



## INDIAN FINANCIAL DERIVATIVES MARKET: GROWTH AND DEVELOPMENT DURING THE PERIOD 2000-01 TO 2012-13

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### **Abstract**

Since its inception in June 2000, derivatives market has exhibited exponential growth both in terms of volume and number of contracts. The market turnover (NSE) has grown from Rs. 2365 in 2000-01 to Rs.31533004 Crores in 2012-13. Within a period of Thirteen years, derivatives trading in India has surpassed cash segment. The present study encompasses in its scope and analysis of historical roots of derivative trading, types of derivative products, regulation, trend and growth, future prospectus and challenges of derivatives market in India.

### **Introduction**

Derivatives market has been in existence in India in some form or the other for a long time. In the area of commodities the Bombay cotton trade association started study in 1875 and by the early 1900's India had one of the largest futures industry. In 1952 the government banned cash settlement and options trading and the derivatives shifted to in formal forward markets. In recent years futures government policy has changed, along foreign increased role for market based pricing and less suspecting of derivatives trading. The ban of futures trading on many commodities was lifted starting in the early 2000's and national electronic commodity exchanges were created.

In the equity markets, a system of trading called "BADLA" involving some elements of forwards trading had been in existence for decades. However the system led to a number of undesirable practices and is was prohibited off and on till the SEBI banned it for good in 2001. A series of reforms of the stock market between 1993 and 1996 paved the way for the development of exchange traded derivatives market in India. In 1993, the government created NSE in collaboration with state owned financial institutions. NSE improved the efficiency and transparency of stock markets by offering a fully automated screen based trading system and real time price dissemination. In 1995 a prohibition on trading options was lifted. In 1996 the NSE sent a proposal to SEBI for listing exchange traded derivatives. The report of L.C Gupta committee, setup by the SEBI recommended a phased introduction of derivatives product as bi-level regulation. (i.e. self regulation by exchanges with SEBI providing a supervisory and advisory role). Another report by the J.R. Verma committee worked out various operational details such as marginal systems. In 1999 the Securities Contract (regulation) Act of 1956 was amended so that derivatives could be declared securities. This allowed the regulatory framework for trading securities to be extended to derivatives. The Act considers derivatives to be legal and valid.

### **Review of Literature**

In their article titled "Development of Financial Derivatives in India-A case Study"<sup>1</sup>, Vashistha Ashutosh and Satish Kumar, have stated that Risk is a characteristic feature of most commodity and capital markets. The authors state that, innovation of derivatives have redefined and revolutionized the landscape of financial industry across the world and derivatives have earned a well deserved and extremely significant place among all the financial products.

In his article titled "Derivatives market, products and participants -A case Study"<sup>2</sup>, Michael Chui has stated that, the chapter provides an overview of derivatives markets, products and participants. Derivatives are invented in response to some fundamental changes in the global financial system. They, if properly handled, should help improve the resilience of the system and bring economic benefits to the users.

In his article titled "Indian Derivatives Market -A case Study"<sup>3</sup>, Asani Sarkar has stated that, There remain major areas of concern for Indian derivatives users. Large gaps exist in the range of derivatives products that are traded actively. In equity derivatives, NSE figures show that almost 90% of activity is due to stock futures or index futures, whereas trading in options is limited to a few stocks, partly because they are settled in cash and not the underlying stocks. Exchange-traded derivatives based on interest rates and currencies are virtually absent.

In his article titled "Commodity Derivatives Market in India: Development, Regulation and Future Prospects -A case Study"<sup>4</sup>, Narendra L. Ahuja has stated that, India is one of the top producers of a large number of commodities, and also has a long history of trading in commodities and related derivatives. The commodities derivatives market has seen ups and downs, but seem to have finally arrived now. The market has made enormous progress in terms of technology, transparency and the trading activity.



In his article titled “OTC Derivatives Market in India: Recent Regulatory Initiatives and Open Issues for Market Stability and Development -A case Study”<sup>5</sup>, Dayanand Arora, state that, the OTC derivatives markets all over the world have shown tremendous growth in recent years. In the wake of the present financial crisis, which is believed to have been exacerbated by OTC derivatives, increasing attention is being paid to analyzing the regulatory environment of these markets. In this context, we analyze the regulatory framework of the OTC derivatives market in India.

In his article titled “Legal Aspects of Derivatives Trading in India-A case Study”<sup>6</sup>, Shashank Saksena has state that, the article traces the evolution of regulatory framework and how it facilitated the development of derivatives trading in India. It also suggests some concrete measures to further develop the derivatives markets. These relate to basically strengthening the financial infrastructure including payment system and providing due concern to the security holders in the event of insolvency situation in multilateral netting contracts.

In their article titled “Discovering Derivatives” -A case Study<sup>7</sup> the authors *Nishith M. Desai and Lubna Kably* stated that, while the derivative market is yet to fully develop in India, derivatives on Indian securities are currently trading abroad. Many GDR issues are bundled with warrants which are then traded separately. For example, the Hindalco issue done on November 2, 1995 bundled every two shares with one warrant. Custom built derivatives based on Indian market indexes and baskets of Indian GDRs are also known to exist abroad. As the first few steps towards recognition and acceptance of derivatives have been taken, perhaps a few years hence a radical change will be witnessed on the Indian shores.

In their article titled “The Impact of Derivatives on Stock Market Volatility: A study of Nifty Index”- A case Study<sup>8</sup>. T. Mallikarjunappa and Afsal E. M, the author have stated that the volatility implications of the introduction of derivatives on stock market volatility in India using the S&P CNX Nifty Index as a benchmark. We find clustering and persistence of volatility before and after derivatives, while listing seems to have no stabilization or destabilization effects on market volatility. The post-derivatives period shows that the sensitivity of the index returns to market returns and any day-of-the-week effects have disappeared. That is, the nature of the volatility patterns has altered during the post-derivatives period.

In his article titled “, ‘Derivatives in Indian Financial Market- ‘Structure & Financial Concerns’ An Indian Perspective” -A case Study<sup>9</sup>, Kalpit Lodha has stated that, The proposal to introduce derivatives trading in financial markets has generated more heat than light. Opinion is sharply divided on the issue. While the National Stock Exchange (NSE) is pushing aggressively for derivatives trading, another section of professionals and experts has warned against it as the Indian markets are not yet ready for this form of trading. Strongly opposing the move, G.S. Patel had cautioned the regulators and the government that “introduction of derivatives trading in any form, at present, is dangerous in markets like ours”. He argues that time is not yet ripe to introduce and, such trading is also not a priority item for the stock exchanges.

In their article titled “Regulation and Accounting Treatment Future and Option in Indian Derivative Market” -A case Study<sup>10</sup>, Matloob Ullah Khan, Dr. Ambrish Gupta and Dr. Sadaf Siraj have stated that, we describe accounting adjustment procedure of Future and Option at the time of payment or receipt of mark-to-market margin, initial margin, open interest as on balance sheet date, final settlement or square-up, daily settlement, at the time of default, discloser requirement and method for determination of profit or loss in multiple option situations.

#### Derivatives in India: A Chronology

Date	Progress
14 December 1995	NSE asked SEBI for permission to trade index futures.
18 November 1996	SEBI setup L.C. Gupta Committee to draft a policy framework for index futures.
11 May 1998	L.C. Gupta Committee submitted report
7 July 1999	RBI gave permission for OTC forward rate agreements (FRAs) and interest rate Swaps.
24 May 2000	SIMEX chose Nifty for trading Futures and Options on an Indian Index.
25 May 2000	SEBI gave permission to NSE and BSE to do index futures trading.
9 June 2000	Trading of BSE Sensex Futures commenced at BSE.
12 June 2000	Trading of Nifty Futures commenced on NSE.
31 August 2000	Trading of Futures and Options on Nifty to commence at SIMEX.
June 2001	Trading of Equity Index Options at NSE.
July 2001	Trading of Index Options at NSE.
9 November 2002	Trading of Single Stock Future at BSE.



<b>June 2003</b>	Trading of Interest Rate Futures at NSE.
<b>13 September 2004</b>	Weekly Options at BSE.
<b>1 January 2008</b>	Trading of Chotta (mini) Sensex at BSE.
<b>1 January 2008</b>	Trading of Mini Index Futures and Options at BSE.
<b>29 August 2008</b>	Trading of Currency Futures at NSE.
<b>2 October 2008</b>	Trading of Currency Futures at BSE.
<b>10 December 2008</b>	S&P CNX Nifty futures and options at NSE
<b>August 2009</b>	Launch of interest rate futures at NSE
<b>7<sup>th</sup> August 2009</b>	BSE-USE form alliance to develop currency and interest rate derivative markets
<b>18<sup>th</sup> December 2009</b>	BSE's new derivatives rate to lower transaction costs for all
<b>February 2010</b>	Launch of currency future on additional currency pairs at NSE
<b>April 2010</b>	Financial derivatives exchange award of the year by Asian Banker to NSE
<b>July 2010</b>	Commencement Trading of S&P CNX Nifty futures at CME & NSE
<b>October 2010</b>	Introduction of European style stock options at NSE

### Participants of Derivatives Market

Derivatives are these financial instruments which derive their value from the value of other assets. In other words they have no words on their own rather their value depends on the value of underlying asset. There are three important participants in the derivative market which include the following:

- **Hedgers:** They are those who buy or sell in derivatives market in order to reduce the risk of their portfolio. For example, if the portfolio of hedger is long then he will protect or hedge this position by buying put options in the derivatives market.
- **Speculators:** Speculators are those who enter into the market purely for making profit by buying or selling the derivatives, they don't have any intention of hedging their portfolio or such thing, their only aim is to make profit based on their judgment about the stock or market.
- **Arbitrageurs:** Arbitrage refers to obtain risk free profit by simultaneously buying and selling similar instruments in different markets. They enter into derivative market in order to take advantage of any such opportunity and profit from it.

### Types of Derivatives Contracts

#### Forwards

In finance, a forward contract or simply a forward is a non-standardized contract between two parties to buy or sell an asset at a specified future time at a price agreed today. The party agreeing to buy the underlying asset in the future assumes a long position, and the party agreeing to sell the asset in the future assumes a short position. The price agreed upon is called the delivery price, which is equal to the forward price at the time the contract is entered into.

#### Futures Contract

In finance, a futures contract is a standardized contract between two parties to exchange a specified asset of standardized quantity and quality for a price agreed today (the futures price or the strike price) with delivery occurring at a specified future date, the delivery date. The contracts are traded on a futures exchange.

#### SWAPS

The swap market, today, takes place the most significant development in the global financial market. It has fundamentally transformed the way in which corporate business world and the bankers look at funding choice. Swaps are frequently used by them to arrange complex and innovative financing which decrease borrowing costs and increase control over other financial variables.

#### Options

Options are contracts that give the holder the option to buy/sell specified quantity of the underlying assets at a particular (strike) price on or before a specified time period. The word 'option' implies that the holder of the options has the right but not the obligation to buy or sell underlying assets.

#### Objectives

- To analyse the performance of Futures trading during the period 2001-2012.
- To analyse the trading volumes at NSE.



### Methodology

According to Cassel, C. & Symon, G., (2004), all research involves data collection and analysis, whether through observation, reading, measurement, asking question or a combination of these or other strategies. In simple words research can be primary or secondary. This study is based mainly on secondary data collected from various sources such as published reports, journals, magazines, books, official websites of NSE, BSE and SEBI, bulletins and newspapers etc.

### Data Collection

The collection of information has been based on secondary probe. The researcher applies convenient method to collect the secondary data from the websites of NSE and BSE and from the various Journals, Magazines and newspapers.

### Analysis and Interpretation

The data collected from the secondary source has been properly arranged and tabulated for the analysis and interpretation. The analysis and interpretation of such tabulated data has been carried out with the help of various Mathematical tools and Statistical methods such as Simple Average and Percentage, Chi-square test and ANOVA to derive appropriate inferences and conclusions. The growth of derivatives both in terms of number of contracts as well as turnover is shown in the following tables and charts:

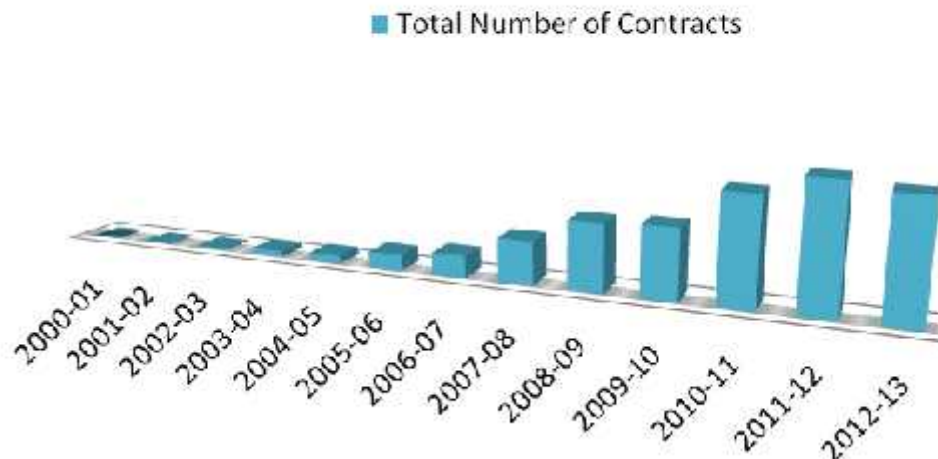
#### Derivatives Performance at NSE in Terms of Turnover and Number of Contracts Traded Since 2000-01

Table 1: Total No. of Contracts

Year	Total No. of Contracts
2000-01	90580
2001-02	4196873
2002-03	16768909
2003-04	56886776
2004-05	77017185
2005-06	157619271
2006-07	216883573
2007-08	425013200
2008-09	657390497
2009-10	679293922
2010-11	1034212062
2011-12	1205045464
2012-13	1131467418

Chart 1: Total Turnover at NSE

### Total Number of Contracts

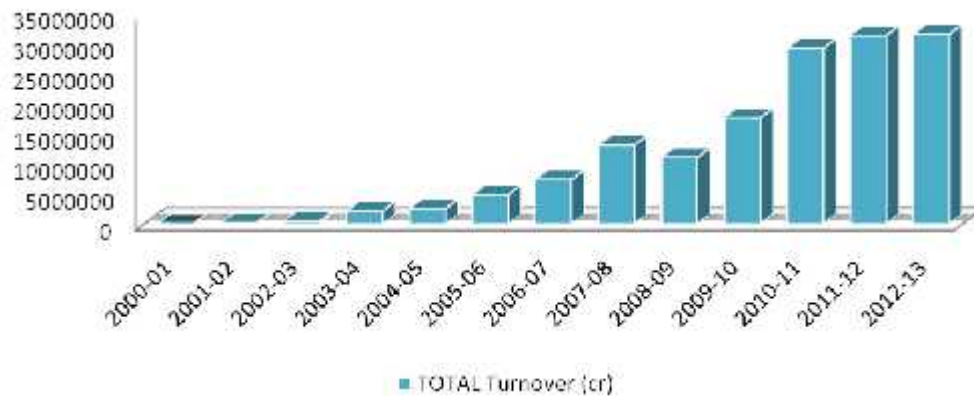




**Table 2**

Year	Total Turnover (Cr)
2000-01	2365
2001-02	101926
2002-03	439862
2003-04	2130610
2004-05	2546982
2005-06	4824174
2006-07	7356242
2007-08	13090477.8
2008-09	11010482.2
2009-10	17663664.6
2010-11	29248221.1
2011-12	31349731.7
2012-13	31533004

**Chart 2**



**Table 3: Annual Derivative Growth at NSE (%)**

YEAR	Total Turnover	Annual Growth
2000-01	2365	0
2001-02	101926	4209.767442
2002-03	439862	331.5503404
2003-04	2130610	384.38
2004-05	2546982	19.54
2005-06	4824174	89.41
2006-07	7356242	52.49
2007-08	13090477.75	77.95
2008-09	11010482.2	-15.89
2009-10	17663664.57	60.43
2010-11	29248221.09	65.58
2011-12	31349731.74	7.185088774
2012-13	31533003.96	0.584605385





Chart 3

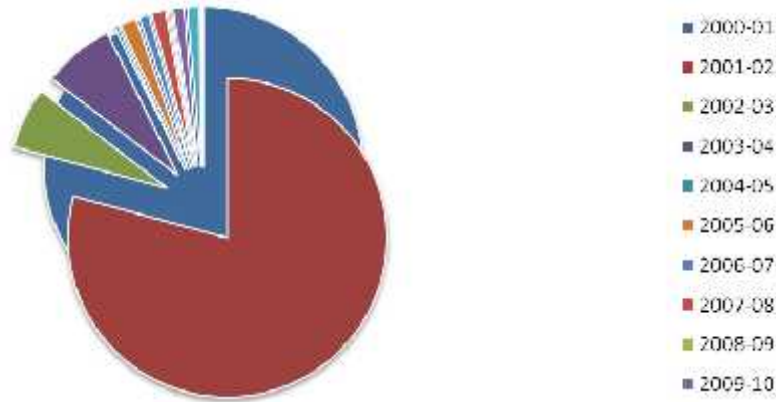


Table 4: NSE Cash and Derivative Segment Turnover

YEAR	Derivatives Market Turnover	Cash Market Turnover	Total Turnover	Contribution by Derivatives Market	Contribution by Cash Market
2000-01	2365	1339510	1342875	0.18	99.82
2001-02	101926	53167	615093	16.57	83.43
2002-03	439862	61989	1057851	41.58	58.42
2003-04	2130610	1099535	3230145	65.96	34.04
2004-05	2546982	1140071	3687053	69.08	30.92
2005-06	4824174	1569556	6393730	75.45	24.55
2006-07	7356242	1945285	9301527	79.09	20.91
2007-08	13090477.8	3551038	16641515.75	78.66	21.34
2008-09	11010482.2	2752023	13762505.2	80.00	20.00
2009-10	17663664.6	4138024	21801688.57	81.02	18.98
2010-11	29248221.1	3577412	32825633.09	89.10	10.90
2011-12	31349731.7	2810893	34160624.7	91.77	8.23
2012-13	31533004	2708279	34241283	92.09	7.91

Chart 4: NSE Cash Segment V/S Derivative Segment

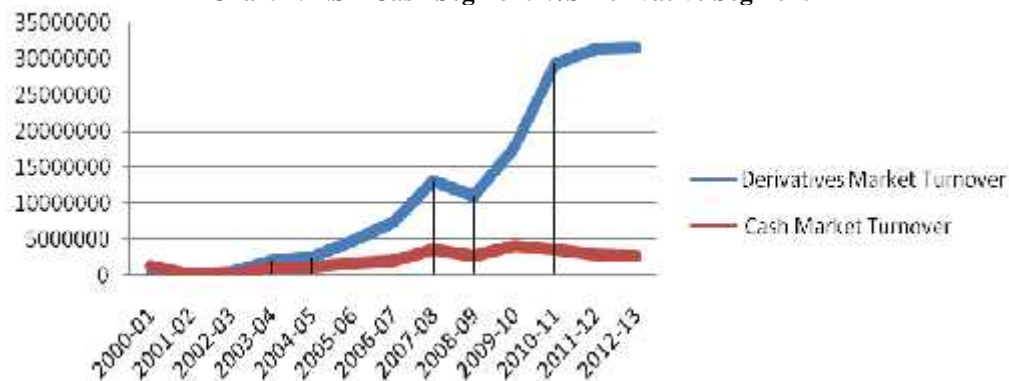


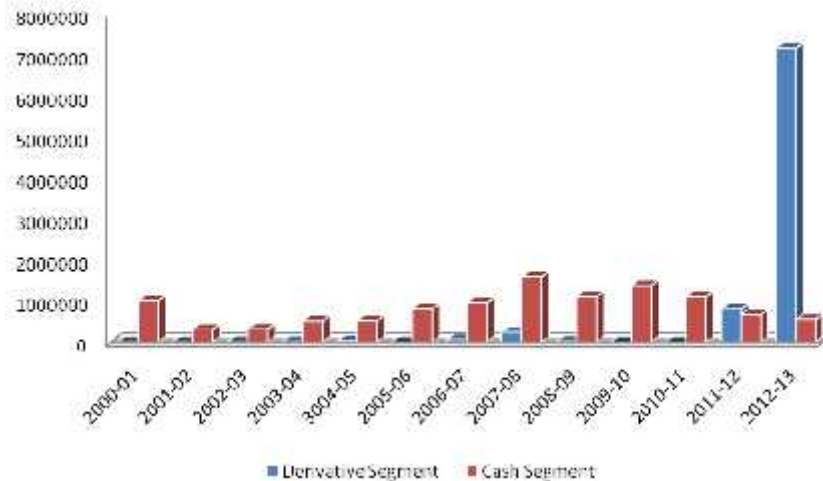
Table 5: BSE Derivative Segment and Cash Segment

Year	Derivative Segment	Cash Segment
2000-01	1673	1000031.5
2001-02	1922	307292.37
2002-03	2478	314073.19
2003-04	5022	502618.4
2004-05	16112	518715.67
2005-06	8.78	816074.02



2006-07	59007	956185.41
2007-08	242308	1578856.1
2008-09	11775	1100073.6
2009-10	234.1	1378809
2010-11	154.3	1103466.4
2011-12	808475.99	667022.43
2012-13	7163576.66	548631.56

Chart 5



## Discussion

Within a period of Thirteen years, derivatives trading in India has surpassed cash segment. Since their introduction the market turnover (NSE) has grown from Rs. 2365 in 2000-01 to Rs.31533004 Crores in 2012-13. Despite of encouraging growth and development, industry analysts feel that the derivatives market has not yet realised its full potential in terms of growth and trading. Although recently NSE and BSE have added more products in their derivatives segment (Weekly Options, Currency Futures, and Mini Index etc.) but still it is far less than the depth and variety of products prevailing across many developed Capital Markets.

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