

# A Study on Equity Derivatives Market Analysis on Selected Companies

Prabhuraj P<sup>1</sup>, Sampath Kumar<sup>2</sup>, Bondinakallu Vishnu Priya<sup>3</sup>

<sup>1</sup> Student, DMS, BITM, BALLARI

<sup>2,3</sup> Assistant Professor DMS, BITM, BALLARI

**Abstract**—Equity derivatives market is an important segment in Indian financial system which plays an important role in the securities market in risk management, hedging, risk mitigation, arbitraging, and also for speculation. The derivatives segment has grown tremendously in the recent times due to increased leverage and active participation of the individual traders the segment. Traders in derivatives market are making huge losses due to lack of knowledge about the derivatives segment and strategies to trade in derivatives market. This research involves the analysis of the equity derivatives market and using understanding the payoff charts of selected companies using different strategies in both futures and options market which gives the trader a clear picture about the potential profit and loss.

**Index Terms**—Payoff charts, Futures, Options, Trading strategies.

## I. INTRODUCTION

The derivatives market in India is a very important segment of the financial system which offers diverse instruments for risk management, speculation and investment. The basic purpose of derivatives market is for hedging. The derivatives market involves higher leverage which leads to potential for high returns as well as loss. The Securities and Exchange Board of India monitors and regulates the derivatives segment in Indian. As part of the initial efforts to establish derivatives trading, SEBI formed a 24-member committee chaired by Dr. L. C. Gupta on November 18, 1996. The committee was tasked with formulating a regulatory framework for derivatives trading. In its report dated March 17, 1998, the committee recommended that derivatives be classified as ‘securities’ to ensure they fall under the same legal and regulatory framework as other securities. Following this, in June 1998, SEBI set up

another expert group under Prof. J. R. Varma to develop risk management strategies for the derivatives market. By October 1998, this group had submitted its report detailing operational mechanisms, such as margin systems, initial margin calculation, membership norms, net worth requirements, deposit structures, and real-time monitoring protocols. In 1999, the Securities Contracts (Regulation) Act (SCRA) was amended to include derivatives under the category of ‘securities.’ This amendment laid the foundation for a formal regulatory environment for derivatives trading. In March 2000, the government also repealed a decades-old rule that had banned forward trading in securities. Exchange-traded derivatives were officially launched in India in June 2000, with SEBI granting approval to both the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) to initiate equity derivatives trading. In the beginning only index futures were introduced. Index options followed in June 2001, options on individual stocks in July 2001, and futures contracts on individual stocks in November 2001. The Metropolitan Stock Exchange of India (MSEI) entered the derivatives space in February 2013.

## II. LITERATURE REVIEW

1. Ganesh B and V Velmurgan (2025) "Growing Trends in Equity Derivative Markets in India – Special Reference to Futures and Options in NSE." This research widely cited in current discussions, this extensively referenced research offers a detailed examination of the rapid expansion of the Indian equity derivatives market, with a specific focus on the leading role and influence of the National Stock Exchange (NSE).

2. Karthik B & Akshat Manhas (2025) "The Evolution of Derivatives in Indian Capital Markets". The study says India's derivatives odyssey started in 2000 with the listing of index futures on the National Stock Exchange (NSE). Over the years, various new derivative instruments such as stock futures, options, currency derivatives, and commodity derivatives have been launched. The Securities and Exchange Board of India (SEBI) contributed significantly to their development and regulation
3. Dr. Mohd Musavvir Ali (2025) "An Insightful Analysis of Equity Derivative Trading on the NSE: Trends and Practices in India". The study involves the analysis of equity derivatives in Indian stock market and its significant growth in the recent times.
4. Onkar Shirke (2025) "Awareness and Comparative Analysis of Derivatives and Equity Markets" The study focuses on the analysis of derivatives as well as the equity market in India. Financial markets have evolved in india over a period of time especially after the introduction of derivatives.
5. Rishabh kumar & Dr. Rajeev Shukla (2025) "Behavioral and Structural Shifts in Indian Equity Derivatives During the COVID-19 Crisis: A Futures-Based Case Study". This study investigates the behavior of Indian equity index derivatives during the COVID-19 crisis, focusing on Nifty and Bank Nifty futures, India, and associated trading variables. Using data from January to June 2020, the study analyzes futures–spot basis dislocations, structural shifts in volatility, and fluctuations in volume and open interest.
6. Dr. PV Satyanarayana (2024) "Role of Financial Derivatives Market in India- an Empirical study". The present study attempts to discuss the genesis of derivatives trading by tracing its historical development, types of traded derivatives products, regulation and policy developments, trend and growth, future prospects and challenges of derivative market in India. The study is organized into four sections. Section I deals with the concept, definition, features and types of financial derivatives. Section II has been devoted to a discussion of the growth of derivatives market, and regulation and policy development. Section III compares the state of the global derivatives market with that of the Indian market. The final section presents a summary along with concluding observations
7. FIA .org Explainer By Kristen Hyden (August 16, 2024). "EXPLAINER: The meteoric rise in India's equity derivatives volume." While an organizational report, it provides robust data and analysis on the sheer volume growth, especially in index options, and the global context of India's derivatives market.
8. Patientko, Rashmi Ravindra Kumar Pumdir (2024). "Volatility analysis of the Indian stock Market: Insights from Bank Nifty Index and Futures Trading.". This paper would provide a broad overview of the market's volatility specifically in futures, key drivers of growth, and its current standing in the Indian financial landscape.
9. Tanveer Belim & Smit Soni (2023) "A study on equity derivatives and challenges faced by new traders". The study focuses on the equity derivatives market in India and the obstacles encountered by new traders. The study also reveals the derivatives trading operations of NSE & BSE.
10. SEBI Study (January 25, 2023). "Analysis of Profit and Loss of Individual Traders dealing in equity Futures and Options (F&O) Segment." This landmark report from the Securities and Exchange Board of India (SEBI) offers crucial empirical data on the profitability (or lack thereof) of individual traders, becoming a foundational piece for discussions on retail participation risks.
11. Tejashwini K.c. (2022). "Retail Investors Participation in Derivatives Market in India." This study shows the increase of the retail investors' participation in the derivatives market day by day, year to year it's increasing and the growth noted by the compound annual growth rate (CAGR). The primary aim of the study was to explore the concept of retail investors and examine their involvement in the derivatives market.
12. R. Vinita & Dr. V. Suresh Babu (2022) "An analysis of the Indian derivatives market with special reference to NSE". The study focuses on the analysis

of the derivatives market in India containing the data from 2015 to 2022

13. Dr. Mandeep Singh (2022) "Evolution of Derivatives Market in India". The study focuses on the evolution of the Indian derivatives market and increasing volume of the derivatives trading in BSE and NSE over the years.
14. Venkatesh (2022) "Derivatives Market in India - Futures and Options". The research focuses on the derivatives market in India particularly focusing on Futures and options derivatives. This research paper also reveals the risks associated with the futures and options trading.
15. Shweta phatak & Gupta Nidhi (2021) "Review on Challenges and Potential Opportunities in the Indian Derivatives Market". The Study reveals that 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 allows for the independent management of particular financial market risks. India's derivatives market has grown into a multi-trillion-dollar sector and is experiencing rapid expansion.
16. Kulbir Singh and Rajesh pai (2021) "An analytical study of equity derivatives traded on the NSE of India". The study indicates a strong presence of retail investors in the equity derivatives market. Trade frequency data shows that individuals account for a significant share—94.13% of futures contracts and 91.14% of options contracts by the number of trades. Although their average trading volume stands at around 50% compared to other participants, retail investors engage in a high number of transactions, particularly during periods of market momentum, aiming to profit from small price movements through speculation.
17. S. Sandra (2021) "A Study of Indian Derivatives Market and its Current Position in Global Financial Derivatives Market". This study reveals the present position of Indian derivatives market in global level. The study also explains the tremendous growth of the Indian derivatives market in the recent time and comparing it with the global derivatives market.
18. Nisarg A. Joshi (2021) "Volatility, Open Interest, and Trading Volume in Indian Futures Markets". The study was to examine the impact of trading volume and open interest on the volatility of selected futures contracts of Indian markets. It also involves the study of analyzing trading volume and open interest role in deciding the futures contract price.
19. Dr. Khurshid Ali Ganai (2021) "Spillover Effects of Stock Options Trading on the Volatility of Underlying Stocks" This study explores the effect of stock options trading on the volatility of the underlying stocks. To meet the study's objectives, the researcher selected six stocks that had active options contracts throughout the entire analysis period.
20. Toopalli Sirisha & Dr. NallaBala Kalyan (2020) "A Study on the Derivatives Market in India". The study gives the basic & broad knowledge about the equity derivatives market . The researchers have taken the data of TCS company for analyzing the futures and options of the company.

## II. OBJECTIVES

- To understand the payoff structures of selected derivative instruments in selected companies.
- To analyze performance of derivative products

## III. RESEARCH METHODOLOGY

### ➤ Secondary data

This research is based only on the secondary data collected through different online sources. I have collected the authorized secondary data from the BSE, NSE and SEBI official websites and also from few other online sources.

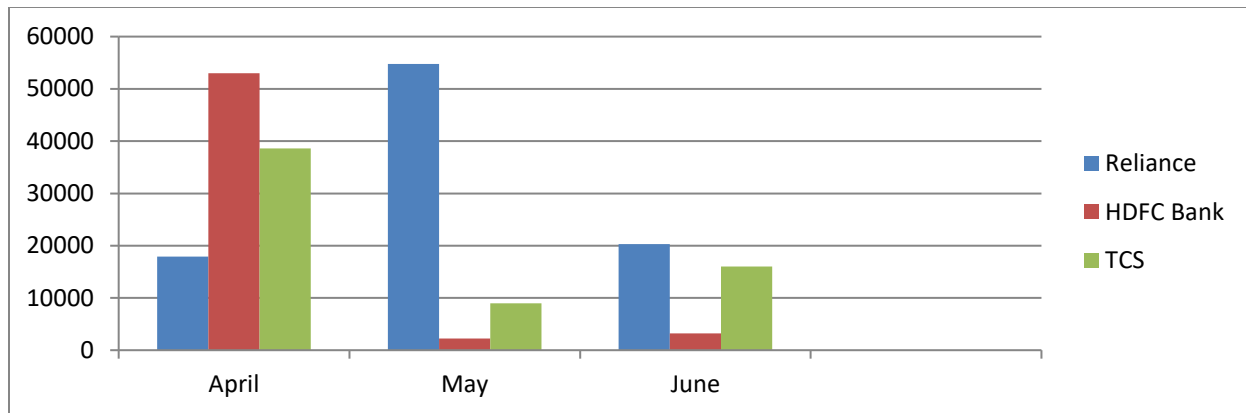
### ➤ Sample size

Top 5 companies in the Indian stock market with the highest market capitalization: Reliance Industries Limited, HDFC Bank, TCS, Bharti Airtel and ICICI Bank

Data analysis and interpretation

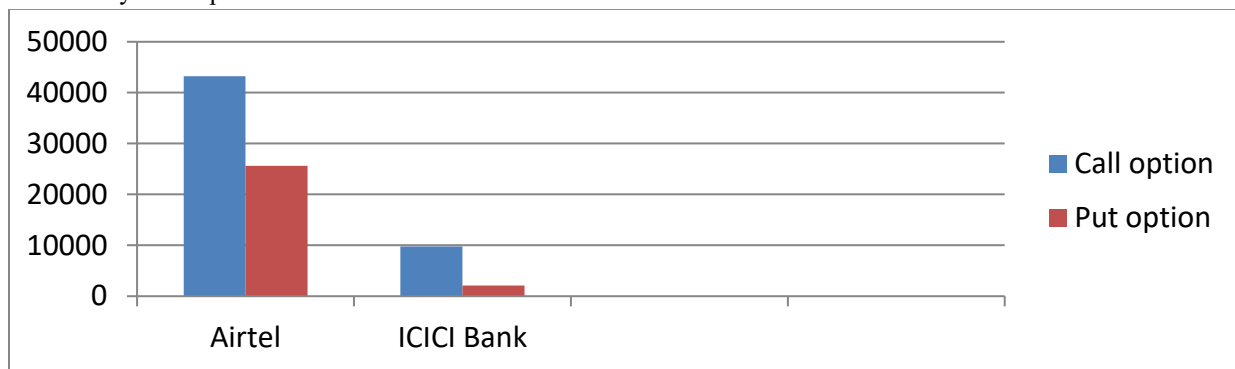
Three months Futures payoff analysis of Reliance Industries, HDFC Bank and TCS.

	April	May	June
Reliance	17900	54750	20300
HDFC Bank	53020	2255	3190
TCS	38896	8960	15995



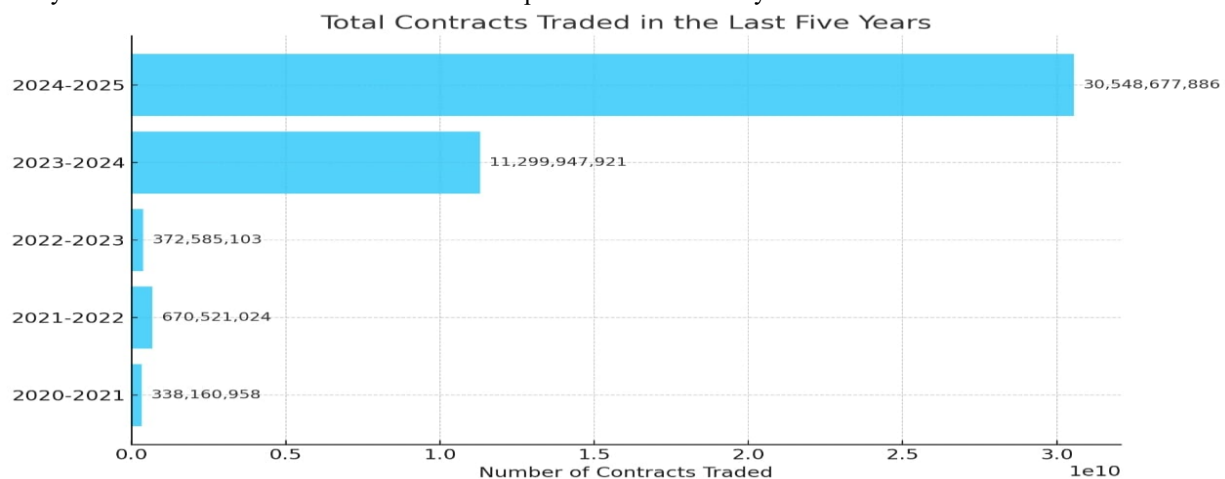
Interpretation: From the above chart it is clear that Reliance industries have generated highest positive and negative payoff of Rs.92950 combined of three months and HDFC have generated lowest positive and negative payoff of Rs.58465 combined of three months. Options Payoff analysis of Bharti Airtel and ICICI Bank using Long on a call, Short on call, Long on Put, Short on Put strategies.

Chart analysis of options



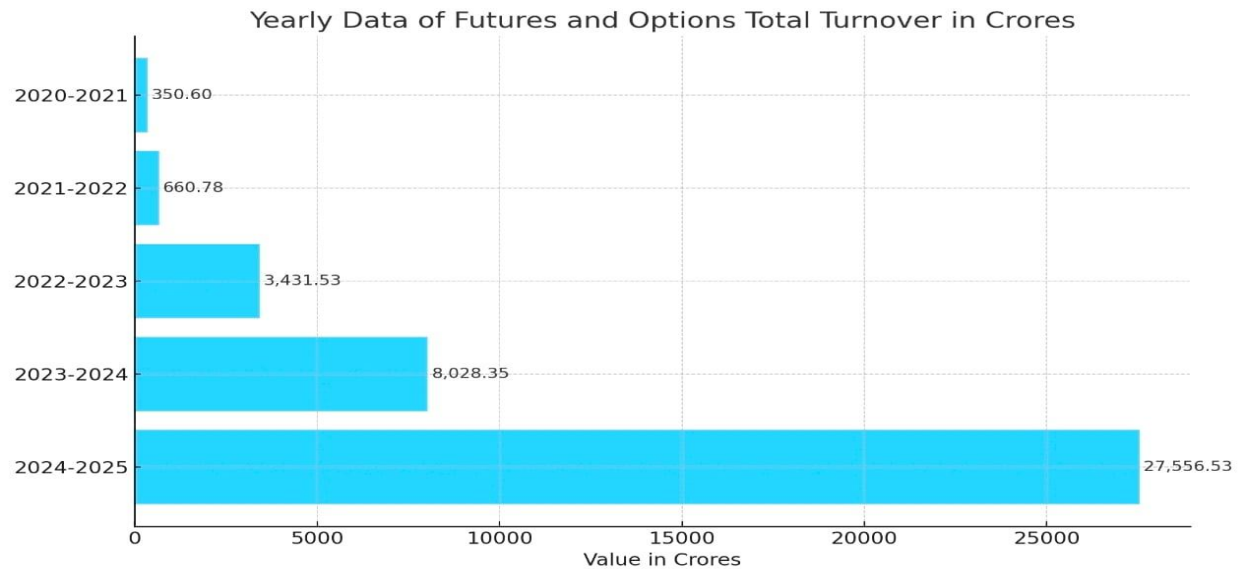
Interpretation: From the chart it is clear that Airtel had generated highest positive and negative payoff of 43225 in call option and 25650 in put option and ICICI Bank has generated the lowest positive and negative payoff of 9800 in put option and 2100 in call option.

Analysis of total contracts traded in futures and options in the last five years



Interpretation: From the above information it is evident that Indian derivatives market has been grown tremendously in a fast phased mode since 2020. Total number of contracts traded have been 90 times since 2020 to 2025.

Analysis of total turnover in future and options in the last five years



Interpretation: From the above chart it is clear that the total turnover in futures and options has grown rapidly since 2020 to 2025.

#### IV. CONCLUSION

Derivatives market is a complex and risky segment. Traders must understand and analyze how derivatives market works before trading in the market. Analyzing and understanding the payoff charts in futures and options is very important because it gives a clear picture of potential profit and loss. Derivatives are most beneficial and efficient when strategically used for hedging rather than for speculative purposes

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