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A Comparative Study and Relationship Between Cash and Derivative Segments of Indian Stock Market Post Covid 19

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Abstract

The Indian stock market is very volatile and to take advantage of this, derivatives were introduced in the Indian stock market in year 2000, which is a very good source to control volatility and earn profit. With this, we can control the market risk which we do not observe in cash transactions. The aim of this study is to examine relationship between cash and derivative in Indian stock market and also comparative analysis of both the markets. It also shown that Indian derivatives market has very impressive growth in market turnover and cash market is very consistent but shows low growth after covid pandemic. For this secondary data has been collected from year 2019-2020 to 2024-2025 and make a summary out of it and concluded by stating that Derivative segment is growing continuously compare to Cash market, but both markets are growing with growing of economy

Introduction

The Indian derivative market has become vast markets over the years. Ability to perform partially and fully and transfer the risk by locking in assets prices, derivatives are gaining popularity among the investors. The derivatives play vital and major functions like risk reduction through hedging, ensuring market efficiency. Arbitrage deals in price discovery of the underlying asset whereas risk is also more in Cash market because of immediate delivery. The daily average turnover in the derivatives segment in FY 2020 was 92,724 crore compared with the 3,432 crores turnover in the cash segment. The derivate to cash turnover ratio was 2.37 times higher (As per SEBI report). This unhealthy level of trading in derivatives is exposing participants to higher risk.

Cash market and derivative market

Stock market is broadly divided in to two parts Cash market and Derivative market. The spot market or cash market is a public financial market in which financial instruments or commodities are traded for immediate delivery. In contrast with a future market delivery is due at a later date. Derivative is a product whose value is derived from the value of it's underlying assets. This underlying entity can be an Equity, Commodities, Currency and Interest rate. It can be used for hedging, speculation and arbitrage opportunities.

Types of Derivatives

Forward: A forward contract is a non-standardize contract which is customized between two parties to buy or sell an asset at a specified price on a future date. These contracts offer flexibility in terms of commodities, amounts, and delivery dates but come with higher default risks due to over the counter market (OTC).

Futures: A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. It is similar to forward contract but traded on exchange because of that it is future contract is standardized contract.

Options: An Option is a contract which gives the right, but not an obligation, to buy or sell the underlying at a stated date and at a stated price. While a buyer of an option pays the premium and buys the right to exercise his option, the writer of an option is the one who receives the option premium and therefore is obliged to sell/buy the asset if the buyer exercises it.

Swap: A swap contract is a financial derivative where two parties agree to exchange cash flows or liabilities from different financial instruments. Common types of swap contact are interest rate swap and currency swap.

Litrature Review

Miss.Caroline Priyanka koorse (2015) in her research paper 'An Analysis of Financial Derivatives and its Growth Rate in India. Studied derivative market over the years and also analyzed

comparative study of the NSE & BSE and concluded that overall performance of both exchanges needs to be improved. It can be seen that most traders are reluctant to trade in derivatives because of risk factor.

S. Subbalakshmi (2016) In her research paper ‘An Empirical Study on Derivative Trading in India’ studied the derivative trading in India and its rules and regulations in relation to Indian stock market and concluded that SEBI has to take crucial steps for development in Derivative market.

Gangineni Dhanaiah(2017) In his research paper ‘Growth of India’s Equity Derivatives Market’.An analytical study (2000-2015) studied the present status and growth of equity derivative market and concluded that equity derivative market experienced shifts in the share of different derivative products.

Bindal (2018) Attempted to analyze the growth and position of Indian derivatives market and its trading in India. The secondary data has been collected from the books, newspaper and websites for a period starting from year 2009 to 2017. The underlying assets taken in this study are currency future and options and variables are number of contract and turnover. On the basis of data analyzed it was concluded that financial derivatives market has vital role in risk management and economic growth

J. Ainapur and Dr. Shailaja Kheni (2019) attempt to analyses the growth in terms of turnover in Cash and Derivative segments in Indian Stock Market. Past 10 years secondary data has been collected from 2009-2010 to 2018-2019 for analyzing comparative growth in turnover , related hypotheses are framed and tested with the help of statistical tools like correlation, ANOVA and T-Test. After analyzing it was concluded that derivative market is growing continually compare to cash market.

Khushbu undhad (2020) attempt to examine the relationship between cash and derivative segment in Indian stock market and also comparative analysis of both the market. It also observed that Indian derivatives market has shown very impressive growth in market turnover but the behavior of cash market is very steady over a period of 20 years. It also observed that the strong and positive relationship between derivatives and cash

Objectives

- To have an overview of Cash and Derivative segments in Indian stock market.

- To have a Comparative study of cash and derivative segments in Indian stock market.
 - 1) To make a relationship between cash and derivative segments at Indian stock market.
 - 2) To study the factors contributing towards growth of cash and derivative market turnover in Indian stock market from last five years starting from year 2020-2025.

Research Methodology

The study is based on the secondary data. Data has been collected from website of National Stock Exchange and Bombay stock exchange of India for a period of five years starting from 2020-2025, Different books and journals have also been consulted in this regard.

Comparative Study of Cash and Derivatives Segments

Basis	Cash market	Derivative market
Nature of assets	Actual assets are traded	Contact base on underlying assets
Delivery	Spot delivery	Future delivery
Value	Independent value	Value derived from underlying assets
Investment	Full payment	Margin payment
Risk	Comparatively lower	Higher risk
Purpose	Investment and ownership	Hedging speculation and arbitrage
Standardization	less standardization	High standardization
Time of settlement	Immediately	Future date
Participants	Investors and traders	Hedger, speculator and arbitrageur

As we can see there are lot of difference between cash and derivative market but now we also study that there are some relationship between derivative and cash market.

Relationship Between Derivative and Cash Market.

In India's stock market, there is a strong connection between the cash and derivatives segments, which typically move in same direction, with the volume of derivatives frequently outperforming that of the

cash market. This creates a vast ecosystem where derivatives rely on underlying stocks (from the cash market) for purposes such as hedging, speculation, and price discovery, thereby affecting one another as derivative positions respond to corporate actions or shifts in sentiment in the cash market.

Key Relationships between cash and derivative market

- **Positive Correlation:** Research indicates a strong positive correlation (with an R-value around 0.89) between the turnover in cash and derivatives, suggesting that increase in activity within one segment are often mirrored by the other.
- **Volume Discrepancy:** The derivatives market has experienced remarkable growth, frequently exceeding the volumes of the cash market, with daily transactions in derivatives being significantly larger than those in the cash market.
- **Underlying Asset Connection:** Derivatives obtain their value from underlying assets, such as stocks, in the cash market; therefore, price fluctuations, corporate actions (like bonus, stock splits, and dividends), and overall market sentiment in the cash segment have a direct effect on derivative contracts.
- **Functionality:** Cash Market: Involves direct ownership of shares, immediate delivery of assets, receipt of dividends, and serves as a method for investment. Derivatives Market: Consists of contracts (like futures and options) used for transferring risk (hedging) or for speculative purposes, featuring fixed lot sizes and no direct ownership, according to Fisdom.
- **Influence Flow:** Although correlated, the considerable volume in derivatives can greatly affect the cash market, and SEBI keeps an eye on this rapid expansion to identify potential risks for retail investors.

As we have seen, cash and derivative markets are different but both influence each other significantly and the movements of both are similar and to know more about them, we will have to look at their movements and turnover to see how many people are investing in them, whether they invest more in the cash market or the derivative market.

Table 1 NSE cash and derivatives segment

Financial year	Cash segment (crore)	Derivative segment (crore)
2019-2020	89.98 lakh	44.56lakh
2020-2021	153.98 lakh	78.98lakh
2021-2022	165.66 lakh	169.52lakh
2022-2023	133.05lakh	382.23lakh
2023-2024	201.03lakh	799.27lakh
2024-2025	281.27lakh	783.59lakh

Financial year	Cash segment (crore)	Derivative segment (crore)
2019-2020	6.60 lakh	2.60 lakh
2020-2021	10.45 lakh	3.50 lakh
2021-2022	13.38 lakh	6.60 lakh
2022-2023	10.28 lakh	3.43 lakh
2023-2024	16.29 lakh	80.28 lakh
2024-2025	19.33 lakh	275.56 lakh

- Cash segment grows steadily, with a dip in **FY2022–23**
- Derivatives **explode after FY2021–22 (after pandemic)**
- From **FY2022–23 onward, derivatives turnover is multiple times higher than cash**
- **FY2023–24** is the **peak year** for derivatives
- **FY2024–25** shows a **small moderation**, but still extremely high

Table 2 BSE cash and derivatives segment

Financial year	Cash segment (crore)	Derivative segment (crore)
2019-2020	6.60 lakh	2.60 lakh
2020-2021	10.45 lakh	3.50 lakh
2021-2022	13.38 lakh	6.60 lakh
2022-2023	10.28 lakh	3.43 lakh
2023-2024	16.29 lakh	80.28 lakh
2024-2025	19.33 lakh	275.56 lakh

Cash segment (BSE)

- Gradual growth overall
 - Dip in FY2022–23
 - Highest cash turnover in FY2024–25 (₹19.33 lakh crore)
- ### Derivative segment (BSE)
- Very small till FY2022–23
 - Sudden jump in FY2023–24
 - Explosive growth in FY2024–25

Conclusion

The derivative segment is expanding rapidly within the Indian economy. The turnover in the derivative segment surpasses that of the cash or spot market. The presence of regulated and transparent rules, along with a robust communication network, is facilitating investors in trading derivatives and safeguarding their investments against risks. The decline in cash market turnover can be attributed to

several factors such as high inflation, rising interest rates, weak corporate earnings, and negative investor sentiment, unfavorable government policies, and currency devaluation. After Covid 19, both the markets have risen but the derivative market has risen more and there is a relation between cash and derivative market due to which both rise and fall in the same direction.

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