Derivatives Market in India: Growth, Regulation, and Future Outlook

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Abstract

The derivatives market in India has experienced enormous growth, becoming an essential component of the country's financial landscape. Since its inception in June 2000, the volume and number of trading contracts have grown exponentially. This research paper comprehensively analyses the future course and factors influencing this growth, comprising historical analysis, regulatory scrutiny, market dynamics, and the overall economic impact of derivatives trading in India. The historical evolution of derivatives trading in India is explored, highlighting significant milestones and regulatory interventions that have shaped the current market scenario. Additionally, the research outlines the challenges faced by the derivatives market in India and presents a forward-looking perspective on potential reforms and emerging trends that could influence its future trajectory. The findings from this review contribute to an in-depth comprehension of the growth of derivatives trading in India, offering valuable insights into the market's evolution and its implications for the broader financial ecosystem. The paper is descriptive and extensively utilizes secondary data from various sources, including articles, websites, and journals, to analyse the derivatives trading in India comprehensively, presenting a holistic perspective on the topic.

Keywords

Derivatives market, Equity, Financial derivatives, Future outlook, Options trading, and Regulation.

1. Introduction

India's derivatives market has undergone a radical transition and grown to become an essential part of the country's financial sector. This market offers a wide range of products, which includes futures and options on stocks, commodities, currencies, and interest rates. It deals with financial instruments whose value is dependent on an underlying asset. India's derivatives market has grown rapidly over the last few decades due to a number of factors including globalization, investor preferences, and economic growth. At the same time, regulatory measures have been put in place to protect market players' interests, control risk, and promote transparency.

The objective of this review paper is to offer an in-depth examination of the regulatory dynamics, growth trajectory, and future prospects of the derivatives market in India. The article offers significant insights that will be beneficial to investors, policymakers, and stakeholders who aim to get a more profound comprehension of India's derivatives market, which is an essential component of the country's financial ecosystem.

2. Review of the Literature

A financial instrument or contract that derives its value from an underlying security or a bundle of securities is known as a derivative. Recent years have seen a rise in the use of index futures, stock futures, index options, and stock options as illustration of derivative instruments used in global stock markets for price discovery, portfolio diversification, and risk hedging. In India, trading in equity derivatives began in 2000. Index futures were introduced in June 2000, and index options, individual stock options, and single stock futures were introduced in June 2001, July 2001, and November 2001, respectively. Equity derivatives in India have come a long way. The investor wants to know how much risk or volatility they are exposed to since the riskier a stock is, the more unpredictable it is. Derivatives are the most popular tools used by market players to control risk in the trading of modern securities **(Mehra et al., 2015)**.

It is widely accepted that the expansion of the free market can go hand in hand with the expansion of the financial markets, particularly the derivatives market. The free flow of products, services, capital, and human resources has been made possible by the integration of the world's economy. While assuring optimal use of the limited resources in the world, this phenomenon leads to volatility and risk in all business-related dimensions. Due to the need for novel products and procedures—derivatives products—managing this risk volatility becomes a difficult challenge. Derivatives are viewed as a hedging tool and a tool for risk management all over the world **(Singh, 2022)**.

Today, derivatives are a crucial part of any nation's financial sector. They have a significant impact on practically all facets of the global capital and money markets, including risk management, fundraising, and investment. The level of market liquidity is a crucial factor in the performance of the derivatives market **(Cuny, 1993)**. Economic efficiency has improved as a result of the variety of derivative products that have been recently developed. These contracts' economic purpose is to unbundle previously integrated risks and transfer them to parties who are most prepared to take on and manage each risk separately **(Greenspan, 1998).**

Vashishtha and Kumar (2010) analysed the historical beginnings of derivative trading, various types of derivative products, regulatory advancements, trends, growth, and the potential challenges faced by the derivative market in India. Their findings suggest that the equity derivatives market is increasingly playing a significant role in shaping price discovery. This can be attributed to the emergence of more advanced risk management instruments, the diversification of available risk management strategies for economic participants, heightened volatility in financial asset prices, deeper integration of domestic and international financial markets, and innovations in financial engineering. All these factors have collectively contributed to the expansion of financial derivatives both globally and within India.

Chauhan (2013) examined the financial results of the BSE and NSE over ten years and hastily sought to determine which of the two stock exchanges is doing better financially on many criteria and concluded that BSE and NSE are the icons of the Indian capital market. They are not competitors; rather, they are both the cornerstones of the Indian economy. Both should endeavour to complement one another. The nation will experience quick growth and improvement if both work together.

However, it is important to look at the accompanying risks and opportunities as the derivatives market grows and integrates more with the larger financial ecosystem. With an emphasis on identifying and addressing important challenges that have consequences for market stability, investor confidence, and sustainable growth, this study aims to assess the growth trajectory, regulatory framework, and prospects of the Indian derivatives market.

3. Research Methodology

The methodology employed in the current review paper followed a primarily conceptual and theoretical approach. It began with a comprehensive review of existing literature, including academic papers, regulatory documents, and financial news sources, to establish the foundation for the study. Subsequently, we organized the paper around a well-defined analytical framework, which facilitated the systematic exploration of the historical growth, regulatory landscape, and prospects of India's derivatives market. The review paper does not involve statistical analysis but rather draws upon conceptual and theoretical insights from the available literature. The findings and insights generated from this methodology form the basis for the paper's in-depth analysis and its recommendations for market participants, policymakers, and investors.

3.1 Derivatives Market in India

A financial instrument is said to be derivative if its value is based on or derived from a single or a combination of underlying assets. The underlying asset could be a currency, commodity, interest rate, stock market index, or share. The value of the derivative will fluctuate when the asset's price changes. It is an agreement between two parties where one-party consents to the purchase or sale of an asset at a predetermined date and price. Derivatives are similar to Insurance. While derivatives protect from market risks, insurance offers protection against specific hazards like fire, flood, and accidents.

There are two types of derivatives:

3.1.1 Exchange-traded

3.1.2 Over the counter

As the name implies, exchange-traded derivatives are traded through authorized exchanges worldwide. These exchanges, like the stock market, allow for the purchase and sale of these instruments. Futures and Options are the popular Exchange-traded derivatives. Derivatives that are traded over the counter, or OTC, do not trade on exchanges. They have a variety of traits and are not standardized. Forwards, swaps, swaptions, etc. are some popular OTC instruments **(Francis, 2019).**

In the derivatives market, there are three participants:

- **Hedgers:** They use the market to modify their risk concerning the value of their asset.
- **Speculators:** These market participants take risks and are viewed as highly short-term investors. They invest in the market based on their level of risk tolerance and movement prediction. They control the majority of the market, and without them, the market would not exist.
- **Arbitrageurs:** They trade in two markets concurrently to explore opportunities from both markets and to mitigate risk if any **(Mehra et al., 2015).**

Bhagwat et al. (2012) stated a few key applications of Financial Derivatives mentioned below:

- **Risk Management:** Using techniques like hedging, arbitrage, and spreading, derivatives play a critical role in effectively managing, adjusting, and transferring several types of risk, particularly in erratic financial conditions.

- **Market Evaluation:** Derivatives serve as predictors of price trends, assisting in price discovery and resource allocation to achieve suitable and optimal market pricing.
- **Improved Trading Efficiency:** When compared to trading in the underlying assets, financial derivatives have lower transaction costs, offer more liquidity, and allow for the smooth trading of risk components.
- **Opportunities for Speculation and Arbitrage:** Derivatives not only make it possible to hedge risks, but they also present ways to speculate on asset prices and use arbitrage to profit from price differences.
- **Leverage through Derivatives:** Derivatives provide leverage by altering value significantly even in response to minute changes in the underlying asset.

3.2 Growth and Regulatory Framework

Both the trading volume and the number of participants in the derivatives market in India have increased significantly. The derivatives market in India has expanded over time to now offer a wider selection of derivative products, including interest rate derivatives, commodity derivatives, stock futures, and index options. The development of currency derivatives, including currency futures and options, has been a key driver of expansion. It has given investors access to the foreign exchange market and made it possible to effectively hedge against currency risk. Exchanges and market regulators have supported product development and innovation in the derivatives field. The SEBI's regulatory changes and actions to improve risk management procedures, guarantee transparency, and boost investor protection have increased investor trust in the derivatives market. The intriguing journey of India's derivatives market reflects the nation's rising financial expertise and its conformity to global market trends.

The regulatory framework for the derivatives market is a significant component of India's overall capital market. It is predictable to have a strong regulatory framework that outlines the financial landscape, product design, and innovation potential. The L.C. Gupta Committee Report (1998) and the J.R. Verma Committee Report serve as the foundation for India's regulatory structure. The Securities Exchange Board of India (SEBI) established a 24-member committee with Dr. L.C. Gupta as its head having the primary goal of developing an efficient regulatory framework for the trading of derivatives in India. The report submitted by this committee offers insight into how the exchange and SEBI's regulatory responsibilities are split. After accepting the committee's recommendations, SEBI gave its approval on May 11, 1998, for the gradual initiation of derivatives trading in India, starting with a stock index future. After observing a significant rise in this sector, the SEBI Advisory Committee (2002) worked on the growth and regulation of the derivatives market in India. This committee addresses several significant issues, including the physical settlement of stock options and stock futures contracts, an evaluation of the requirements for stocks on which derivative products are allowed, the use of sub brokers in the derivative market, and standards for the utilization of derivatives by mutual funds. The RBI developed comprehensive guidelines on derivative products in 2006, which cover most of the laws and rules regulating derivative markets **(Chaudhary, 2015)**.

After 1970, financial derivatives became more well-known. The Bombay Cotton Trade Association introduced trading in futures contracts in 1875, which marked the beginning of the conceptual evolution of derivatives. In contrast, the Indian government banned option trading and cash settlement in 1952. With the approval of the Security and Exchange Board of India, the government began to view derivatives favourably a few years later in June 2000. The market for financial derivatives has recently grown in terms of the variety of instruments offered, as well as their complexity and volume. By opening the door for fresh methods of identifying, evaluating, and managing risks, financial derivatives have transformed the finance industry. India's involvement with financial derivatives commenced in the year 2000 when both the NSE (National Stock Exchange) and BSE (Bombay Stock Exchange) initiated trading in equity derivatives. The first category of equity derivative instruments, index futures, was introduced in June 2000. Subsequently, in June 2001, July 2001, and November 2001, index options, individual stock options, and futures for single stock derivatives were progressively introduced. Over time, the popularity of equity futures has significantly grown. The journey of equity derivatives in India has been marked by inventive product offerings, an expanding community of qualified investors, increasing trading volumes, and a robust risk management structure for exchange-traded derivatives. The Bombay Stock Exchange (BSE), headquartered in Mumbai, Maharashtra, holds a significant place in India's financial landscape. Established in 1875, it stands as the oldest stock exchange in South Asia and is renowned for its speed, boasting a response time of just 200 microseconds. It also ranks prominently among India's exchange groups. The NSE, the country's largest stock exchange, also located in Mumbai, was demutualized and electronically operated when it was founded in 1992. Pioneering state-of-the-art technology, the NSE

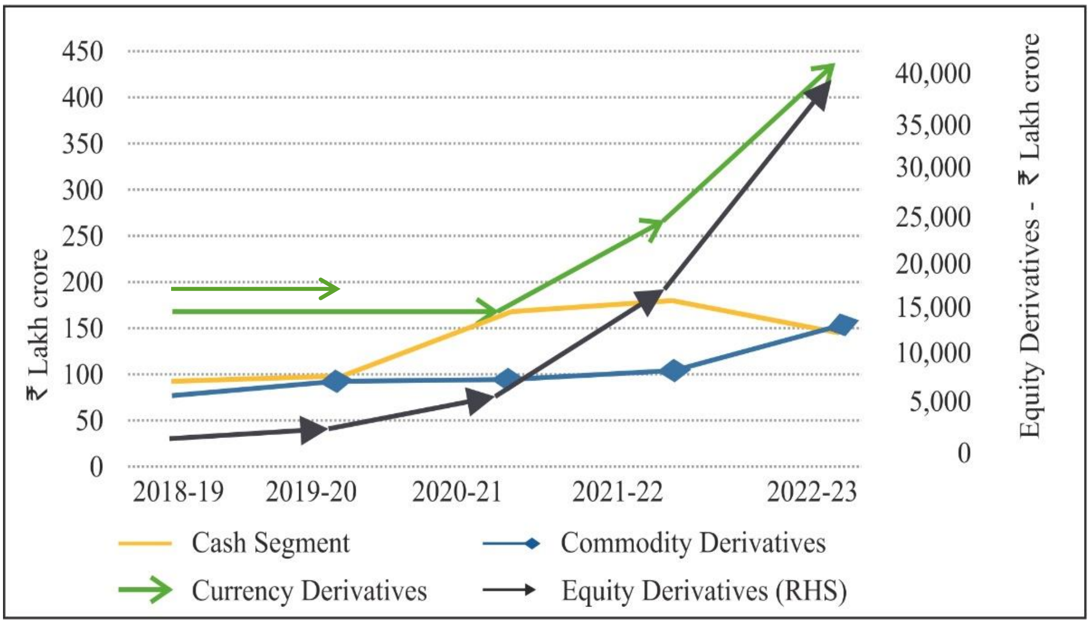
introduced a fully automated screen-based electronic trading system, simplifying trading for investors nationwide **(Upputuri et al., 2021).**
The National Stock Exchange of India has surpassed all other derivatives exchanges globally in terms of the volume of contracts traded in 2021, according to the Futures Industry Association (FIA). The exchange also finished fourth in terms of the volume of cash equity trades in 2021, according to data from the World Federation of Exchanges (WFE). According to a statement made public by NSE, based on the number of contracts traded, it is the largest exchange in the world for both equities and currency derivatives **(Financial Express, 2022)**.

Table 1:- F&O Products Traded in NSE

S. No.	Product with Underlying Asset	Start Date
1	Index Futures (S&P CNX Nifty)	12th June, 2000
2	Index Options (S&P CNX Nifty)	4th June, 2001
3	Individual Stock Option	2nd July, 2001
4	Individual Stock futures	9th November, 2001
5	Interest Rate Future	23rd June, 2003
6	IT Futures & Options (CNX IT)	29th August, 2003
7	Nifty Futures & Options (Bank)	13th June, 2005
8	Nifty Junior Futures & Options (CNX)	1st June, 2007
9	Futures & Options (CNX 100)	1st June, 2007
10	Midcap 50 Futures & Options (Nifty)	5th October, 2007
11	Mini Index Futures & Options (S&P CNX Nifty index)	1st January, 2008
12	long Term Option contracts (S&P CNX Nifty index)	3rd March, 2008
13	Currency Future (USD-INR)	29th August, 2008
14	Currency Options (USD-INR)	29th October, 2010
15	Cross Currency Futures and Options (EURINR, GBPINR, and JPYINR)	27th February, 2018

Source: (NSE, 2023)

The above table shows the various derivative products along with their inception dates. It clearly reflects the evolution of the Indian derivatives market.



Source: (SEBI, 2023)

Figure 1:- Turnover across Products

As per SEBI's Annual Report of 2023, in the fiscal year 2022-23, the Indian derivative market showed substantial expansion, setting it apart from the cash market. While the cumulative trading turnover in the equity cash segment dropped by 20 percent compared to the previous year (2021-22), the equity derivative segment experienced a remarkable surge of 119 percent in notional turnover during the same period. This surge was mainly fuelled by proprietary traders and individual investors. Additionally, there was notable trading activity in the currency and commodity derivative markets, with trading turnover in these markets increasing by 60 percent and 50 percent, respectively, in the fiscal year 2022-23 in comparison to the previous year (2021-22).

3.3 Future Outlook of the Indian Derivatives Market

The Indian market has surpassed several other regional markets in terms of the growth of derivatives markets and the variety of derivatives users. Smaller businesses and state-owned institutions are starting to participate in the growth, which is now being driven primarily by retail investors, private sector institutions, and large corporations. The range of derivative instruments that can be traded is likewise growing. Indian derivatives users continue to have significant areas of concern. The variety of derivative products that are frequently traded has significant gaps. Any developed market needs to have liquidity and transparency. Market participants who are eager to buy and sell on liquid markets must exercise patience while doing so. Indian private and foreign banks dominate market making in India, with state sector banks trailing behind. In some markets, poor trading may be caused by a lack of market liquidity. Financial disclosure contributes to transparency. As Indian derivatives markets become more complex, greater investor awareness will be required. The NSE offers educational and informational programs for brokers, dealers, traders, and market workers. Institutions will also need to invest more money in creating the technology and business procedures required for trading derivatives **(Mishra, 2015).**

Although the derivatives market has made good strides in recent years, the true problems that the market will face in the future have not yet been solved. The number of products permitted for derivative trading has increased, as have the volume and value of the business, but unless these pressing issues are resolved as soon as possible, it's possible that the objectives of establishing various derivative exchanges won't be met and the growth rates observed won't be sustainable. The following are some of the major outstanding problems.

3.3.1 Regulators and supervisory agencies have taken notice of the large size and rapid expansion of the Over the Counter (OTC) derivatives market. Some OTC derivatives have been seen as stressors in the current global financial crisis amplification. The more common criticisms focus on the OTC markets' lack of transparency, high leverage, weak capital requirements, and presence of latent systemic risk.

3.3.2 A smart, economical, dependable, and practical warehousing system must exist in the nation for the commodity derivatives market to function effectively. Additionally, each region should develop independent labs or quality testing facilities to validate the grade, quantity, and quality of commodities. This will guarantee that they are uniformly produced and eliminate any unpleasant surprises for the buyer who will actually get the physical delivery.

3.3.3 Only 1 percent to 5 percent of all commodity derivatives transactions in the nation is resolved by physical delivery. The current storage system's inefficiencies are probably to blame. As a result, the warehousing issue must be approached aggressively because a reliable delivery system is the foundation of any commodities trading.

3.3.4 The market will undoubtedly require a strong and independent regulator, comparable to the Securities and Exchange Board of India (SEBI), which oversees the securities markets.

3.3.5 The number of commodities exchanges in India is excessive and only a few exchanges see the majority of the trade. Volumes are divided as a result, and some exchanges become unprofitable. Consolidating some exchanges may be a solution to this issue **(Gautam & Kavidayal, 2016).**

In the study, "Derivatives Market in India: Evolution, Trading Mechanism, and Future Prospects," **Gakhar and Meetu (2013)** stated that there are numerous issues that must be resolved right away to increase investors' confidence in the Indian derivative market. These issues include the lack of scale economies, regulatory and tax bottlenecks, increased off-balance sheet exposure of Indian banks, the need for an independent regulator, and many more.

According to **Gupta and Mokshmar (2018)**, investors consider the majority of India's investment opportunities to be risky. Investors view income stability, principle amount, liquidity, and ease of transferability as the key characteristics of an investment. In India, there are several options for investing, including shares, silver, real estate, gold, life insurance, banks, postal savings, etc. The investor's choice is influenced by their risk tolerance and desired amount of return. Provident funds, national savings certificates, chit funds, insurance plans, firm fixed deposits, government securities, bonds, and derivatives are a few examples where investments differ. It may be stated that every investor wants to save more money because higher risk translates into higher earnings. When it comes to investing in equity and derivatives, this is the main reason why investor perceptions fluctuate. There is a lot of ambiguity surrounding investment patterns and the choices between equity and derivatives.

This popularity of Derivatives market is anticipated to be fuelled by rising interest from a broad spectrum of investors, ranging from retail to institutional, as they increasingly use equities derivatives for speculative and hedging objectives. Regulatory organizations like the Securities and Exchange Board of India (SEBI) are anticipated to make modifications to improve transparency, support risk management procedures, and allow for greater involvement, further fostering market development. Continuous product innovation, incorporating cutting-edge technologies like artificial intelligence, blockchain, and high-frequency trading, is poised to transform the market environment by putting an emphasis on automation and efficiency. Increased participation is also expected to be facilitated by initiatives to inform and empower retail investors and to make the market more open and user-friendly. Market sentiment and trading activity will, however, continue to be influenced by volatility brought on by the economy and major world events. To maintain market stability and sustainability in this environment, a significant focus on risk management procedures and adherence to international standards will be essential.

4. Results

4.1 Over time, India's derivatives market has grown significantly.

4.2 The regulatory framework in India has undergone changes aimed at improving risk management and transparency in the derivatives industry.

4.3 There are several major challenges affecting the Indian derivatives market. The issues that need to be addressed are limited product innovation, liquidity constraints, and the requirement for improved risk management measures.

4.4 The state of the global economy has a big impact on the prospects for India's derivatives market.

5. Discussions

5.1 Attempts should be made to draw in a wider spectrum of domestic and foreign investors to tackle the liquidity issues.

5.2 To meet the changing needs of investors and hedging strategies, regulators should encourage the creation of new derivatives products, especially those based on emerging asset classes.

5.3 Risk management procedures should be improved further by regulators and market players to guarantee the security and resilience of the market.

5.4 Protecting the interests of retail participants can be greatly aided by initiatives such as improved investor protection laws and educational programs.

5.5 India should actively work on closer integration with global derivatives markets.

5.6 Considering the changing nature of derivatives, regulatory bodies should continue to be flexible in upholding their commitment to openness and market integrity.

6. Conclusion

Due to innovation and a changing market, financial derivatives have rightfully secured a significantly prominent position among various financial instruments. Risk transfer from one party to another is possible using derivatives. The introduction of equity derivatives to the Indian market has been tremendously successful and promising. In recent years, the rise of derivatives has outpaced that of its counterpart globally. This growth has been accompanied by a robust regulatory framework aimed at ensuring transparency and risk management. The market for derivatives has had ups and downs. To address the varying needs of the various sorts of investors, new and creative derivative products have developed over time. Financial asset price volatility, global financial market interconnection, highly developed risk management instruments, and advancements in financial engineering, have all been factors in the expansion of financial derivatives globally, including in India. Finally, we can state that derivatives have a significant impact on the financial sector and the Indian economy. However, it is imperative to recognize that challenges persist, including liquidity issues and the need for ongoing innovation. The global dimension of this market is ever more pronounced, underscoring the need for India to strike a balance between integration and prudent risk management. It is advised that to grow the Indian derivatives market in a way that it can be compared to the global derivatives market, the government must take a strong interest and form committees to examine the limitations, drawbacks, challenges, etc. as a whole. SEBI must make key decisions for the development of the derivatives market and implement reforms to the operational and regulatory framework that will benefit everyone. As India's derivatives market continues to evolve, it is crucial for regulators, market participants, and investors to work collaboratively to ensure its long-term success and resilience in the dynamic world of finance.

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