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FINANCIAL DERIVATIVES MARKET IN INDIA

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ABSTRACT

The emergence and growth of derivatives market in India is relatively a recent phenomenon. Since June 2000, derivatives market has exhibited exponential growth both in terms of volume and number of traded contracts. The market turnover has grown from Rupees 2,365 Crore in the year 2000-2001 to Rupees 16,807,782.22 Crore in the year 2012-13. The emergence of the market for derivatives products, mostly notably forwards, futures and options, can be traced back to the willingness of risk adverse economics agents to guard themselves against uncertainties arising out of fluctuations in assets prices. By their very nature, the financial markets are marked by a very high degree of volatility. Through the use of derivatives products, it is possible to partially or fully transfer price risks by locking in assets prices. The present study encompasses in its scope an analysis of historical roots of derivative trading, types of derivative products, traders, factors affecting, trend and growth, future prospects and new era of derivative market in India. In this context, the emergence of a well-functioning derivative market, with a wide range of trading mechanisms, is definitely a boost to all those perspective investors who are willing to join the mainstream of investment business to meet with their own expectation of return on investment along with a support to structures the economy in a new way. The present topic is an endeavour to have an analytical study on the present status of derivative market in India by bridging the gap of its past experiences to project the future possible performances.

KEYWORDS

Derivatives, Forward, Futures, Option, trends in derivative market.

LIST OF ABBREVIATIONS

- BSE- Bombay Stock Exchange
- NSE- National Stock Exchange
- RBI- Reserve Bank of India
- SEBI- Securities and Exchange Board of India

INTRODUCTION

Risk is a characteristic feature of all commodity and capital markets. Over time, variations in the prices of agricultural and non-agricultural commodities occur as a result of interaction of demand and supply forces. The last two decades have witnessed a many-fold increase in the volume of international trade and business due to the ever growing wave of globalization and liberalization sweeping across the world. As a result, financial markets have experienced rapid variations in interest and exchange rates, stock market prices thus exposing the corporate world to a state of growing financial risk. Increased financial risk causes losses to an otherwise profitable organisation. This underlines the importance of risk management to hedge against uncertainty. Derivatives provide an effective solution to the problem of risk caused by uncertainty and volatility in underlying asset. Derivatives are risk management tools that help an organisation to effectively transfer risk. Derivatives are instruments which have no independent value. Their value depends upon the underlying asset. The underlying asset may be financial or non-financial.

It is widely believed in financial world that 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 of traded derivatives products, regulation and policy developments, trend and growth, future prospects and challenges of derivative market in India.

CONCEPT OF DERIVATIVE

The term 'derivatives', refers to a broad class of financial instruments which mainly include options and futures. These instruments derive their value from the price and other related variables of the underlying asset. They do not have worth of their own and derive their value from the claim they give to their owners to own some other financial assets or security. A simple example of derivative is butter, which is derivative of milk. The price of butter depends upon price of milk, which in turn depends upon the demand and supply of milk. The general definition of derivative means to derive something from something else. Some other meanings of word derivatives are:

- **A DERIVED FUNCTION:** The result of mathematical differentiation; the instantaneous change of one quantity relative to another; $df(x)/dx$.
- **A DERIVATIVE INSTRUMENT:** A financial instrument whose value is based on another security, (linguistics) a word that is derived from another word; "electricity" is a derivative of 'electric'.

The asset underlying a derivative may be commodity or a financial asset. Derivatives are those financial instruments that derive their value from the other assets. For example, the price of gold to be delivered after two months will depend, among so many things, on the present and expected price of this commodity.

DEFINITION

The **Securities Contracts (Regulation) Act 1956** defines "derivative" as under section 2(ac), As per this "Derivative" includes:

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 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.

Standard SFAS133 defines a derivative as "a derivative instrument is a financial derivative or other contracts will all three of the following characteristics:

1. It has one or more underlying, and one or more notional amount or payments provisions or both. Those terms determine the amount of the settlement or settlements.
2. 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.
3. 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 bills, foreign currency or even another derivative asset. Hence, financial derivatives are financial instruments whose prices are derived from the prices of other financial instruments.

UNDERLYING ASSET IN A DERIVATIVES CONTRACT

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:

1. Commodities including grain, coffee beans, orange juice.
2. Precious metals like gold & silver.
3. Foreign exchange rates or currencies.
4. Bonds of different types, including medium to long term negotiable debt, securities issued by governments, companies etc.
5. Shares and share warrants of companies traded on recognized stock exchanges and stock index.
6. Short term securities such as T-bills.
7. Over the counter (OTC) money market products such as loans or deposits.

THE MAJOR PLAYERS IN DERIVATIVES MARKET

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 attempt 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.

TYPES AND CLASSIFICATION OF DERIVATIVES

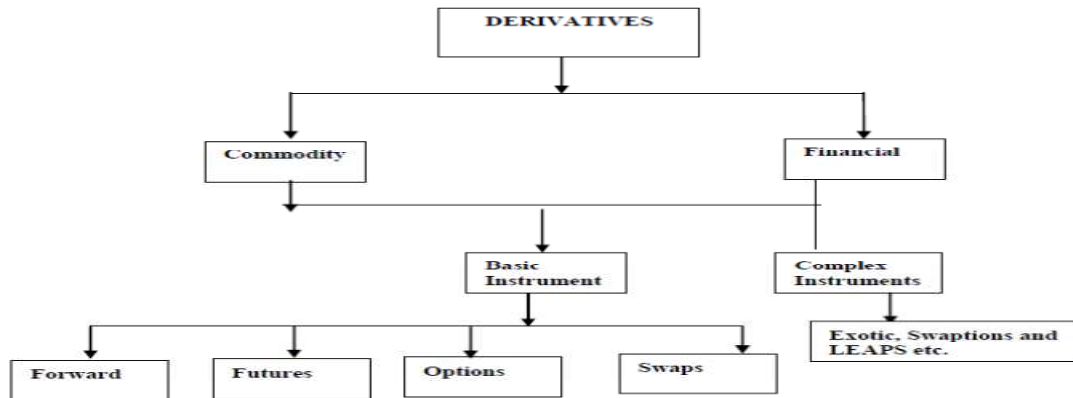
There are many ways in which the derivatives can be categorized based on the markets where they trade; based on the underlying asset and based on the product feather etc. some ways of classification are following:

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 values depend linearly on the underlying value are called linear derivatives. They are following:
 - Forwards
 - Futures
 - 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:
 - Options
 - Convertibles
 - Equity linked bonds
 - Reinsurances
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. These derivatives can be credit derivatives, foreign exchange, currency fixed income, interest, insider trading and exchange traded. They are following
 - Forwards
 - Futures
 - Options
 - Swaps
 - b) **NON-FINANCIAL DERIVATIVES:** Those derivatives which are not of financial nature are called non-financial derivatives. They are following:
 - Commodities
 - Metals
 - Weather
 - 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.
 1. **OVER-THE-COUNTER (OTC) TRADED DERIVATIVE:** These 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:
 - Swaps
 - Forward rate agreements
 - Exotic options
 - Other exotic derivative
 2. **EXCHANGE TRADED DERIVATIVE:** Those derivatives instrument 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. A 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:
 - Futures
 - Options

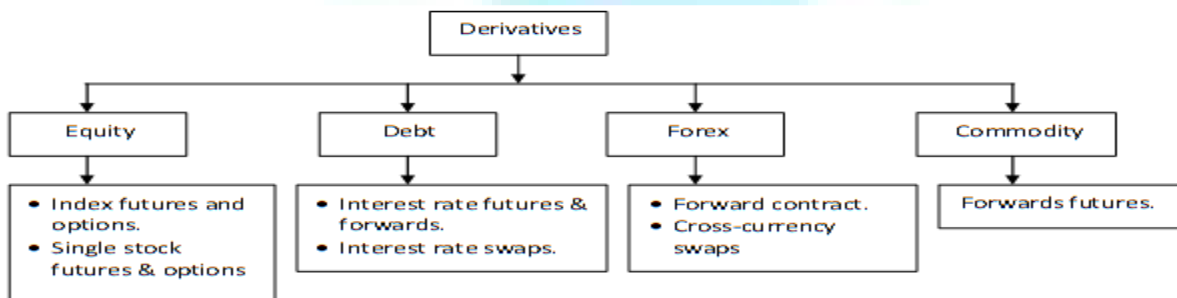
- Interest rate
 - Index product
 - Convertible
 - arrants
 - Others
3. **COMMON DERIVATIVE:** These derivatives are common in nature/trading and classification. They are following:
- Forwards
 - Futures
 - Options
 - Binary options
 - Warrant
 - Swaps

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.

CLASSIFICATION OF DERIVATIVES



DERIVATIVES CONTRACTS PERMITTED FOR TRADING 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. It is contract for delivering the goods. These transactions are spot transactions. It is also known as "specific delivery contract". Forward contract is a cash market transaction in which delivery of the instrument is deferred until the contract has been made. Although the delivery is made in the future, the price is determined on the initial trade date. One of the parties to a forward contract assumes a long position (buyer) and agrees to buy the underlying asset at a certain future date for a certain price. The other party to the contract known as seller assumes a short position and agrees to sell the asset on the same date for the same price. The specified price is referred to as the delivery price. The contract terms like delivery price and the quantity are mutually agreed upon by the parties to the contract. Forward contracts are traded at over-the-counter and are not dealt with on an exchange. Usually traded between two financial institutions or between a financial institution and one of its client. The basic features of a contract are given in brief here as under:

- 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.
- Each contract is custom designed, and hence, is unique in terms of contract size, expiration date, the asset type, quality etc.
- 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.
- 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 contract is entered into. However, as time passes, the forward price is likely to change whereas the delivery price remains the same.
- 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.
- 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 compulsorily go to the same counter party, which may dominate and command the price it wants as being in a monopoly situation.
- In a forward contract, covered party or cost of carry relations are relation between the prices of forward and underlying assets.
- Forward contract are very popular in foreign exchange market as well as interest rate bearing instruments. Most of the large and international banks quoted 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.

FUTURES CONTRACTS

Futures contracts are 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:

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

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 CONTRACT

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 time deposits, treasury securities, stock, stock indexes, petroleum products, food grains, metals etc. The main characteristics of options are following:

- Options holders do not receive any dividend or interest.
- Option yield only capital gains.
- Options holder can enjoy a tax advantages.
- Options are traded on OTC and in all recognized stock exchanges.
- Options holders can control their rights on the underlying assets.
- Options create the possibility of gaining a windfall profit.
- Options holder can enjoy a much wider risk-return combinations.
- Options can reduce the total portfolio transaction costs.
- 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 this are:

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

Options can be classified into different categories like:

1. Call options
2. Put options
3. Exchange traded options
4. OTC traded options
5. American options
6. European options
7. Commodity options
8. Currency options
9. Stock options
10. 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 customised transactions. The swaps are innovative financing which reduces borrowing costs, and to increase control over interest rate risk and foreign exchange 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 unfavourable fluctuation in foreign exchange 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.

HISTORICAL DEVELOPMENT OF DERIVATIVE MARKET IN INDIA

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 Hessian 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 favor 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. This table is presenting complete historical developments.

TABLE NO. 1: HISTORICAL DEVELOPMENTS IN INDIAN DERIVATIVE MARKET

S. 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 SCRA
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	Khuro Committee recommends reintroduction of futures in most commodities.
7	1983	Government 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	December, 1995	NSE asked SEBI for permission to trade index futures
13	1996	Revised system restarted on BSE.
14	18th November, 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.	January, 2011	SEBI permitted stock exchanges to introduce derivative contracts (Futures and Options) on foreign stock indices in their equity derivatives segment.
54.	March, 2011	SEBI permitted stock exchanges to introduce Futures on 91-day Government of India Treasury-Bills in their currency derivatives segment.
55.	May, 2011	SEBI permitted a new category of trading member, namely, self-clearing member in the currency derivatives segment having minimum net-worth of Rupees 5 crore.
56.	June, 2011	SEBI permitted stock exchanges to introduce one or more liquidity enhancement schemes (LESs) to enhance liquidity of illiquid securities in their equity derivatives segments.
57.	September, 2011	SEBI prescribed stringent penalty structure for short-collection/non-collection of margins from clients in the derivatives segment. In addition, it has been mandated that for wrong/ false reporting of client margin, the member shall be penalized 100 percent of the falsely Reported amount along with suspension of trading for one day in that segment.
58.	December, 2011	SEBI permitted stock exchanges to introduce cash settled futures on 2-year and 5-year notional coupon bearing Government of India (GOI) security on currency derivatives segment of stock exchanges. Exchanges are yet to introduce interest rate futures contracts on 2-year and 5-year notional coupon bearing GOI security.
59.	January, 2012	SEBI permitted stock exchanges to introduce derivative contracts on global indices, permission/approval has been granted to NSE for introduction of futures and options contracts on S&P 500 Index and FTSE 100 Index and futures contracts on DJIA. In addition, BSE has been permitted to introduce futures contracts on FTSE/JSE Top 40 Index (Africa), Hang Seng Index (Hong Kong), iBovespa Index (Brazil) and MICEX Index (Russia).
60.	January, 2013	SEBI discontinued mini derivative contracts (having contract size of Rupees 1 lakh) on Index (Sensex and Nifty).

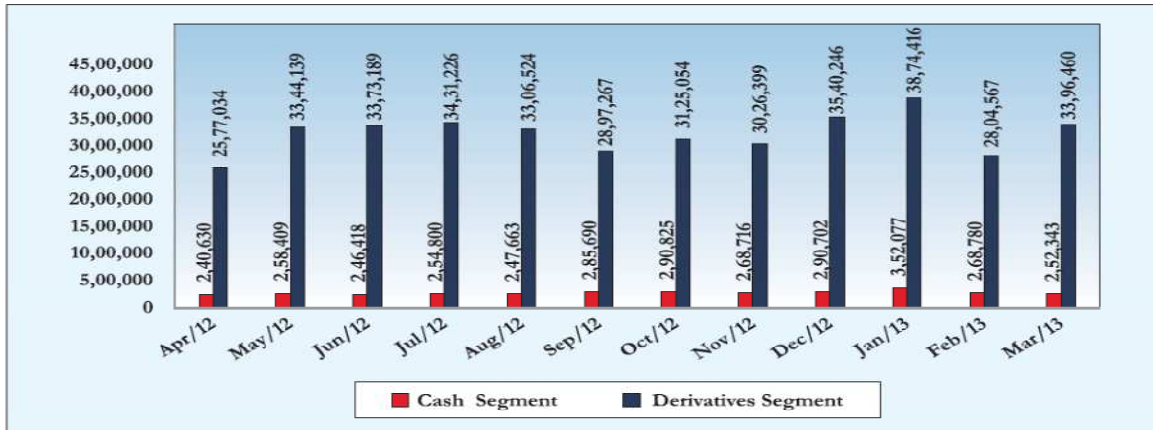
TRENDS IN DERIVATIVE MARKET IN INDIA

Derivatives markets are central to today's financial markets. The impressive growth in derivatives markets have been driven by the product and technology innovation in consonance with competition. Over the years, derivatives markets have evolved as the single largest segment in global financial markets with traded turnover outstripping the turnover in equity and bond markets.

EQUITY DERIVATIVE SEGMENT

The equity derivatives segment is the most vibrant, active and dominant segment in the Indian Securities market. Over the years, there has been manifold increase in the volumes- both in terms of number of contracts traded and traded value and products traded. India holds a significant place in the arena of world derivative markets. Currently, India's NSE, MCX Group and BSE were found to be among the top 30 derivative exchanges, when positioned by the number of contracts traded and/or cleared. Volumes of derivatives market have far exceeded that of cash segment that as at the close of year 2012-13, the turnover in the derivatives market was 12.6 times of the latter (Chart 1). Trading in equity derivatives segment is dominated by NSE, which has a share of more than 81.5% of the total turnover. MCX-SX commenced its operations in the equity derivative segment with effect from February, 2013.

CHART 1: DERIVATIVE TURNOVER VIS-À-VIS CASH MARKET TURNOVER



Source: BSE, NSE

The total number of contracts traded in the derivative segment of NSE decreased by 6.1% to 113,14,67,418 in the year 201-13 from 120,50,45,464 in the year 2011-12, whereas, at BSE, the number of contracts exploded at 715.5% from 3,22,22,825 in the year 2011-12 to 26,24,43,366 in the year 2012-13. In BSE, volumes were driven mainly by the incentives offered by the exchange. The value of the contracts traded in the derivative segment of NSE increased by 0.6% to Rupees 3,15,33,004 crore in the year 2012-13 from Rupees 3,13,49,732 crore in the year 2011-12, whereas the turnover at the derivatives segment of BSE increased by 786.1% to Rupees 71,63,519 crore in the year 2012-13 from Rupees 8,08,476 crore in the year 2011-12. The open interest in the derivative segment of NSE declined by 3.5% to Rupees 85,952 crore at the end of the year 2012-13 from Rupees 89,049 crore at the end of year 2011-12.

The monthly turnover in the derivatives segment at NSE recorded a mixed trend during the year 2012-13 as shown in Table 2. The highest turnover was recorded in March 2013 followed by January, 2013 and May, 2012. Growth in the derivatives turnover at NSE was the highest in May, 2012 when turnover rose by 23.2%, followed by March, 2013 and January, 2013. The average daily turnover at NSE in the year 2012-13 increased marginally by 0.6% to Rupees 1,26,639 crore in the year 2012-13 from Rupees 1,25,903 crore in the year 2011-12.

TABLE NO. 2: TRENDS IN TURNOVER AND OPEN INTEREST IN EQUITY DERIVATIVES SEGMENT

Year/Month	No. of Contracts		Turnover (₹ crore)		Open Interest at the End of the Year / Month			
					No. of Contracts		Notional Turnover (₹ crore)	
	NSE	BSE	NSE	BSE	NSE	BSE	NSE	BSE
1	2	3	4	5	6	7	8	9
2008-09	65,73,90,497	4,96,502	1,10,10,482	11,775	32,27,759	22	57,705	0
2009-10	67,92,93,922	9,026	1,76,63,665	234	34,89,790	0	97,978	0
2010-11	103,42,12,062	5,623	2,92,48,221	154	36,90,373	4	1,01,816	0
2011-12	120,50,45,464	3,22,22,825	3,13,49,732	8,08,476	33,44,473	28,176	89,049	736
2012-13	113,14,67,418	26,24,43,366	3,15,33,004	71,63,519	30,41,192	90,075	85,952	2,299
Apr-12	8,28,12,184	1,41,15,666	22,07,317	3,69,717	34,59,455	44,311	89,002	1,151
May-12	11,01,52,708	2,51,19,550	27,19,843	6,24,296	33,75,635	59,434	80,736	1,446
Jun-12	10,50,12,433	2,89,86,767	26,40,706	7,32,483	38,76,435	84,988	1,02,040	1,741
Jul-12	9,31,81,580	3,79,12,818	24,53,083	9,78,143	42,61,297	88,708	1,10,888	2,294
Aug-12	9,09,91,925	3,28,26,346	24,32,169	8,74,355	38,51,378	90,861	99,959	2,397
Sep-12	9,33,63,996	1,11,09,685	25,91,948	3,05,319	41,04,440	78,946	1,17,367	2,237
Oct-12	9,37,97,175	1,44,04,176	27,14,209	4,10,845	45,04,745	99,755	1,23,027	2,789
Nov-12	8,65,73,274	1,93,75,154	24,79,817	5,46,582	41,43,519	48,792	1,19,945	1,438
Dec-12	8,83,79,684	3,07,47,136	26,40,393	8,99,853	36,84,066	68,370	1,11,815	2,028
Jan-13	9,46,54,356	3,05,26,334	29,50,975	9,23,441	31,42,662	7,341	97,245	219
Feb-13	8,54,85,498	78,61,330	25,75,097	2,29,470	33,66,109	86,079	96,291	2,402
Mar-13	10,70,62,605	94,58,404	31,27,446	2,69,014	30,41,192	90,075	85,952	2,299

Source: SEBI Annual report 2012-13

TABLE 2: PRODUCT-WISE DERIVATIVES TURNOVER AT NSE AND BSE

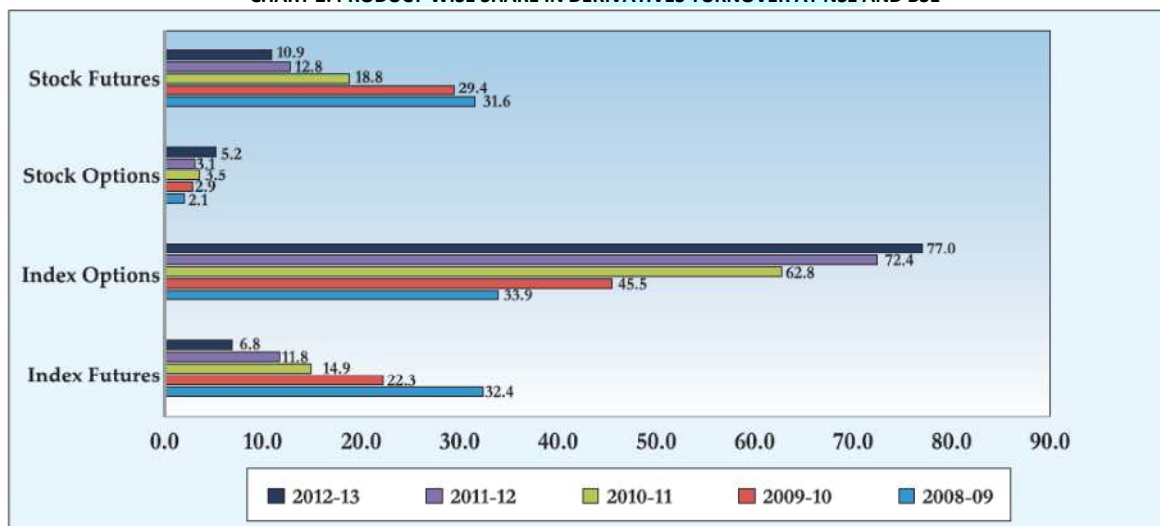
(Percent)

Year / Month	Index Futures	Index Options	Single Stock Options	Single Stock Futures	Total
1	2	3	4	5	6
2008-09	32.4	33.9	2.1	31.6	100.0
2009-10	22.3	45.5	2.9	29.4	100.0
2010-11	14.9	62.8	3.5	18.8	100.0
2011-12	11.7	72.6	3.0	12.7	100.0
2012-13	6.8	77.0	5.2	10.9	100.0
Apr-12	10.1	74.2	3.9	11.8	100.0
May-12	8.6	79.0	3.4	9.1	100.0
Jun-12	8.5	79.3	3.2	9.0	100.0
Jul-12	7.1	79.2	4.0	9.8	100.0
Aug-12	6.3	79.8	4.4	9.5	100.0
Sep-12	7.3	74.9	5.7	12.1	100.0
Oct-12	7.0	74.1	6.5	12.4	100.0
Nov-12	5.7	76.8	5.9	11.5	100.0
Dec-12	5.1	78.8	5.0	11.1	100.0
Jan-13	5.0	74.5	7.7	12.8	100.0
Feb-13	6.5	73.6	7.0	12.9	100.0
Mar-13	6.1	78.7	5.5	9.6	100.0

Source: BSE, NSE

MCX-SX commenced its operations in the equity derivative segment on February, 2013. During the period from February to March 2013, 2.75 lakhs contracts were traded recording a turnover of Rupees 8,049 crore. The equity derivatives markets have experienced considerable shifts in the product shares in the recent years as shown in Table 3. Till the year 2006-07, single stock futures were the most traded product in India. During the year 2012-13, the largest share in the total derivatives turnover has been contributed by Index options with 77%. Share of single stock futures have declined substantially over the years and now constitute a mere 10.9% in the year 2012-13. Index futures share constituted 6.8% of the turnover of derivatives market in the year 2012-13. The share of stock options increased from 3% in the year 2011-12 to 5.2% in the year 2012-13 as shown in Chart 2.

CHART 2: PRODUCT-WISE SHARE IN DERIVATIVES TURNOVER AT NSE AND BSE



Source: BSE, NSE

In the Index derivative segment of NSE, derivatives are offered on the following indices- NIFTY, NIFTY Midcap 50, Bank Nifty, CNX Infra, CNX IT and CNX PSE. Index derivatives are also allowed in 3 foreign indices, namely, Dow Jones index, S&P 500 and UK FTSE 100 index. On an average, for the year 2012-13, NIFTY futures and options accounted for more than 90% share in the index derivative turnover. Bank Nifty comprised a share in the range of 3 to 8% in the year 2012-13. At BSE, the share of derivatives on BSE Sensex fluctuated between 0.8 to 100% over the months. Turnover of derivatives on BSE 100 index also fluctuated within the range of 0.01 to 99.9%. In BSE also futures are available on foreign indices, namely, HIS Index, MICEX index, FTSE/ JSE top 40 and Bovespa Index. Product wise share in the open interest shows that the notional value of outstanding contracts was the highest for Index Options followed by single stock Futures, Index Futures, and Stock Options. The Tables 3 to 6 shows the product wise trends in the derivative market in India during the recent years. Among the various classes of derivative members, the transaction undertaken by trading- cum- selling clearing members contributed 51.7% of the total turnover of Futures and Options (F&O) segment in the year 2012-13. The percentage share in the traded value by trading-cum-clearing members and trading members was 33.1% and 15.2% respectively as shown in Table 7.

TABLE 3: TRENDS IN INDEX FUTURES AT NSE AND BSE

Year/ Month	No. of Contracts		Notional Turnover (₹ crore)		Open Interest at the End of the Year / Month			
					No. of Contracts		Notional Turnover (₹ crore)	
	NSE	BSE	NSE	BSE	NSE	BSE	NSE	BSE
1	2	3	4	5	6	7	8	9
2008-09	21,04,28,103	4,95,830	35,70,111	11,757	8,28,369	22	12,060	0.3
2009-10	17,83,06,889	3,744	39,34,389	96	5,81,510	0	14,979	0
2010-11	16,50,23,653	5,613	43,56,755	154	6,18,576	4	16,941	0.1
2011-12	14,61,88,740	70,73,334	35,77,998	1,78,449	5,71,933	11,693	14,341	305
2012-13	9,61,00,385	47,04,602	25,27,131	1,22,374	2,97,198	2,080	8,503	59
Apr-12	92,18,725	12,12,385	2,28,989	31,589	5,24,030	17,655	12,955	459
May-12	1,14,44,310	8,70,652	2,66,002	20,859	4,31,114	28,288	9,914	688
Jun-12	1,10,66,729	8,32,231	2,64,304	20,776	6,14,699	47,996	15,530	1,255
Jul-12	90,49,837	6,70,155	2,24,504	17,575	6,14,326	57,328	15,382	1,482
Aug-12	78,81,956	3,32,146	1,99,628	8,818	5,14,566	54,277	13,063	1,421
Sep-12	78,15,624	1,63,740	2,06,910	4,516	6,09,549	56,549	16,634	1,600
Oct-12	79,25,535	1,27,788	2,16,004	3,636	4,93,067	32,473	12,648	912
Nov-12	61,69,741	79,823	1,69,757	2,274	5,02,165	31,571	14,207	932
Dec-12	60,81,895	80,551	1,76,492	2,400	4,06,859	31,380	11,725	937
Jan-13	63,37,412	1,20,434	1,90,094	3,674	3,09,576	1,230	9,431	37
Feb-13	60,51,654	1,18,539	1,79,682	3,484	3,52,371	27,069	10,088	765
Mar-13	70,56,967	96,158	2,04,763	2,773	2,97,198	2,080	8,503	59

Source: SEBI Annual Report 2012-13

TABLE 4: TRENDS IN SINGLE STOCK FUTURES AT NSE AND BSE

Year/ Month	No. of Stocks Traded		No. of Contracts		Notional Turnover (₹ crore)		Open Interest at the End of the Year / Month			
							No. of Contracts		Notional Turnover (₹ crore)	
	NSE	BSE	NSE	BSE	NSE	BSE	NSE	BSE	NSE	BSE
1	2	3	4	5	6	7	8	9	10	11
2008-09	250	3	22,15,77,980	299	34,79,642	9	5,11,334	0	15,722	0.0
2009-10	190	0	14,55,91,240	6	51,95,247	0	9,90,917	0	32,053	0.0
2010-11	223	0	18,60,41,459	0	54,95,757	0	11,26,190	0	28,354	0.0
2011-12	217	219	15,83,44,617	3,26,342	40,74,671	10,216	8,86,326	19	24,663	1
2012-13	146	122	14,77,11,691	1,16,933	42,23,872	3,418	7,90,886	417	22,168	12
Apr-12	215	19	1,07,39,998	1,299	3,03,853	36	10,20,668	0	25,905	0
May-12	210	14	1,27,48,867	123	3,03,008	3	9,45,947	0	21,736	0
Jun-12	210	18	1,24,82,626	0	3,04,796	0	10,23,838	0	27,299	0
Jul-12	208	58	1,24,36,098	404	3,35,785	10	10,61,842	0	27,845	0
Aug-12	208	87	1,16,75,491	1,059	3,15,699	29	10,40,212	2	26,570	0
Sep-12	207	130	1,24,41,509	1,799	3,49,877	46	10,66,649	3	31,311	0
Oct-12	156	88	1,29,92,449	1,322	3,88,103	40	11,81,950	0	31,189	0
Nov-12	152	67	1,22,03,483	459	3,49,431	13	11,63,804	0	32,886	0
Dec-12	151	72	1,28,74,846	836	3,92,327	25	10,93,228	0	35,144	0
Jan-13	149	114	1,46,48,279	21,272	4,95,366	670	10,17,631	2	32,718	0
Feb-13	148	113	1,15,00,825	20,615	3,61,294	590	8,93,704	217	25,810	7
Mar-13	146	122	1,09,67,220	67,745	3,24,332	1,956	7,90,886	417	22,168	12

Source: BSE, NSE

TABLE 5: TRENDS IN INDEX OPTIONS AT NSE AND BSE

Year/ Month	No. of Contracts		Notional Turnover (₹ crore)		Open Interest at the End of the Year / Month			
	NSE	BSE	NSE	BSE	No. of Contracts		Notional Turnover (₹ crore)	
					NSE	BSE	NSE	BSE
1	2	3	4	5	6	7	8	9
2008-09	21,20,88,444	373	37,31,502	9	18,09,483	0	27,402	0.0
2009-10	34,13,79,523	5,276	80,27,964	138	18,19,841	0	47,808	0.0
2010-11	65,06,38,557	0	1,83,65,366	0	18,90,463	0	55,022	0.0
2011-12	86,40,17,736	2,47,75,644	2,27,20,032	6,18,342	17,96,546	16,464	47,540	430
2012-13	82,08,77,149	25,72,33,961	2,27,81,574	70,27,481	18,48,581	34,729	52,523	981
Apr-12	5,93,96,590	1,29,01,982	15,73,860	3,38,092	17,69,785	26,656	46,408	692
May-12	8,14,52,069	2,42,48,628	20,37,937	6,03,432	19,16,878	31,146	47,161	758
Jun-12	7,72,61,461	2,81,54,295	19,63,477	7,11,702	21,27,363	23,955	56,125	626
Jul-12	6,69,82,807	3,72,41,751	17,57,190	9,60,545	23,99,316	31,380	62,702	811
Aug-12	6,63,59,441	3,24,91,306	17,73,000	8,65,467	21,37,543	36,456	56,105	963
Sep-12	6,74,58,468	1,09,37,357	18,70,592	3,00,612	22,67,968	22,291	64,666	634
Oct-12	6,64,95,200	1,42,68,372	19,07,596	4,07,019	25,76,739	66,770	72,393	1,866
Nov-12	6,22,25,955	1,92,89,130	17,81,059	5,44,170	23,05,664	17,116	67,825	503
Dec-12	6,36,83,543	3,06,52,658	18,93,973	8,97,110	20,06,322	35,877	59,336	1,059
Jan-13	6,47,66,416	3,03,54,345	19,66,918	9,18,184	16,71,651	6,109	50,538	182
Feb-13	6,18,01,321	76,53,778	18,39,346	2,23,505	19,81,418	45,559	56,418	1,290
Mar-13	8,29,93,878	90,40,359	24,16,627	2,57,644	18,48,581	34,729	52,523	981

Source: BSE, NSE

TABLE 6: TRENDS IN STOCK OPTIONS AT NSE AND BSE

Year / Month	No. of Stocks		No. of Contracts		Notional Turnover (₹ crore)		Open Interest at the End of the Year / Month			
	NSE	BSE	NSE	BSE	NSE	BSE	No. of Contracts		Notional Turnover (₹ crore)	
							NSE	BSE	NSE	BSE
1	2	3	4	5	6	7	8	9	10	11
2008-09	250	115	1,32,95,970	0	2,29,227	0	78,573	0	2,521	0.0
2009-10	190	98	1,40,16,270	0	5,06,065	0	97,522	0	3,137	0.0
2010-11	223	89	3,25,08,393	0	10,30,344	0	55,144	0	1,499	0.0
2011-12	216	217	3,64,94,371	47,505	9,77,031	1,469	89,668	0	2,504	0
2012-13	146	146	6,67,78,193	3,87,870	20,00,427	10,246	1,04,527	52,849	2,758	1,247
Apr-12	215	216	34,56,871	0	1,00,615	0	1,44,972	0	3,734	0
May-12	210	212	45,07,462	147	1,12,897	3	81,696	0	1,926	0
Jun-12	210	211	42,01,617	241	1,08,129	5	1,10,535	0	3,086	0
Jul-12	208	209	47,12,838	508	1,35,603	13	1,85,813	0	4,959	0
Aug-12	208	209	50,75,037	1,835	1,43,841	42	1,59,057	126	4,221	3
Sep-12	207	208	56,48,395	6,789	1,64,569	146	1,60,274	103	4,757	2
Oct-12	156	156	63,83,991	6,694	2,02,506	150	2,52,989	512	6,797	11
Nov-12	152	152	59,74,095	5,742	1,79,570	125	1,71,886	105	5,027	3
Dec-12	151	151	57,39,400	13,091	1,77,600	317	1,77,657	1,113	5,610	32
Jan-13	149	149	89,02,249	30,283	2,98,597	914	1,43,804	0	4,558	0
Feb-13	148	148	61,31,698	68,398	1,94,775	1,890	1,38,616	13,234	3,976	340
Mar-13	146	146	60,44,540	2,54,142	1,81,724	6,641	1,04,527	52,849	2,758	1,247

Source: BSE, NSE

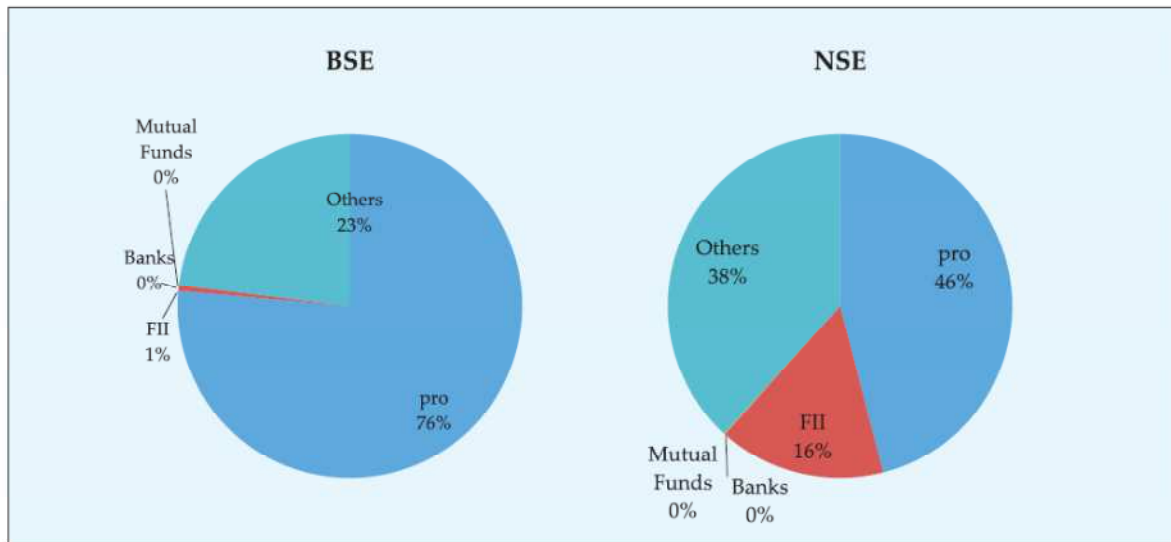
TABLE 7: SHARES OF VARIOUS CLASSES OF MEMBERS IN DERIVATIVE TURNOVER AT NSE AND BSE

Year / Month	Turnover (₹ crore)				Percentage Share		
	Trading Members	Trading cum Clearing Members	Trading cum Self Clearing Members	Total	Trading Members	Trading cum Clearing Members	Trading cum Self Clearing Members
1	2	3	4	5	6	7	8
2008-09	33,99,848	1,24,60,554	61,84,083	2,20,44,486	15.4	56.5	28.1
2009-10	48,99,892	2,02,12,013	1,02,15,902	3,53,27,807	13.9	57.2	28.9
2010-11	75,50,080	3,35,63,069	1,74,04,062	5,85,17,211	12.9	57.4	29.7
2011-12	79,81,555	3,45,47,595	2,05,54,043	6,30,83,193	12.7	54.8	32.6
2012-13	96,14,647	2,08,51,487	3,25,99,875	6,30,66,008	15.2	33.1	51.7
Apr-12	6,28,083	14,60,834	23,25,717	44,14,634	14.2	33.1	52.7
May-12	7,82,473	17,87,357	28,69,856	54,39,686	14.4	32.9	52.8
Jun-12	7,11,493	17,54,138	28,15,782	52,81,413	13.5	33.2	53.3
Jul-12	7,12,395	17,27,062	24,66,709	49,06,166	14.5	35.2	50.3
Aug-12	7,34,070	16,45,518	24,84,749	48,64,337	15.1	33.8	51.1
Sep-12	7,60,212	17,11,826	27,11,858	51,83,897	14.7	33.0	52.3
Oct-12	8,20,548	17,97,597	28,10,274	54,28,419	15.1	33.1	51.8
Nov-12	7,99,236	16,16,085	25,44,313	49,59,633	16.1	32.6	51.3
Dec-12	8,47,974	17,21,974	27,10,838	52,80,786	16.1	32.6	51.3
Jan-13	9,85,202	18,52,805	30,63,943	59,01,950	16.7	31.4	51.9
Feb-13	8,24,263	16,91,663	26,34,269	51,50,195	16.0	32.8	51.1
Mar-13	10,08,697	20,84,628	31,61,567	62,54,892	16.1	33.3	50.5

Source: SEBI Annual Report 2012-13

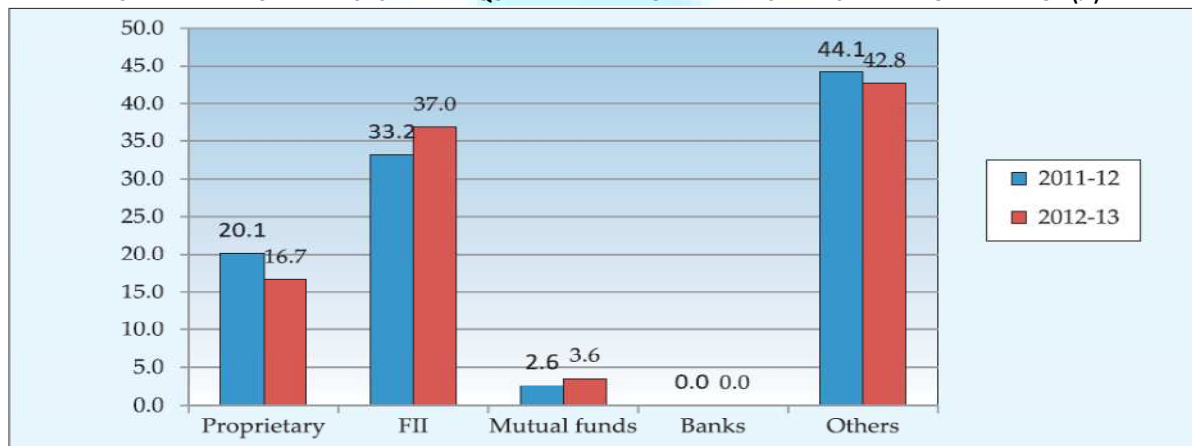
Participant-wise share in NSE Futures and options turnover for the year 2012-13 shows that proprietary trades accounted for an average 46% share in the total turnover as shown in Chart 3. While FIIs accounted for a share of 16% in the total turnover, others category comprising retail, HNIs, private and public companies had an average share of 38% in the total turnover. In the BSE Futures and Options (F&O) turnover, proprietary trades accounted for 76% share followed by others at 23% and FIIs at 1%. The participant-wise share in notional value outstanding at NSE for the period ending March 2013 is shown in the Chart 4.

CHART 3: PARTICIPANT-WISE AVERAGE SHARE IN F&O EQUITY TURNOVER IN THE YEAR 2012-13 (%)



Source: BSE, NSE

CHART 4: PARTICIPANT-WISE SHARE IN EQUITY DERIVATIVE OPEN INTEREST AT NSE AT END OF THE PERIOD (%)



Source: BSE, NSE

CONCLUSION

Innovation of derivatives have redefined and revolutionised the landscape of financial industry across the world and derivatives have earned a well-deserved and extremely significant place among all the financial products due to innovation and revolutionized the landscape. Derivatives are risk management tool that help in effective management of risk by various stakeholders. Derivatives provide an opportunity to transfer risk, from the one who wish to avoid it; to one, who wish to accept it. India's experience with the launch of equity derivatives market has been extremely encouraging and successful. The derivatives turnover on the NSE has surpassed the equity market turnover. Significantly, its growth in the recent years has surpassed the growth of its counterpart globally. India is one of the most successful developing countries in terms of a vibrant market for exchange-traded derivatives. This reflects the strengths of the modern development of India's securities markets, which are based on nationwide market access, anonymous safe and secure electronic trading, and a predominantly retail market. There is an increasing sense that the equity derivatives market is playing a major role in shaping price discovery. Factors like increased volatility in financial asset prices; growing integration of national financial markets with international markets; development of more sophisticated risk management tools; wider choices of risk management strategies to economic agents and innovations in financial engineering, have been driving the growth of financial derivatives worldwide and have also fuelled the growth of derivatives here, in India.

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