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Financial Derivatives in Indian Stock Market

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Abstract

Indian stock market is one of the well organized parts of the financial system which provides immense role in the socio economic development of the country through capital formation, mobilization of savings from the public and allocation of financial resource to needed segments. Due to the evaluation of innovative approaches and competitive environment, stock markets have been transformed from the traditional to highly technology oriented. Financial derivatives are one of the growing segments of investment which consists of high fluctuations of risk and return. Opportunities and awareness about the financial derivatives are becoming faster than any other segment in the stock market. Growth and performance of the financial derivatives in the stock markets recorded Rs. 2365 crore in 2000-2001 to Rs.11010482.20 crore in 2008-2009.The average daily NSE financial derivatives segments turnover has increased from Rs. 11 crore in 2000-2001 to Rs. 46938.02 crore in 2008-2009. BSE financial derivatives segment turnover has increased from 1673 in 2000-2001 to 242309 in 2007-2008. This trend shows that there is wide scope and opportunities to the financial derivatives in Indian stock markets. This paper is an attempt to understand the concept of financial derivatives, regulations, role, growth and future prospects of financial derivatives of Indian Stock market.

Keywords: Arbitrageurs, Derivatives, forward, Hedgers, options, speculators, stock market

INTRODUCTION

Indian stock market is one of the well organized parts of the financial system which provides immense role in the socio economic development of the country through capital formation, mobilization of savings from the public and allocation of financial resource to needed segments (Sarkar, 2006). Due to the evaluation of innovative approaches and competitive environment, stock markets transformed from the traditional to highly technology oriented (NSE, 2001). Latest and demand oriented financial products were introduced in the stock market and the market has been growing due to the global entities, investment opportunities, changing life style of the people and industrialization in the country . Information technology in the stock market builds a new avenue which facilitates attract the investors with easy approach (Vashishtha, 2010).

New financial products dominate the stock market with enormous volume of investment which supports sustainable and prompt enlargement of the economy (Bhole, 2008). Derivatives, which is one the new financial products, dominated the stock markets and recorded Rs. 2365 crore in 2000-2001 to Rs.11010482.20 crore in 2008-2009.The average daily NSE financial derivatives segments turnover has increased from Rs. 11 crore in 2000-2001 to Rs. 46938.02 crore in 2008-2009. BSE's financial derivatives segment turnover has increased from 1673 in 2000-2001 to 242309 in 2007-2008.

THE NEED FOR A DERIVATIVES MARKET

A derivative is a financial instrument that derives or gets it value from some real good or stock. It is in its most basic form simply a contract between two parties to exchange value based on the action of a real good or service. Typically, the seller receives money in exchange for an agreement to purchase or sell some good or service at some specified future date. The derivatives market performs a number of economic functions:

1. They help in transferring risks from risk adverse people to risk oriented people

2. They help in the discovery of future as well as current prices

3. They catalyze entrepreneurial activity

4. They increase the volume traded in markets because of participation of risk adverse people in greater numbers

5. They increase savings and investment in the long run.

DEFINITION OF FINANCIAL DERIVATIVES

Section 2(ac) of Securities Contract Regulation Act (SCRA) 1956 defines Derivative as:

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;

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b) "a contract which derives its value from the prices, or index of prices, of underlying securities".

TYPES OF DERIVATIVES

A derivative is a financial instrument - or more simply, an agreement between two people or two parties - that has a value determined by the price of something. The following are the major types of derivatives which are commonly available in the stock market.

Forwards: A forward contract is a customized contract between two entities, where settlement takes place on a specific date in the future at today's pre-agreed price.

Futures: A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. Futures contracts are special types of forward contracts in the sense that the former are standardized exchange-traded contracts

Options: Options are of two types - calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

Warrants: Options generally have lives of up to one year, the majority of options traded on options exchanges having a maximum maturity of nine months. Longer-dated options are called warrants and are generally traded over-the-counter.

LEAPS: The acronym LEAPS means Long-Term Equity Anticipation Securities. These are options having a maturity of up to three years.

Baskets: Basket options are options on portfolios of underlying assets. The underlying asset is usually a moving average or a basket of assets. Equity index options are a form of basket options.

Swaps: Swaps are private agreements between two parties to exchange cash flows in the future according to a prearranged formula. They can be regarded as portfolios of forward contracts. The two commonly used swaps are:

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

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

The participants in a derivatives market

Hedgers use futures or options markets to reduce or eliminate the risk associated with price of an asset.

Speculators use futures and options contracts to get extra leverage in betting on future movements in the price of an asset. They can increase both the potential gains and potential losses by usage of derivatives in a speculative venture.

Arbitrageurs are in business to take advantage of a discrepancy between prices in two different markets. If, for example, they see the futures price of an asset getting out of line with the cash price, they will take offsetting positions in the two markets to lock in a profit.

INTRODUCTION OF FUTURES IN INDIA

The first derivative product to be introduced in the Indian securities market is going to be "INDEX FUTURES". In the world, first index futures were traded in U.S. on Kansas City Board of Trade (KCBT) on Value Line Arithmetic Index (VLAI) in 1982.

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 at 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 Stock Options at NSE

November 9, 2002 Trading of Single Stock futures at BSE

June 2003 Trading of Interest Rate Futures at NSE

13 September, 2004 Weekly Options at BSE

1 January, 2008 Trading of Chhota (Mini) Sensex at BSE

1 January, 2008 Trading of Mini Index Futures & Options at NSE

29 August, 2008 Trading of Currency Futures at NSE

2 October, 2008 Trading of Currency Futures at BSE

PERFORMANCE OF DERIVATIVES IN INDIAN STOCK MARKET

Derivatives markets generally are an integral part of capital markets in developed as well as in emerging market economies. These instruments assist business growth by disseminating effective price signals concerning exchange rates, indices and reference rates or other assets and thereby render both cash and derivatives markets more efficient. These instruments also offer protection from possible adverse market movements and can be used to manage or offset exposures by hedging or shifting risks particularly during periods of volatility thereby reducing costs (Ahuja, 2006). By allowing for the transfer of unwanted risk, derivatives can promote more efficient allocation of capital across the economy, increasing productivity in the economy (Saxena, 2002)

The derivatives trading on NSE commenced with S&P CNX Nifty Index futures on June 12, 2000. The trading in index options commenced on June 4, 2001 and trading in options on individual securities commenced on July 2, 2001. Single stock futures were launched on November 9, 2001. The index futures and options contract on NSE are based on S&P CNX.

Table 1. NSE Derivatives Segment Turnover during 2004-05 to 2008-09 *(Rs .in crore)*

Year	Index future	Stock future	Index option	Stock option	Total	Average daily turnover
2004-05	772147	1484056	121943	168836	2546982	10107
2005-06	1513755	2791697	338469	180253	4824174	19220
2006-07	2539574	3830967	791906	193795	7356242	29543
2007-08	3820667.27	7548563.23	1362110.88	359136.55	13090477.75	52153.30
2008- 09	2583617.92	2558863.55	2358916.90	149498.40	7650896.80	46938.02

Source: Complied from NSE website

The NSE Derivatives Segment Turnover during the year 2004-05 to 2008-09 has been given in Table 1. Total turnover of NSE derivatives segments recorded Rs.7650896.80 crore in the year 2008-09 as against Rs. 2546982 crore in the year 2004-05. Average daily turnover also has increased from Rs. 10107 crore in 2004-05 to Rs.46938.02 crore in 2008-09.

Table 2. NSE Cash & Derivatives Segment Turnover during 2003-04 to 2007-08 *(Rs. in Crore)*

Year	Cash segment	Derivatives Segment
2007-08	3,551,038	13090477.75
2006-07	1,945,285	7356242
2005-06	1,569,556	4824174
2004-05	1,140,071	2546982
2003-04	1,099,535	2130610

Source: Complied from NSE website

Table 2 gives variations in the NSE cash and Derivatives Segment Turnover during the year 2004-05 to 2008-09. In the year 2003-04, cash segment recorded Rs. 1,099,535 crore and derivative segment recorded to Rs. 2130610 crore but it has increased to Rs. 3,551,038 crore as cash segment and Rs. 13090477.75 crore as derivative segment in the year 2007-08. It reveals that there is a growth potential in the derivatives in the stock markets in the country.

Table 3. Average Daily Transactions at NSE in Derivatives and Cash Segment

Year	Derivatives Segment	Cash segment
2007-08	52153.30	14,148
2006-07	29543	7,812
2005-06	19220	6,253
2004-05	10107	4,506
2003-04	8388	4,328

Source: Complied from NSE website and NSE fact book 2008

Average Daily Transaction at NSE in Derivatives and Cash Segment performed well during the year 2003-04 to 2007-08 (Table 3). Derivatives segment has been increased from 8388 to 52153.30 and cash segment from 4328 to 14148. During this period, there has been a continues growth in both cash and derivative segments in the NSE. Due to awareness and rapid return in the derivative in the stock market, derivative segment performed effectively than cash segment.

Table 4. BSE Derivatives Segment Turnover

Year	Index Futures	Stock Futures	Index Options	Stock Options	Total
2007-08	234660	7609	39	0	242309
2006-07	55491	3515	0	0	59006
2005-06	5	1	3	0	9
2004-05	13600	213	2298	2	16112
2003-04	6572	5171	0	331	12452

Source: Complied

Table 4 gives the BSE Derivatives Segment Turnover during the year 2003-04 to 2007-08. The trading in BSE Sensex options commenced on June 4, 2001 and the trading in options on individual securities commenced in July 2001. Futures contracts on individual stocks were launched in November 2001. Total turnover of BSE derivatives segments recorded 242309 in the year 2007-08 as against 12452 in the year 2003-04. Index future is the major player in the BSE derivative segment which records 234660 in 2007-08 as against 6572 in 2003-04.Option derivatives performed with very

nominal in the BSE which recorded only 39 index options and there was no stock option in the year 2007-08.

Table 5. BSE Cash & Derivatives Segment Turnover ***(Rs. in Crore)***

Year	Cash segment	Derivatives Segment
2007-08	1578857	242309
2006-07	956185	59006
2005-06	816074	9
2004-05	518715	16112
2003-04	503053	12452

Source: Complied from BSE website & SEBI bulletin

Table 5 gives the details of BSE Cash & Derivatives Segment Turnover for the year 2003-04 to 2007-08. In the year 2007-08, Rs. 1578857 crore was the cash segment and Rs. 242309 crore was derivative segment in the BSE. But it was Rs.503053 crore as cash segment and Rs.12452 as derivatives segments in the year 2003-04. In the year 2005-06 derivatives segment performed very poor (Rs. 9 crore) but in the cash segment earned as usual (Rs.816074 crore).

CONCLUSION

Derivatives market in India is one of the emerging and fast moving investment segments which consists of high risk and return. Growth and performance of the financial derivatives in the stock market depends on the global environment and investor's perception. As Indian derivatives markets grow more sophisticated, greater investor awareness will become essential. NSE has programmes to inform and educate brokers, dealers, traders, and market personnel. In addition, institutions will need to devote more resources to develop the business processes and technology necessary for derivatives trading. We conclude that there are enormous opportunities and potentials in the financial derivatives in the Indian stock market.

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