

# Review on Challenges and Potential Opportunities in the Indian Derivatives Market

Shweta Pathak<sup>1</sup>, Gupta Nidhi<sup>2</sup>, Kanojia Pratik<sup>3</sup>

Asst. Professor<sup>1</sup> and TYBMS<sup>2,3</sup>

Uttar Bhartiya Sangh's Mahendra Pratap Sharda Prasad Singh College of Commerce & Science, Mumbai, Maharashtra

**Abstract:** *The Indian market is highly dependent on the derivatives market. A financial framework is a collection of principles that are associated with a certain financial instrument, indicator, or commodity. It enables the management of specific risks in the financial markets independently. The derivative market in India has expanded to a multi-trillion-dollar scale and continues to grow rapidly. Derivative instruments commonly include commodities, precious metals, foreign exchange rates, bonds, shares and share warrants, short-term securities, and money market products. The National Stock Exchange (NSE) and Bombay Stock Exchange (BSE), together with several minor Indian exchanges, are the primary trading platforms in India for derivatives. Let us now discuss the performance of derivative items in the Indian market. The author will analyse the value of the derivatives market, the challenges it faces, and the importance of its potential in the ongoing investigations.*

**Keywords:** rapid growth, National Stock Exchange (NSE), Bombay Stock Exchange (BSE), financial instruments derived from underlying assets

## I. INTRODUCTION

In less than thirty years after their establishment, the derivative markets have become an essential element of the contemporary financial system. Nevertheless, when compared to the derivatives markets of other countries, the Indian market is not yet fully developed. Hence, it is crucial to understand the present condition of the financial derivatives markets in India.

A derivative is a financial product that derives its value from the price of another underlying asset or service, and it is essentially an agreement between two parties or individuals. Indexes, bonds, currencies, interest rates, exchange rates, commodities, and stocks are some of the prominent underlying assets, often known as equities.

## II. LITERATURE REVIEW

Srivastava, Yadav, and Jain (2018) conducted a study on derivative trading in the Indian stock market. The investigation revealed that investors in the Indian stock market are using derivative instruments for various purposes such as risk management, profit maximization, speculation, and arbitrage. Financial derivatives have significantly transformed the financial industry by introducing novel methods for comprehending, quantifying, and controlling risks. Chatrath, Ramchander, and Song (2015): The derivatives market has faced criticism for its role as a platform mostly utilized by speculators. The scarcity of financial resources involved in this sector is what renders it highly perilous. Consequently, it is argued that individuals involved in systems that allow high degrees of leverage diminish the quality of information in the market. These uninformed traders have the potential to exacerbate market volatility in the cash sector.

Ayuso and Nuez (2012) suggest that transferring risk to derivative markets might greatly enhance transactions in the spot market. The absence of a risk premium in the spot market eliminates the need to account for price fluctuations.

Hentchell and Smith (20017) examine the potential of derivative products to reduce the necessity for enterprises and banks to maintain unused precautionary reserves in order to cope with unexpected losses. Consequently, the percentage of funds held by these organizations that are not being used reduces.

Sahoo (1997) states that commodity-linked derivatives were the primary type of products in this category for a long time. These derivatives were initially created as a means of hedging against fluctuations in commodity prices. Marlowe

(2000) suggests that the development of derivative market products, such as forwards, futures, and options, can be attributed to the need of risk-averse economic actors to protect themselves from uncertainty caused by changes in asset values. It is widely accepted that regulation plays a crucial role in ensuring the smooth and effective functioning of markets. Sahoo (1997) argues that the legal framework for trading in derivatives is a vital component of the overall regulatory framework for derivative markets. Rather than impeding efficiency and competitiveness, regulation is intended to promote them. While there may be similarities in regulatory goals, Hathaway (2020) argues that there is no preferred paradigm for regulating derivative markets.

Avadhani (2016) explains that the history of financial markets has been marked by numerous crises. To mitigate the risks associated with these crises, a derivative, which is an innovative financial instrument, was developed. The financial markets are characterized by a high level of volatility and unpredictability, leading to events such as the breakdown of the fixed exchange rate system in 1971, Black Monday in October 1987, the sharp decline in the Nikkei in 1989, and the US bond fiasco of 1994. As global markets have become more interconnected, these types of catastrophes have become more frequent.

According to Mr. Jitendra Pande's 2021 definition, derivative trading in options mitigates risk by ensuring that investors are aware of the greatest potential loss.

In 2005, Deana Mehta demonstrated that share futures are particularly favoured in India compared to other countries because to their perception as a substitute for badla. The new system must be preferable to the previous one and should not amplify market risk.

Jiménez (2008) provided evidence that bank borrowers are more prone to default when loans are approved during periods of low central bank interest rates. This conclusion was drawn from a substantial dataset obtained from the Spanish credit registry. Furthermore, the study revealed that when short-term interest rates are low for an extended duration, the cost of risk decreases and the economy's loan portfolio tends to expand.

Vashishtha and colleagues (2010) conducted a study on the origins of derivative trading, legal and policy changes, trends and growth, and the challenges faced by the derivative market in India. They also examined the comparison between the Indian derivatives market and the global derivatives markets.

In their paper, Shree Bhagawat and colleagues (2012) aim to define the concept of financial derivatives as the revolutionary development in the field of finance due to its rapid and extensive global expansion.

P. Hemavati (2013) examined the historical development and regulatory framework of derivative trading in the Indian capital market, with the aim of promoting its long-term sustainability.

#### **Research objectives:**

1. To understand the concept and analyse the current condition of the Indian derivatives market and its economic determinants.
2. Acquiring information regarding stock market derivatives
3. To gain further knowledge regarding derivative marketing in India in the future
4. To ascertain the growth of derivatives in India

#### **The Indian derivatives market:**

In India, derivative markets have existed in some capacity for a long time. The Bombay Cotton Trade Association began futures trading in the commodities market back in 1875. The initial structured futures market was this one. After that, the futures market was established in 1893 by Bombay Cotton Exchange Ltd., 1900 by Gujarat VyapariMandall, and 1919 by Calcutta Hesstan Exchange Ltd. After the nation gained its independence, the derivatives market completed a full circle, going from the outright ban on all derivative trading to their most recent return. After the Indian government outlawed cash settlement and option trading in 1952, the trade of derivatives moved to unofficial forwarding markets. Government policy has changed recently to promote a bigger role for market-based pricing and less dubious derivatives trading. The Securities Laws (Amendment) Ordinance of 1995 was the first step towards the establishment of financial derivatives trading in India. It allowed for withdrawal of securities option contracts upon prohibition. The restriction on trading in numerous commodities' futures was lifted throughout the past ten years, starting in the year 2000.

An essential factor in a nation's economic prosperity is the derivatives market. The financial risk to the business world has grown as a result of changes in interest rates, stock prices, and currency values across different financial markets. Even the continued existence of the corporate world is in danger due to negative developments in macroeconomic fundamentals. To address such risk, a new set of financial instruments known as derivatives must be developed for the Indian financial markets. These instruments' goals are to give commitments to prices for future dates in order to provide protection against adverse price fluctuations and to lessen the severity of financial risks. This essay chronicles the development and present standing of the Indian derivatives market. The goal of the current study is to examine derivative trading in India. It aims to illustrate the development and growth of NSE's financial derivatives in India from 2010–2011 to 2017–2018. From Rs. 17663664.57 Cr. in 2009–2010 to 1163539816.124 Cr. in 2017–18, the market turnover has increased.

**The Bombay Stock Exchange (BSE):**

The Bombay Stock Exchange (BSE) was established in 1875 and is the oldest stock market in India and Asia. It started trading derivatives on June 9, 2000, initially as a sub-tool of a derivative known as a "futures contract." On June 1, 2001, a new sub-tool called the "index option" was introduced. BSE achieved a significant milestone in the derivatives sector by introducing the innovative "weekly options" product on September 13, 2004. Furthermore, BSE introduced currency futures on October 1, 2008.

**The National Stock Exchange (NSE):**

The National Stock Exchange (NSE), established in 1992, is the world's third-largest stock exchange. It commenced trading in "Index future" as its initial derivative product on June 12, 2000, and introduced "index option" on June 4, 2001. SEBI mandated 233 future contract securities. NSE set a new standard by introducing "Mini Index Future & Options" with a minimum contract size of one lakh. On August 29, 2008, NSE introduced a currency future contract on the US Dollar-Rupee in the Indian derivatives market.

**Issues and difficulties faced in the derivative market:**

Despite recent promise, the derivative market still has unresolved underlying problems. While the number of instruments and volume of transactions in the market continue to increase, the fundamental goal of establishing multiple exchanges has not been achieved. Additionally, the unresolved problems, which are significant obstacles, cast doubt on the future prospects of the derivative markets.

The Forward Contract Act of 1952 restricts the use of cash settlement for commodities derivatives. Instead, physical delivery is required to fulfil outstanding commitments at maturity. This poses a challenge for the derivatives market as individuals often take positions before they are prepared to make physical deliveries. Modifying this Act is necessary to address this issue.

- **Market Stability and Development Concern:** The rapid growth of the counter derivative market has attracted the attention of regulators and supervisory agencies. During times of global crisis, certain OTC (Over the Counter) derivatives are utilized as a means of reducing stress. However, the main challenge lies in dispelling the opponents' belief that this market lacks transparency, has less stringent capital requirements, and is more vulnerable to systemic risk.

- **Warehousing and Standardization:** A robust and effective warehousing infrastructure is essential for the smooth operation of the country's commodity derivative market. The absence of well-standardized laboratories and top-notch testing facilities for the end consumer, who accepts physical delivery, poses a significant obstacle for the derivative market.

- **Limited Economies of Scale:** The derivatives market is not yet operating at an optimal scale. Although there are 80 commodities being traded on various exchanges, only a few of them are actually in high demand. The Indian government plans to merge two marketplaces to enhance coordination among multiple regulatory agencies, such as the Reserve Bank of India, Forward Market Commission, Securities and Exchange Board of India, and the Department of Companies Affairs. This consolidation will reduce the overall effort required and promote a competitive environment.

- **A regulatory framework**, like the one used by the Security Exchange Board of India, is needed to oversee the derivatives market. Currently, the Forward Market Commission regulates derivatives and is funded by the Department of Consumer Affairs. However, in order for the market to thrive, it requires a dedicated agency. Additionally, effective collaboration between SEBI and FMC, the regulatory bodies, is essential for better results.

• **Competition between OTC derivatives and Exchange traded derivatives:** It is recommended to convert OTC derivatives into Exchange traded derivatives following a financial crisis. Advisors suggest that this will enhance the clearing and settlement process, as well as improve transparency and liquidity. These recommendations are based on the assumption that there is currently no established clearing mechanism and that OTC items are only traded via telephone.

• **Enhancing the Centralized Clearing Parties:** In India, the only centralized clearing party that provides exceptional processing and settlement services is CCIL, which commenced operations in 2002. CCIL currently offers a secure settlement facility for trading in government securities, clearing CBLOs (cleared collateralized borrowing and lending obligations), trading in foreign currencies, and settling all IRS transactions. The opinion of the Certified Financial Services Auditor (CFSA) report highlights that having such a wide range of activities concentrated in one entity leads to a concentration of risk. However, the concentration of business related to money, securities, and the forex market with CCIL aids in pooling risk and reducing overall transaction costs for the system. Consequently, it is imperative to strengthen additional clearing parties.

• **New derivative products for Credit Risk Transfer (CRT):** Credit risk transfer has a long history, involving methods such as guarantees, loan syndication, and securitization. However, there has been a rapid increase in the use of innovative CRT forms specifically related to credit derivatives. The two most popular credit derivatives are Credit Default Swaps (CDS) on a single business entity and collateralized debt obligations. Starting from 2005, there has been a significant rise in CRT activity for two additional asset classes: leveraged loans and asset-backed securities. While credit derivatives are now legal in India, banks and other financial institutions can protect themselves against them internationally. The Reserve Bank of India (RBI) has expressed caution regarding this matter in its second-quarter monetary policy for 2009-2010. The RBI has also established rules for a basic, over-the-counter, single name CDS for corporate bonds issued by resident businesses, with appropriate safeguards in place.

The derivative market in India has a significant economic contribution. Evidence has shown that the derivative market in India, which is experiencing growth, is engaged in several economic activities, such as:

The derivatives market reflects the pricing view of market players on the future, allowing for the identification of current and future market pricing.

The derivatives market is a well-regulated marketplace where risk is distributed fairly among participants with different risk preferences.

Due to this characteristic, an increasing number of individuals are participating in high-volume trading of derivatives, which are derived from the intrinsic value of assets.

The Derivative has a track record of exerting influence on the educated upper class through its clear and comprehensive perspective. This will contribute to economic expansion and the emergence of fresh employment prospects and businesses.

**Financial derivatives:**

An instrument is classified as a derivative when its value is derived from another security or economic variable. Derivatives are effective tools for transferring and managing risk, as its value is contingent upon other costs or factors. John C. Hull defines a derivative as a financial instrument that derives its value from other underlying factors.

Robert L. McDonald expanded the definition of a derivative as a financial instrument, specifically a contract between two parties, whose value is determined by the price of another commodity or service. A derivative is classified as such if its value is derived from another security or economic variable. Derivatives are effective tools for transferring and managing risk due to their dependence on external costs or factors.

**Factors influencing the growth of derivatives:**

Derivative growth is impacted by several factors. The key elements that have a significant influence are as follows:

1. An increase in the volatility of asset prices in the financial markets.
2. A greater integration of domestic financial markets with global ones.
3. Remarkable advancements in communication capabilities and a substantial decrease in their cost.

**Underlying asset for a derivatives contract:**

The value of a derivative instrument is defined by the previously stated underlying asset. The underlying asset might assume various forms:

**Foreign exchange rates** refer to the values at which different currencies can be exchanged. Bonds, on the other hand, are various types of negotiable financial instruments issued by governments, enterprises, and other entities, typically with medium- to long-term maturities.

Various types of bonds, including medium to long term negotiable debt instruments issued by governments, businesses, and others. Commodities, such as grain, coffee beans, and orange juice. Precious metals, such as gold and silver. Foreign exchange rates or currencies.

The stock index represents the value of publicly traded companies' shares and share warrants. Treasury bills (T-bills) and Over-the-Counter (OTC) money market products, such as loans or deposits, are instances of short-term securities.

Financial instruments based on the value of underlying assets in the stock market.

In 1850, four Gujarati and one Parsi stockbroker met under a banyan tree in front of the Bombay Town Hall to establish the first stock market in India. As the number of members grew, the facility was moved to Dalal Street in 1874, and in 1875, the group was formally established as "The Native Share & Stock Brokers Association." The Securities Contract Regulation Act was originally adopted by the Indian government in 1956, and the BSE was the first stock exchange to receive this recognition. However, it wasn't until 2000 that the derivative market concept was first launched. This instrument has a significant impact on the Indian market. Derivative products have a recognised presence in the trading market after around ten years. The finest feature of this product is its risk-averter character, which aids investors in settling losses and making plans for upcoming challenges. Comparatively to other instruments in the stock market, whether they are classified as primary or secondary, derivative market earned reputation, renown, and dependability from investors and other investing institutes throughout this brief time span. It aided hedgers in offsetting the value of their asset (a commodity) in the futures market relative to the cash market. India has long had a futures market for trading equities on the spot market with weekly/fortnightly settlements. Without the benefits in price discovery and hedging services that come with separating the spot market from the futures market, these markets have all the dangers and challenges of the futures market. The primary market in India is familiar with two categories of derivatives.

- Convertible bonds
- The warrants

One could contend that our market already possesses a limited-scale options market due to the listing and trading of these warrants. Furthermore, there are other captivating derivative markets in the informal economy. In these marketplaces, transactions involving contracts such as "bhav-bhav" and "teji-mandi" take place. These unofficial marketplaces operate independently from India's conventional financial institutions and have relatively minimal participation.

The Securities Laws (Amendment) Ordinance of 1995 marked the initial progress towards the development of derivatives trading in India as it eliminated the prohibition on options in securities. However, it was the SEBI that significantly propelled the Indian derivatives industry. In November 1996, the securities market regulator formed a committee led by Dr. L. C. Gupta with the objective of establishing a comprehensive regulatory framework for derivatives trading in India.

In 2000, SEBI granted permission to NSE and BSE to commence trading index futures contracts using the S&P CNX Nifty and BSE 30 (Sensex) index. Subsequently, trading of options based on these indices, as well as options on individual securities, was approved. On November 9, 2001, futures contracts for specific equities were introduced. Trading and settlement adhere to the respective regulations of each exchange. However, the initial trade volumes were relatively low.

This may be due to the fact that SEBI first granted permission to just a limited number of members to engage in derivative trading.

Foreign institutional investors (FIIs) and mutual funds (MFs) have been allowed to participate in a limited manner. Brokerage firms must employ brokers who have passed the "SEBI approved-certification-test" to engage in derivatives trading. The tax and accounting aspects of derivatives trading are not well comprehended.

According to the current trading patterns in the derivatives segments, single stock futures continue to represent a sizable percentage of the market. According to a recent press report, volumes for futures on Indian markets have surpassed those worldwide. Futures closely mirror the former Badla system, which may be one cause for the traders' skewed conduct. But the market is not interested in such distortions. Although not all of the listed equities are eligible, SEBI

has allowed trading in options and futures on specific stocks. Stocks having a market capitalization that is deemed to be very volatile are not permitted for option trading. A segment of the market has strong feelings of resentment over SEBI's action. They contend that investors who seek to safeguard their investments from volatility should not require stock options. The more crucial it is to offer options on a stock, the more volatile the stock is. Instead of simply prohibiting trading in options on low market capitalization stocks, they are very vocal in their argument that SEBI should design an effective monitoring, surveillance, and risk management system at the level of the exchanges and clearing house to avoid and manage the default risks that are likely to arise as a result of high volatility in those stocks. SEBI needs to investigate these claims. It might have to take a stance to stop all manipulations by punishing those who engage in them severely.

Mutual funds can now engage in "hedging and portfolio rebalancing" by utilizing equities derivative instruments. However, fund managers are not inclined towards this practice as they perceive that the line between hedging and speculating is indistinct, making them potentially vulnerable to regulatory scrutiny.

#### **Unresolved Challenges and Prospects for the Future of the Derivatives Market:**

Although the derivatives market has made significant progress in recent years, it has not yet fully addressed the fundamental challenges it will encounter in the future. While the number of derivative trading products and the volume and value of business have increased, urgent issues remain unresolved. If these pressing problems are not promptly resolved, it is likely that the objectives of establishing various derivative exchanges will not be achieved, and the observed growth rates will not be sustainable. The following are some of the key outstanding problems.

1) Market Stability and Development Concerns: Regulators and supervisory authorities have shown interest in the Over the Counter (OTC) derivatives market because of its significant size and rapid growth. Some OTC derivatives have been seen as factors contributing to the ongoing global financial crisis. The main objections often revolve around the lack of transparency in OTC markets, excessive use of borrowed funds, relaxed capital requirements, and the existence of hidden systemic risk.

2) The establishment of a smart, cost-efficient, reliable, and user-friendly warehousing infrastructure is crucial for the proper functioning of the commodities derivatives market in the country. The committee formed by Habibullah (2003) recognized the absence of a sophisticated warehousing business. Furthermore, it is necessary to set up independent laboratories or quality testing facilities in each region to certify the quality, grade, and quantity of commodities. This will ensure that the commodities are appropriately standardized and that the final buyer, who receives the physical delivery, will not encounter any unexpected issues.

3) Cash vs. Physical Settlement: Only a small percentage, ranging from 1% to 5%, of commodities derivatives transactions in the country are resolved through physical delivery. This low figure can be attributed to the inefficiencies of the current storage system. Since a reliable delivery system is crucial for every commodity exchange, addressing the storage issue must be done aggressively. However, there is a significant obstacle to cash settlement of commodities derivative contracts: the Forward Contracts (Regulation) Act of 1952 currently prohibits cash settlement of outstanding contracts at maturity. This means that physical delivery must be used to fulfill any outstanding commitments when contracts mature. To avoid this, participants choose positions before they fully develop, resulting in the majority of contracts being settled in cash before maturity. To align with common practice and prevent unnecessary complications for participants, the legislation needs to be revised.

4) Increased Off-Balance Sheet Exposure of Indian Banks: The Reserve Bank of India (RBI) has expressed concern about the expansion of derivatives as off-balance sheet (OBS) assets for Indian banks. OBS exposure and risk have significantly increased in recent years. As of March 2002, the notional principal amount of OBS exposure was Rs. 8,42,000 crore (approximately \$181 billion at the exchange rate of Rs. 46.6 to a US \$), while by the end of March 2008, it had risen to Rs. 149,69,000 crore (around \$321 billion).

5) A strong and independent regulator, similar to the Securities and Exchange Board of India (SEBI), is essential as market activity and volume grow. Unlike SEBI, the Forwards Markets Commission (FMC) is not an autonomous organization but rather a department of the Ministry of Consumer Affairs, Food, and Public Distribution, and relies on it for financial support. In order for the commodities markets to thrive under proper control, the government should grant the FMC more authority. Given the interdependence of the two markets, close collaboration between SEBI and FMC is necessary.

6) The lack of economies of scale is a problem caused by the presence of too many commodities exchanges, with 3 national and 21 regional exchanges. Although trading in derivatives is allowed for over 80 commodities, only a small number of these commodities are widely used. Consequently, a small number of exchanges handle the majority of transactions, while others become unprofitable due to the division of volumes. One possible solution to this issue is to consolidate some exchanges. Furthermore, there has been considerable discussion about the potential convergence of the derivatives markets for commodities and stocks. The Indian government has expressed its desire to merge these two markets. It is expected that the convergence of various derivative markets would lead to economies of size and scope, eliminating the need for duplication of effort and supporting the growth of the commodity derivatives market.

7) Tax and Legal impediments: Currently, there are restrictions on transporting certain things across states in India, which require the payment of taxes. In order to establish a fully integrated national market for commodities and derivatives, these restrictions must be lifted.

8) New Derivatives Products for Credit Risk Transfer (CRT): Credit risk transfer (CRT) encompasses various methods such as loan syndication, guarantees, and securitization. However, the use of innovative CRT forms in conjunction with credit derivatives has been rapidly increasing. Credit derivatives allow banks and other financial institutions to protect themselves from global credit default risk. Previously, credit derivatives were not allowed in India. In the second quarter of the 2009-10 monetary policy, the RBI stated the need for caution in this matter. The RBI has now introduced regulations for a basic, over-the-counter, single name CDS for corporate bonds for resident firms, with certain safeguards, starting from December 2011.

### III. CONCLUSION

An increasing number of individuals believe that the financial derivatives market plays a crucial role in managing risk and promoting economic growth. Financial derivatives have become an integral part of all financial instruments due to innovation and changes in the industry. The Indian derivative market has a long history of trading various derivative products, which has led to significant growth over time. The derivatives market has experienced both positive and negative trends. To cater to the diverse needs of investors, new and innovative derivative products have been developed. Financial derivatives have gained a prominent position among all financial instruments due to innovation and industry transformation. The recent growth of derivatives has surpassed that of other markets worldwide. In conclusion, derivatives have a substantial impact on the Indian market and are vital for its future prospects.

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