

A Study of Derivative Market in India

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ABSTRACT

The Indian derivative market has become multi-trillion dollar markets over the years. Financial markets are very inventive in augmenting the popularity of derivatives instruments which exemplifies how resourcefully markets are capable to package and manage risk. To manage the increased financial risk to the corporate world, it is necessary to develop a set of new financial instruments known as derivatives in the Indian financial markets. 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 assets. Derivative market has an important role to play in economic development of a country. In India, the emergence and growth of derivatives market is relatively a recent phenomenon. The present paper is an attempt to study the evolution of Indian derivative market and its role in the Indian Economy.

KEYWORDS: Financial market, risk management, derivatives, economic development

1. INTRODUCTION

Risk is a characteristic feature of all commodity and capital markets. 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 and uncertainty due to fluctuation in interest rates, exchange rates, stock market prices and the other underlying assets. The derivatives market has come an integral part of modern financial system in less than three decades of their emergence. Derivative market has an important role to play in the economic development of a country. In India, derivatives introduced as a new investment option. This paper describes the evolution of Indian derivatives market, historical development, status and various findings of it.

2. LITERATURE REVIEW

- 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.
- According to Greenspan (1997) "By far the most significant event in finance during the past decades has been the extraordinary development and expansion of financial derivatives...."
- Avadhani (2000) stated that a derivative, an innovative financial instrument, emerged to protect against the risk generated in the past, as the history of financial markets is replete with crisis. Events like the collapse of the fixed exchange rate system in 1971, the Black Monday of

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October, 1987, the steep fall in the Nikkei in 1989, the US bond debacle of 1994, occurred because of very high degree of volatility of financial markets and their unpredictability. Such disasters have become more frequent with increased global integration of markets. ➤ Dr. Kamlesh Gakhar and Mr. 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.

3. OBJECTIVES

The main objectives of this paper are:

- To study the evolution of Derivative Market in India
- To study the role of derivatives in the Indian Economy.

4. METHODOLOGY

The present paper has been undertaken with empirical analysis of status of financial derivatives in India with the use of secondary data. Data and information for the research study are collected and analysed from secondary sources like newspaper, web sites, books etc.

5. FINDINGS AND DISCUSSIONS

5.1. Concept of derivatives:

Derivatives are one of the most complexes of instruments. The word 'derivative' comes from the verb 'to derive'. It is an instrument whose value is derived from another or

economic variable. It indicates that it has no independent value. The dependence of the derivative's value on other prices or variables makes it an excellent vehicle for transferring and managing risk.

5.2. Definition of derivatives:

A derivative is a contract whose value is derived from the value of another asset, known as the underlying, which could be a share, a stock market index, an interest rate, a commodity or a currency.

According to John C. Hull, "A Derivative can be defined as a financial instrument whose value depends on (or derives from) the values of other, more basic underlying variables."

Robert L. McDonald defined, "A Derivative is simply a financial instrument (or even more simply an agreement between two people) which has a value determined by the price of something else."

5.3. Traders in derivatives market:

There are three types of traders in the derivatives market:

- Hedger
- Speculator
- Arbitrageur

Hedger: A hedger is a position taken in order to offset the risk associated with some other position. A hedger is someone who faces risk associated with price movement of an asset and who uses derivatives as a means of reducing that risk.

Speculator: While hedgers are interested in reducing risk, speculators buy and sell derivatives to make profit and not to reduce risk. Speculators willingly take increased risk. Speculators are important to derivatives markets as they facilitate hedging, provide liquidity, ensure accurate pricing and help to maintain price stability.

Arbitrageur: An arbitrageur is a person who simultaneously enters into transaction in two or more markets to take advantage of the discrepancy between prices in these markets. Arbitrage involves making profits from relative

mispricing. Arbitrageur also helps to make markets liquid, ensure accurate and uniform pricing and enhance price stability.

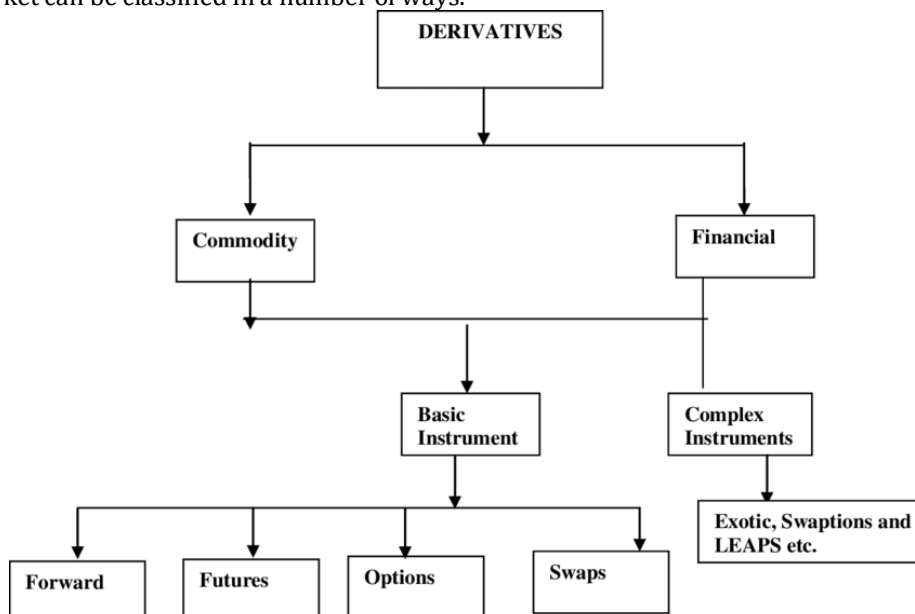
5.4. Application of derivatives market:

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

1. **Management of Risk:** One of the most important services provided by the derivatives is to control, avoid, shift and manage efficiently different types of risks through various strategies like hedging, arbitrage, spreading etc. Derivatives assist the holders to shift or modify suitably the risk characteristics of their portfolio.
2. **Liquidity and reduce transaction cost:** Derivatives enhance the liquidity of the underlying asset market. A liquid market is a market with enough trading activity to allow traders to readily trade goods for a price that is close to its true value. The trading volume increases in the underlying market as derivatives enable participation by a large number of players. Derivatives also lower transaction costs. These costs associated with trading a financial derivative are substantially lower than the cost of trading the underlying instrument.
3. **Price discovery:** Derivatives enhance the price discovery process. The prices in the derivatives market reflect the perception of market participants about the future, and lead the prices of the underlying to the perceived future level. The prices of derivatives converge with the price of the underlying at the expiration of a derivatives contract. Thus, derivatives help in the discovery of future as well as current prices.
4. **Assist investors:** The derivatives assist the investors, traders and managers of large pools of funds to devise such strategies so that they may make proper asset allocation increase their yields and achieve other investment goals.
5. **Efficiency in trading:** Financial derivatives allow for free trading of risk components and that leads to improving market efficiency. Traders can use a position in one or more financial derivatives as a substitute for a position in the underlying instruments.

5.5. Types of derivatives market:

The derivatives market can be classified in a number of ways.



In recent years, derivatives have become increasingly important in the field of finance. Broadly, derivatives can be classified in two categories as shown in the above figure: commodity derivatives and financial derivatives. In case of commodity derivatives, underlying assets can be commodities like wheat, gold, silver, etc. whereas in case of financial derivatives, underlying assets can be stocks, currencies, bonds and other interest rates bearing securities etc.

Forward: A forward contract is a customized contract between two parties where settlement takes place on a specific date in the future at a price agreed today. They are over-the-counter traded contracts. Forward contracts are private agreements between two financial institutions or between a financial institution and its corporate client. In a forward contract, one party takes a long position by agreeing to buy the asset at a certain specified date for a specified price and the other party takes a short position by agreeing to sell the asset on the same date for the same price.

Futures: Futures are exchange-traded contracts, to buy or sell a specified quantity of financial instrument/commodity in a designated future month at a price agreed upon by the seller and buyer. Future contracts have certain standardized specifications, such as the following:

Quantity of the underlying

- Quality of the underlying (not required in financial futures)
- Date and month of delivery
- Units of price quotation (not the price itself) and minimum change in price (tick size)

Location of settlement.

Options: Options are contracts between the option writers and buyers which obligate the former and entitle (without obligation) the latter to sell/buy stated assets as per the provisions of contracts. The major types of options are stock options, stock index options, futures options and option on swaps.

Options are of two types: call option and put option. A call option gives a buyer/holder a right but not an obligation to buy the underlying on or before a specified time at a specified price (usually called strike/exercise price) and quantity. A put option gives a holder of that option a right but not an obligation to sell the underlying on or before a specified time at a specified price and quantity.

Swaps: Swaps are generally customized arrangement between counterparts to exchange one set of financial obligations for another as per the terms of agreement. The major types of swaps are currency swaps, and interest rate swaps, bond swaps, coupon swaps, debt-equity swaps.

5.6. Derivatives market in India:

Derivatives market in India has a history dating back in 1875. The Bombay Cotton Trading Association started future trading in this year. History suggests that by 1900 India became one of the world's largest futures trading industry. However, after independence, in 1952, the government of India officially put a ban on cash settlement and options trading. This ban on commodities future trading was uplift in the year 2000. The creation of National Electronics Commodity Exchange made it possible. In 1993, the National Stock Exchange, an electronics based trading exchange came into existence. The Bombay Stock Exchange was already fully functional for over 100 years then. Over the BSE, forward trading was there in the form of 'Badla' trading, but formally derivatives trading Kicked started in its present form after 2001 only. The NSE started trading in CNX Nifty index futures on June 12, 2000, based on CNX Nifty 50 index.

The trading in BSE sensx options commenced on June4, 2001 and the trading in options on individual securities commenced in July, 2001. Future contracts on individual; stocks were launched in November, 2001. The trading in index options commenced on June 4, 200 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. In June 2003, NSE introduced Interest Rate Futures which were subsequently banned due to pricing issue. Table 1 gives chronology of introduction of derivatives in India.

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 Sensx 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
September 13, 2004	Weekly Options at BSE
January 1, 2008	Trading of Chhota(Mini) Sensx at BSE
January 1, 2008	Trading of Mini Index Futures & Options at NSE
August 29,2008	Trading of Currency Futures at NSE
October 2,2008	Trading of Currency Futures at BSE

Source: Compiled from BSE and NSE

In India, there are mainly two major markets namely National Stock Exchange (NSE) And Bombay Stock Exchange (BSE) along with other Exchange of India are the market for derivatives. The BSE started derivatives trading on June 9, 2000 when it launched 'Equity Derivatives' (Index futures-SENSEX) first time. It was followed by launching various products like index options, stock options, single stock futures, weekly options, and stocks for: Satyam, SBI, Reliance Industries, Tata Steel, Chhota (Mini) SENSEX, Currency futures, US dollar-rupee future and BRICSMART indices derivatives. The NSE started derivatives trading on June 12, 2000 when it launched "Index Futures S&P CNX Nifty" first time. It was followed by launching various derivative products which are index options, stock options, stock future, interest rate, future CNX IT future and options, Bank Nifty futures and options, CNX100 futures and options, Nifty Mid Cap-50 future and options, Mini Index futures and options, Long term options, Currency futures on USD-rupee, Defty future and options, interest rate futures, S&P CNX Nifty futures on CME, Europe style stock options, currency options on USD INR, 91 days GOI T.B futures and derivative global indices and infrastructures indices.

5.7. Evolution of Derivatives in India:

Evolution of Derivatives in India may be tracked starting from a controlled economy. India has moved towards a world where prices fluctuate every day. The introduction of risk management instruments in India gained momentum in the last few years due to liberalisation process and Reserve Bank of India's (RBI) efforts in creating currency forward market. Derivatives are an integral part of liberalisation process to manage risk. NSE gauging the market requirements initiated the process of setting up derivative markets in India. In July 1999, derivatives trading commenced in India.

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September 13, 2004	Weekly Options at BSE
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January 1, 2008	Trading of Mini Index Futures & option at BSE
NSE August 29, 2008	Futures at NSE Trading of Currency
October 2, 2008	Futures at BSE Trading of Currency

Commodities futures trading in India were initiated long back in 1950s; however, the 1960s marked a period of great decline in futures trading. Market after market was closed usually because different commodities' prices increases were attributed to speculation on these markets. Accordingly, the Current Government imposed the ban on trading in derivatives in 1969 under a notification issue. The late 1990s shows this signs of opposite trends-a large scale revival of futures markets in India²⁸, and hence, the Current Government revoked the ban on futures trading in December, 1999. The Civil Supplies Ministry agreed, in principle for starting of futures trading in Basmati rice, further, in 1996 the Government granted permission to the Indian Pepper and Spice Trade Association to convert its Pepper Futures Exchange into an International Pepper Exchange. As such, on November 17, 1997, India's first International Futures Exchange at Kochi, known as the Indian Pepper and Spice Trade Association-International Commodity Exchange (IPSTA-ICE) was established.

Similarly, the Cochin Oil Millers Association, in June 1996, demanded the introduction of futures trading in coconut oils. The Central Minister for Agriculture announced in June 196 that he was in favour of introduction of futures trading both

domestic and international. Further, a new coffee futures exchange (The Coffee Futures Exchange of India) is being started at Bangalore. In August 1997, the Central Government proposed that Indian companies with commodity price exposures should be allowed to use foreign futures and option markets. The trend is not confined to the commodity market alone, it has initiated in financial futures too.

The Reserve Bank of India set up the Sodhani Expert Group which recommended major liberalization of the forward exchange market and had urged the setting up of rupee based derivatives in financial instruments. The RBI accepted several of its recommendations in August 1996. A landmark step taken in this regard when the Securities and Exchange Board of India (LCGC) by its resolution, dated November 18, 1996 in order to develop appropriate regulatory framework for derivatives trading in India. While the Committee's focus was on equity derivatives but it had maintained a broad perspective of derivatives in general. The Board of SEBI, on May 11 198, accepted the recommendations of the Dr. L.C. Gupta Committee and approved instruction of derivatives trading in India in the phased manner. The recommendation sequence is stock, index futures, index options on stocks. The

Board also approved the 'Suggestive-Bye-Laws' recommended by the Committee for regulation and control of trading and settlement of derivatives' contracts in India. Subsequently, the SEBI appointed J.R. Verma Committee to look into the operational aspects of derivatives markets. To remove the road-block of non-recognition of derivatives as securities under Securities Contract Regulation Act, the Securities Law (Amendment) Bill, 1999 was introduced to bring about the much needed changes. Accordingly, in December, 1999, the new framework has been approved and 'Derivatives' have been accorded the status of 'Securities', however, due to certain completion of formalities, the launch of the Index Futures was delayed by more than two years. In June, 2000, the National Stock Exchange and the Bombay Stock Exchange started stock index based futures trading in India. Further, the growth of this market did not take off as anticipated. This is mainly attributed to the low awareness about the product and mechanism among the market players and investors.

5.8. Role of Derivatives in Indian Economy:

Benefits that acquire to the Indian capital markets and the Indian economy from derivatives are discussed here.

Derivatives will make possible hedging which otherwise is infeasible this is illustrated by the dollar-rupee forward market. Imports and exports used to take place in the country under the presumption that importers and exporters have to bear currency risk. To the extent that importers and exporters are risk averse, the existence of this risk would lead them to do international trade in smaller quantities than they have liked to. Once the dollar-rupee forward market came about, importers and exporters could hedge themselves against currency risk. Today the use of such hedging is extremely common amongst companies that are exposed to currency risk. This hedging facility has definitely helped importers and exporters do international trade in larger quantities than before. The RBI's permission for the dollar-rupee forward market is therefore part of the explanation for the enormous growth in imports and exports that has taken place in the last five years.

Similarly, on the equity market, many retail investors who are uncomfortable about the equity market would enter if they were given the alternative of buying insurance, which controls their downside risk. This would enhance the action of the savings of the country, which are routed through the equity market. The same would be the case with international investors, who would place limit orders. These improvements in the quality of the underlying market have been observed across a variety of research studies done on foreign markets, which have compared market quality before introduction of derivatives as compared with after.

Benefits and Risk Associated with Derivatives

Economic functions of derivatives

Derivatives play the following important role in every economy where they are traded:

➤ Price discovery and planning

Prices of an organized derivatives market reflect the combined views and perception of buyers and sellers, not only of the current demand and supply, but also of their expiration. At the time of expiration the prices of derivatives converge with the price of the underlying assets. This process of price discovery is applicable to both futures and

options. Information generated by futures trading through price discovery process helps in planning of all users at every stage. To the extent that these markets improve planning and efficiency as well as reduce operating costs, benefits will accrue to consumers in the economy.

➤ Risk shifting

The derivative market allows and facilitates risks to be transferred from those who have them but may not want them. The risk in case of derivatives is primarily price risk. This risk represent a cost, which must be borne by someone if the dealer, lender, borrower, merchant or middlemen has to assume risk, then they will pay the opposite party less or charge them more or a combination of the two. If the risk is assumed directly by the dealer or merchant they are compensated for bearing the risk.

Numerous general economic benefits flow from the risk shifting of hedging function. These include reduced finance charges in carrying inventory of all kinds including portfolio of investments. The larger banks that finance producers, distributors and processors give their best terms for the value of the inventory that is fully protected by an adequate hedge.

➤ Enhance liquidity in the underlying markets

Derivatives due to their inherent nature are linked to the underlying cash markets. It has been observed the world over that introduction of derivatives increases the trading volume in the underlying. Markets players reluctant to participate due to the absence of risk shifting mechanism can now participate in the cash market. Interplay between the underlying derivatives market generates additional activity in the underlying market increasing liquidity in the underlying.

➤ Shifting the speculative trading to a more controlled environment

In the absence of an organized derivatives market, speculators operate in the underlying cash markets. This acts as an establishing factor for the underlying market since the underlying market act also as proxy futures and options markets. Margining, monitoring and surveillance of the activities of the various participants is difficult in these kind of mixed markets. Derivatives market provides a mechanism for the speculators to be identified separately and surveillance of these participants and their positions can be done in a better manner. This reduce imbalance in the underlying markets. Thus the derivatives market will help in controlling the activities of speculators and reduce the risks now prevalent in the underlying securities market in India.

CONCLUSION

The derivatives market has grown tremendously world over. This market, just like, other markets, is not immune to disasters and breakdown. The Indian derivatives market is new but is just catching up. There is an increasing sense that financial derivative market has a vital role in the risk management and economic growth. 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.

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