265	841674	1120385	985154	1514755
Korea Exchange	2308367	173874552	173142430	180790136	193784635	250304033	260407489	236467426	219698359	52003115
NSE India	156077	239207	1540181	2021995	3429425	21158779	29525940	50684431	86880013	67458468
Singapore Exch.	127330	13046	22092	45081	21182	8281	19875	136404	134094	545354
Tokyo SE Group	1030	2880	5600	4292	3820	6444	12544	4666	2106	1151
BME Spanish Exchanges	31132	30589	41092	68720	645018	882955	670338	420626	279309	493982
Johannesburg SE	1088420	841018	968020	517168	1839549	267137	699995	308533	309590	2901150
NYSE Euronext (Europe)	6454557	5127803	2841054	3584063	4207611	3803614	4211387	3187768	3181717	3032440

Source : Compiled from wfe websit

SECTION – V
Summary and Conclusion

Financial derivatives have earned a well deserved extremely significant place among all the financial instruments (products), due to innovation and revolutionized the landscape. Derivatives are tool for managing risk. Derivatives provide an opportunity to transfer risk from one to another. Launch of equity derivatives in Indian market has been extremely encouraging and successful. The growth of derivatives in the recent years has surpassed the growth of its counterpart globally.

The Notional value of option on the NSE increased from 1195.691178 lakhs USD in 2003 to 354648.1941 lakhs USD in 2012 and notional value of NSE futures increased from 14329.35627 lakhs USD in 2003 to 39228.38563 lakhs USD in 2012. India is one of the most successful developing country in terms of a vibrate market for exchange-traded derivatives. The equity derivatives market is playing a major role in shaping price discovery. Volatility in financial asset price, integration of financial market internationally, sophisticated risk management tools, innovations in financial engineering and choices at risk management strategies have been driving the growth of financial derivatives worldwide, also in India. Finally we can say there is big significance and contribution of derivatives to financial system.

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