



AN ANALYSIS OF FINANCIAL DERIVATIVES AND ITS GROWTH RATE IN INDIA



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ABSTRACT

Risk is a characteristic feature of most commodity and capital markets. Variations in the prices of agricultural and non-agricultural commodities are induced, over time, by demand-supply dynamics. The last two decades have witnessed many-fold increase in the volume of international trade and business due to the wave of globalization and liberalization sweeping across the world. This has led to rapid and unpredictable variations in financial assets prices, interest rates and exchange rates, and subsequently, to exposing the corporate world to an unwieldy financial risk. In the present highly uncertain business scenario, the importance of risk management is much greater than ever before. The emergence of derivatives market is an ingenious feat of financial engineering that provides an effective and less costly solution to the problem of risk that is embedded in the price unpredictability of the underlying asset.

India's experience with the equity derivatives market has been extremely positive over the years. The Study conducted has been an attempt to analyze the derivative market over the years and an analysis and a comparative study of the NSE and BSE has been attempted with the help of percentage analysis, trend and CAGR.

KEYWORDS: Risk, unpredictable, variations, emergence, derivatives, NSE, BSE.

INTRODUCTION

Increased financial risk causes losses to an otherwise profitable organisation. This underlines the importance of risk management to hedge against uncertainty.

"Risk is like fire: If controlled it will help you; if uncontrolled it will rise up and destroy you." Theodore Roosevelt

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. A

derivative security is a financial contract whose value is derived from the value of something else, such as a stock price, a commodity price, an exchange rate, an interest rate, or even an index of prices. Derivatives may be traded for a variety of reasons. A derivative enables a trader to hedge some preexisting risk by taking positions in derivatives markets that offset potential losses in the underlying or spot market.

Derivatives markets have been in existence in India in some form or other for a long time. Bombay Stock Exchange (BSE) is an Indian stock exchange located in Mumbai, Maharashtra, India. Established in 1875 and is considered to be one of Asia's fastest stock exchanges,

with a speed of 200 microseconds and one of India's leading exchange groups and the oldest stock exchange in the South Asia region. The National Stock Exchange of India Limited (NSE) is the leading stock exchange of India, located in Mumbai. NSE was established in 1992 as the first demutualized electronic exchange in the country. NSE was the first exchange in the country to provide a modern, fully automated screen-based electronic trading system which offered easy trading facility to the investors spread across the length and breadth of the country.

RESEARCH OBJECTIVES

- ✧ To identify the trend and the growth rate in the NSE and BSE.
- ✧ To study the profile of NSE and BSE.
- ✧ To have an overview of the evolution of the derivatives market in India.

REVIEW OF LITERATURE

- Suchismita Bose(2006) in her research paper "The Indian Derivatives Market Revisited" presented accounts of the major developments in the Indian commodity, exchange rate and financial derivatives markets, and outlines the regulatory provisions that have been introduced to minimise misuse of derivatives.
- Ashutosh Vashishtha and Satish Kumar (2010) in their research paper "Development of Financial Derivatives Market in India- A Case Study" studied the historical roots of derivative trading, types of derivative products, regulation and policy developments, trend and growth, future prospects and challenges of derivative market in India and concluded that 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.
- Dr. Kamlesh Gakhar and Ms. Meetu (2013) in their research paper "Derivatives Market in India: Evolution, Trading Mechanism and Future Prospects" said that there are many issue (e.g., the lack of economies of scale, tax and legal bottlenecks, increased off-balance sheet

exposure of Indian banks need for an independent regulator etc), which need to be immediately resolved to enhance the investors' confidence in the Indian derivative market.

- Dr. Daksha Pratapsinh Chauhan (2013) in her research paper "Performance Of Stock Exchanges In India" has studied the financial performances of BSE and NSE over the last one decade. And has tried to find out of the two stock exchanges which one is performing better financially on various basis and concluded that BSE and NSE are the icons of Indian capital market they are not rivals, both of them are the pillars of Indian economy. Both must be try to be complimentary to each other. If both will go hand in hand than it will result in rapid growth and upliftment of the nation.
- Ms. Shalini H and Dr. Raveendra P (2014) in their research paper " A Study of Derivatives Market in India and its Current Position in Global Financial Derivatives Markets" studied the 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 and concluded that there is big significance and contribution of derivatives to financial system.

METHODOLOGY

The study conducted is based on descriptive research design, meaning a description of the state of affairs as it exists at present. Secondary data for the last ten years has been collected from the websites of BSE, NSE, other websites, books, journals and other articles. Analysis of the secondary data has been done both on historical and quantitative basis. No sample has been chosen as the entire data provided has been included for the study. The tools used in the study include percentage analysis, trend and Compound Annual Growth Rate (CAGR).

LIMITATIONS OF THE STUDY

Every research conducted has its limitations. These limitations are being brought forward such that when any further research is conducted the limitations given below may be taken into consideration.

- ✧ An attempt has been made to conduct a detailed study, still there are areas which have not been covered.
- ✧ The period of study is restricted to 10 years.

- ☞ Data taken in the analysis is based on secondary data obtained from the NSE and BSE, the limitations of the NSE and BSE are also applicable to the research.
- ☞ Data has been recorded based on availability and hence in few instances up to date data has not been shown.

ANALYSIS AND INTERPRETATION EVOLUTION OF THE DERIVATIVES MARKET IN INDIA

The financial derivatives gained prominence after 1970. In recent years, the market for financial derivatives has grown in terms of the variety of instruments available, as well as their complexity and turnover. Financial derivatives have changed the world of finance through the creation of innovative ways to comprehend, measure, and manage risks.

India's tryst with derivatives began in 2000 when both the NSE and the BSE commenced trading in equity derivatives. In June 2000, index futures became the first type of derivative instruments to be launched in the Indian markets, followed by index options in June 2001, options in individual stocks in July 2001, and futures in single stock derivatives in November 2001. Since then, equity derivatives have come a long way. New products, an expanding list of eligible investors, rising volumes, and the best risk management framework for exchange-traded derivatives have been the hallmark of the journey of equity derivatives in India so far.

BSE

Bombay Stock Exchange Limited is the oldest stock exchange in Asia with a rich heritage. Popularly known as "BSE", it was established as "The Native Share & Stock Brokers Association" in 1875. It was the first stock exchange in the country to obtain permanent recognition in 1956 from the Government of India under the Securities Contracts (Regulation) Act, 1956. Earlier an Association of Persons (AOP), the Exchange is now a demutualised and corporatised entity incorporated under the provisions of the Companies Act, 1956, pursuant to the BSE(Corporatisation and Demutualisation) Scheme, 2005 notified by the Securities and Exchange Board of India (SEBI). Bombay Stock Exchange Limited received its Certificate of Incorporation on 8th August, 2005 and Certificate of Commencement of Business on 12th August, 2005. The Exchange has succeeded the business and operations of BSE on going concern basis and its recognition as an Exchange has been continued by SEBI.

NSE

The National Stock Exchange of India was promoted by leading financial institutions at the behest of the Government of India, and was incorporated in November 1992 as a tax-paying company. In April 1993, it was recognized as a stock exchange under the Securities Contracts (Regulation) Act, 1956. NSE commenced operations in the Wholesale Debt Market (WDM) segment in June 1994. The Capital Market (Equities) segment of the NSE commenced operations in November 1994, while operations in the Derivatives segment commenced in June 2000.

IDENTIFICATION AND COMPARISON OF THE PROFILE OF THE BSE AND NSE

BASIS	BSE	NSE
Number of listed companies	5638	1407
Main Index	BSE SENSEX	CNX NIFTY
Index value	29025(as on march 2015)	8108(as on march 2015)
Location	Mumbai, India	Mumbai, India
Claim to fame	Oldest stock exchange in India	Largest stock exchange in terms of trading volume in India
Key Person	Mr. Ashishkumar Chauhan(MD & CEO)	Ms. Chitra Ramakrishna (MD & CEO)
Website	www.bseindia.com	www.nseindia.com
Geographical spread	417 cities	1486 cities
Number of members	1390	1414
Established in	1875	1992
Name	Bombay Stock Exchange	National Stock Exchange
Awards won	Golden Peacock Global CSR Award in financial sector	The Asian Banker Financial Derivative Exchange of the Year Award
Ranking w.r.t. market capitalization (Jan 2015)	11 th	12 th
Top trading companies	Shreecem, UNION bank,MARICO,UNITDSPR,CONCOR,TORNT power,EDELWEISS, UPS,RALLIS,ALSTOMT&D	SSLT, Tata Steel, HindalCo, NTPC, BHEL, PNB, ITC, BankBaroda, Hindunilvr, ONGC

QUANTITATIVE ANALYSIS OF THE NSE AND BSE

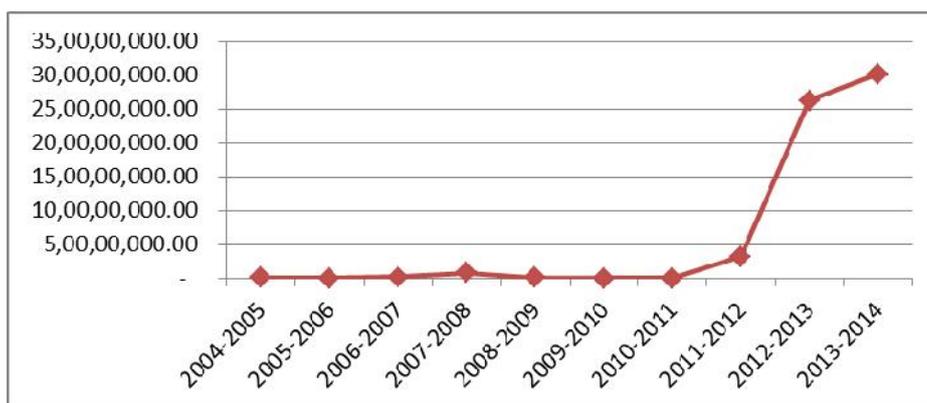
A qualitative analysis of the BSE and NSE only performed is based on the number of contracts and shows a description of its merits and a fairly vague view of turnover of the futures and options of the BSE and NSE. its quantitative working. The quantitative analysis

BOMBAY STOCK EXCHANG (BSE)

Table No: 1 Number of Contracts and Turnover of BSE

SL. NO.	Year	Total Contracts	Total Turnover(In crores)
1	2004-2005	531,719.00	16112.32
2	2005-2006	203.00	8.78
3	2006-2007	1,781,220.00	59006.62
4	2007-2008	7,453,371.00	242308.41
5	2008-2009	496,502.00	11774.83
6	2009-2010	9,028.00	234.06
7	2010-2011	5,623.00	154.33
8	2011-2012	32,222,825.00	808475.99
9	2012-2013	262,440,691.00	7163576.66
10	2013-2014	301,942,441.00	9219434.32

Chart No:1 BSE Overall Value of Contracts

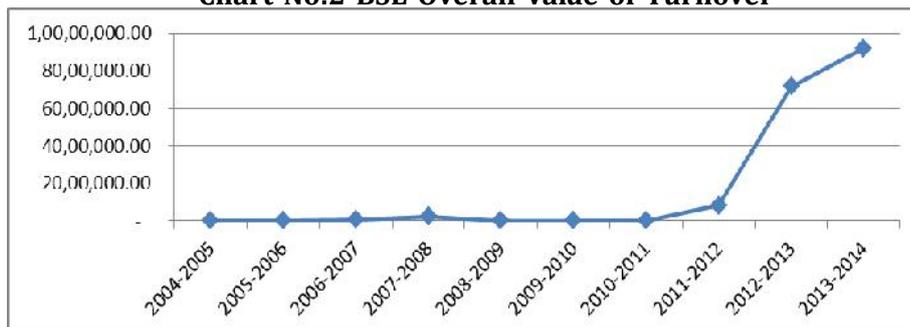


INTERPRETATION

The number of contracts received by BSE over the last 10 years has had a rising trend from the years 2012 onwards before which the number of contracts received has been significantly less. In the year 2005 the contracts received stood at 531,719 for the rest of the years till 2011 the number of contracts was significantly

low, with the contracts received in 2011 standing at 5,623 after which the number of contracts received had a sudden rise in 2012 the amount stood at 32,222,825 in 2013 again a rise amounting to 262,440,691. Year 2013 witnessed the highest number of contracts amounting to 301,942,441.

Chart No:2 BSE Overall Value of Turnover



INTERPRETATION

The value of turnover of the BSE over the last 10 years has had a rising trend from the years 2012 onwards before which the number of contracts received has been significantly less. It can be observed that the value of turnover in 2006 stood at 8.78 which is the lowest of all the

10 years. In the year 2012 onwards there was a sudden rise in the turnover amounting to 808475.99 and the year 2014 witnessed the highest turnover amounting to 9219434.32.

Table No: 2 Compound Annual Growth Rate

BSE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No of contracts	531,719	203	1,781,220	7,453,371	496,502	9,028	5,623	32,222,825	262,440,691	301,942,441
		100%	877348%	318%	-93%	-98%	-38%	572954%	714%	15%
CAGR	102%									

BSE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total turnover	16,112.32	8.78	59,006.62	242,308.41	11,774.83	234.06	154.33	808,475.99	7,163,576.66	9,219,434.32
		-100%	671957%	311%	-95%	-98%	-34%	523762%	786%	29%
CAGR	102%									

INTERPRETATION

The CAGR for the number of contracts stands at 102% which seems to be a very good percentage on the onset but the average annual growth rate has had tremendous fluctuation over the years. While in some years the percentage has shown a huge rise in some years there has been a negative growth. For instance in the year 2008 the percentage stands at 318% while in 2009 at -

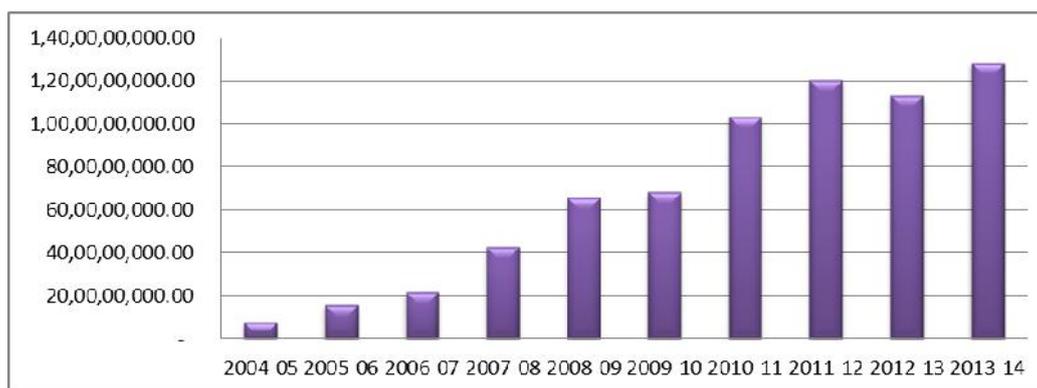
98%. In the year 2014 the average annual growth rate stood at 15%.

In the case of total turnover CARG stands at 102% again with a highly fluctuating average annual growth rate. There has been tremendous fluctuation over the years in the average annual growth rate, with the percentage standing at 311% in 2008 and drastically falling down to -95% followed again by a rise to 29% in 2014.

NATIONAL STOCK EXCHANGE (NSE)**Table No: 3 Number of Contracts and Turnover of NSE**

SL. NO.	Year	No. of contracts	Turnover
			Rs in Crores
1	2004-05	77,017,185.00	2,546,982.00
2	2005-06	157,619,271.00	4,824,174.00
3	2006-07	216,883,573.00	7,356,242.00
4	2007-08	425,013,200.00	13,090,477.93
5	2008-09	657,390,497.00	11,010,482.17
6	2009-10	679,293,922.00	17,663,664.69
7	2010-11	1,034,212,062.00	29,248,221.20
8	2011-12	1,205,045,464.00	31,349,731.91
9	2012-13	1,131,467,418.00	31,533,004.21
10	2013-14	1,284,406,775.00	38,209,214.81

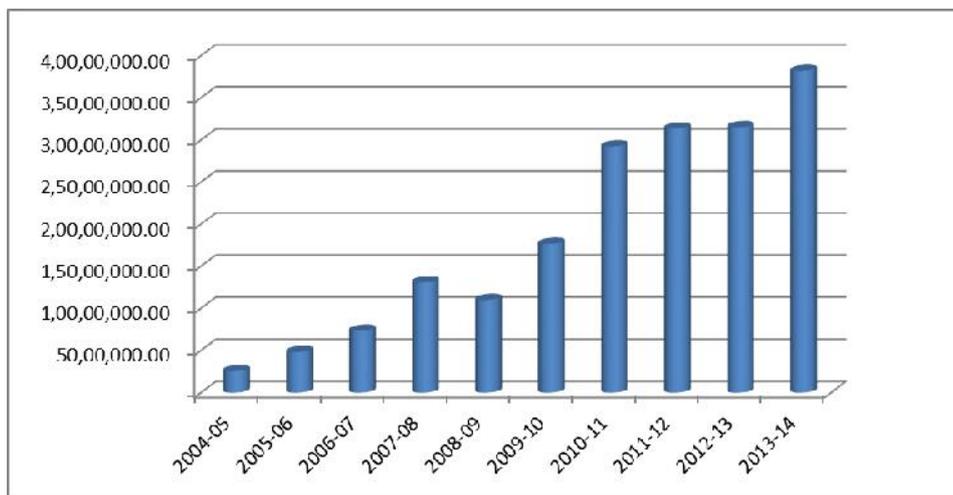
Chart No:3 NSE Overall Value of Contracts



INTERPRETATION

The number of contracts awarded to NSE over the years has had a rising trend till the year 2011-2012 after which there has been a decline and again a rise. In the year 2005 the number of contracts stood at 77,017,185 followed by a constant increase over the years from 2006

to 2012, in the year 2012 the number of contracts received stood at 1,205,045,464 followed by a decline in 2013 at 1,131,467,418 and again an increase to 1,284,406,775. On the whole we could say that the trend has been fluctuating after the year 2011-2012.



INTERPRETATION

The total turnover of NSE has been on a rise from the years 2005 to 2008 with the amounts being 2,546,982.00 , 4,824,174.00 ,7,356,242.00 ,13,090,477.93 respectively after which there has been a sudden fall in the turnover in the year 2009 the amount being

11,010,482.17 and from the year 2010 to 2014 there has again been a rise in the turnover and the highest turnover recorded in all the years has been in the year 2014 the amount being 38,209,214.81 . Overall again a fluctuating trend in the turnover of NSE.

Table No: 4 Compound Annual Growth Rate

NSE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No of contracts	77,017,185	157,619,271	216,883,573	425,013,200	657,390,497	679,293,922	1,034,212,062	1,205,045,464	1,131,467,418	1,284,406,775
		105%	38%	96%	55%	3%	52%	17%	-6%	14%
CAGR	37%									

NSE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total turnover	2,546,982	4,824,174	7,356,242	13,090,477.93	11,010,482.17	17,663,664.69	29,248,221.20	31,349,731.91	31,533,004.21	38,209,214.81
		89%	52%	78%	-16%	60%	66%	7%	1%	21%
CAGR	35%									

INTERPRETATION

The CAGR for the number of contracts stands at 37%, over the years from 2005 to 2014 the average annual growth rate has been fluctuating and irregular. While in the year 2006 the percentage stood at its highest with 105% in the year 2007 it can be observed that there was a huge drop in the growth rate to 38%. In the year 2008 again a rise there was a rise in the average annual growth rate to 96%. Year 2010 saw one of the lowest percentages of the average annual growth the percentage being 3%. In 2011 there was a drastic increase to 52% followed by again a decrease to 17%. While in the year 2013 there was a negative growth rate of -6%. In the year 2014 the average annual growth rate stood at 14%.

The CAGR for the total turnover for the years 2005 to 2014 stands at 35% , the average annual growth rate has been fluctuating and irregular. In the year 2006 the average annual growth rate stood at 89%. In 2007 there was a drop in the percentage to 52%. In 2008 again there was a rise in the percentage to 78%. Year 2009 saw a negative annual growth rate to the extent of -16%. Followed by a drastic rise in the year 2010 with an average annual growth rate to the extent of 60%. Again there was a significant decline in the years 2012 and 2013 to the extent of 7% and 1% respectively. In the year 2014 the percentage stood at 21%.

FINDINGS

Evolution Of The Derivatives Market In India:-

- ✧ The overview of the evolution of the stock exchange in India shows that there are been a positive upsurge in the derivative market over the last 10 years.
- ✧ The BSE and the NSE have been the backbone of the derivative market in India.

Bombay Stock Exchange:-

- ✧ BSE is the oldest stock exchange in India but however both the number of contracts and the total turnover of the exchange have been fluctuating over the past 10 years. The total turnover and the number of contracts are less as compared to that of the NSE.

- ✧ The CAGR on the whole for both the number of contracts and the turnover seems good but the average annual growth rate has been fluctuating in an haphazard manner with a huge rise in some years and a sudden fall in some years.

National Stock Exchange:-

- ✧ NSE over the past 10 years and till date manages to hold the title of largest exchange in terms of trade volume. This is evident from the data given above as the number of contracts and the total turnover have been high for the last 10 years.
- ✧ However it is to be observed that the average annual growth rate shows an inconsistent rise in the number of contracts and the amount of turnover over the past 10 years while the overall CAGR has been satisfactory the yearly growth has shown a rise in some years and a fall in the other years proving the inconsistency in the growth.

RECOMMENDATIONS

- ✓ The BSE needs to concentrate on increasing its contracts and turnover since its performance as compared to the NSE seems quite less.
- ✓ Increasing its turnover and contracts would not be sufficient for the BSE since it needs to concentrate on constant and rising average annual growth instead of haphazard and fluctuation average annual growth.
- ✓ The NSE has been performing comparatively well but there is always scope for further improvement.
- ✓ An attempt to have a constant and rising average annual growth would be a favorable option for the NSE.
- ✓ To have a constant and rising turnover and an increasing number of contracts both the stock exchanges need to market and advertise the need to trade in derivatives.
- ✓ The traders need to be educated on the risk and return element attached to trading in derivatives.

SCOPE FOR FURTHER STUDY

The stock market in India is restricted to the BSE and NSE, but scope for further study is huge and further study can be conducted in the following areas:

- ☞ Products traded in the derivative market.
- ☞ The key players in the derivative market and their observations of the market they are trading in.
- ☞ Perceptions of the stock exchange employees to improve the overall performance of the Indian Stock Exchanges.
- ☞ The position of India's derivative market as compared to the other countries in the world.
- ☞ Investor's perception towards trading with derivatives because of its risk return element.
- ☞ How technology can be both a boon and a bane to the derivative market.

CONCLUSION

India is one of the most successful developing countries in terms of a vibrant market for exchange-traded derivatives. This reiterates the strengths of the modern development in India's securities markets, which are based on nationwide market access, anonymous electronic trading, and a predominant retail market. There is an increasing sense that the equity derivatives market plays a major role in shaping price discovery as well.

The BSE and NSE have been key sources in the trading of derivatives. But the overall performance of both the exchanges needs to be improved. It can be clearly seen that most traders are reluctant to trade in derivatives because of its risk factor. But we need to note that:

"To win without risk is to triumph without glory." Pierre Corneille

Derivatives are considered very risky and most people trade with derivatives only for its return. It would be nice to conclude this study with the quote given below:

"Derivatives in and of themselves are not evil. There's nothing evil about how they're traded, how they're accounted for, and how they're financed, like any other financial instrument, if done properly." James Chanos

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