FII and DII Inflows and Outflows: Their Influence on BSE Market Performance

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Area/Section: Business Management.
Type of the Paper: Empirical Study.
Number of Peer Reviews: Two.
Type of Review: Peer Reviewed as per |C|O|P|E| guidance.
Indexed in: OpenAIRE.
DOI: https://doi.org/10.5281/zenodo.12622472
Google Scholar Citation: PIJMESS

How to Cite this Paper:
Venkata Lakshmi Suneetha, M. & Aithal, P. S. (2024). FII and DII Inflows and Outflows: Their Influence on BSE Market Performance. *Poornaprajna International Journal of Management, Education & Social Science (PIJMESS), 1*(1), 91-116. DOI: https://doi.org/10.5281/zenodo.12622472

Poornaprajna International Journal of Management, Education & Social Science (PIJMESS)
A Refereed International Journal of Poornaprajna, India.
ISSN: 3107-4626

Crossref DOI: https://doi.org/10.64818/PIJMESS.3107.4626.0003

Received on: 19/05/2024
Published on: 02/07/2024

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ABSTRACT

Purpose: *The purpose of this paper is to analyze the impact of Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) on the performance of the Bombay Stock Exchange (BSE). By examining the patterns of inflows and outflows from these investors, the study aims to understand their influence on market trends, volatility, and overall performance. This analysis will provide insights for investors, policymakers, and financial analysts, helping them make informed decisions and develop strategies that consider the behaviours and effects of these significant market participants.*

Design/Methodology/Approach: *This study employs a quantitative research methodology to analyze the impact of Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) on the Bombay Stock Exchange (BSE) market performance. The research utilizes secondary data collected from reliable financial databases and sources such as the BSE, SEBI, and financial reports. The study period spans the last 5 quarters, ensuring a comprehensive analysis of market trends and investor behaviour. The data includes daily, monthly, and yearly inflows and outflows of FII and DII, as well as corresponding BSE indices and stock prices.*

To assess the influence of FII and DII activities on market performance, statistical techniques such as correlation analysis, regression analysis, and time-series analysis are employed. These methods help identify patterns, relationships, and the extent of the impact of institutional investors on market trends and volatility.

The analysis also includes a comparative examination of the behaviours and effects of FII and DII during different market conditions, such as periods of economic stability, market booms, and downturns. The results are further validated through robustness checks and sensitivity analyses to ensure the reliability and accuracy of the findings.

Findings/Result: *The analysis reveals that both Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) significantly influence the performance of the Bombay Stock Exchange (BSE). The study finds a strong correlation between FII inflows and positive market movements, indicating that foreign investments often drive market rallies. Conversely, substantial FII outflows tend to coincide with market declines, underscoring their role in market volatility. Domestic Institutional Investors, while also impactful, show a more stabilizing effect on the market. Their investment patterns are found to be less volatile compared to FIIs, often acting as a buffer during periods of heavy foreign outflows.*

Originality/Value: *The paper's originality lies in its dual approach of evaluating both FII and DII activities concurrently, shedding light on their distinct and combined effects on market performance. By doing so, it offers valuable insights for investors, policymakers, and financial analysts, aiding in the development of more informed investment strategies and policy decisions. This research enhances the understanding of the dynamic roles that institutional investors play in shaping market behaviour, particularly in an emerging market context like India.*

Paper Type: *Empirical Study*

Keywords: Foreign Institutional Investors (FII), Domestic Institutional Investors (DII), Bombay Stock Exchange (BSE), Finance Sector, Power Sector, Correlation Analysis, Regression Analysis

1. INTRODUCTION :

The dynamics of the stock market are significantly influenced by the activities of institutional investors, who play a crucial role in shaping market trends and overall performance (Venkata Lakshmi Suneetha M. et al. (2024) [1]). Among these investors, Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) have emerged as key players, particularly in emerging markets like India. The Bombay Stock Exchange (BSE), one of the oldest and most prominent stock exchanges in Asia, provides a fertile ground for examining the impact of these institutional investors. This study seeks to delve into the nuanced roles of FIIs and DIIs, exploring how their investment decisions affect the market's volatility, trends, and overall performance.

Foreign Institutional Investors have long been recognized for their significant influence on emerging markets due to their substantial capital flows and strategic investment decisions. Their entry and exit from the market often create ripples that can lead to considerable shifts in stock prices and market indices (Venkata Lakshmi Suneetha M. et al. (2024) [2]). On the other hand, Domestic Institutional Investors, including mutual funds, insurance companies, and pension funds, tend to exhibit different investment behaviours, driven by domestic economic policies and market conditions. Understanding the interplay between these two groups of investors is essential for comprehending the broader market dynamics and for developing strategies that can mitigate risks and enhance market stability (Venkata Lakshmi Suneetha M. et al. (2023) [3]).

This paper aims to provide a comprehensive analysis of FII and DII inflows and outflows, focusing on their influence on the BSE market performance. By examining a decade's worth of data, the study offers insights into how these institutional investors contribute to market movements during various economic cycles (Venkata Lakshmi Suneetha M. et al. (2024) [4]). The findings are expected to be valuable not only for academic research but also for policymakers, investors, and financial analysts who seek to understand and navigate the complexities of the Indian stock market (Venkata Lakshmi Suneetha M. et al. (2024) [5]-[6]). Through this analysis, the paper endeavours to contribute to the existing literature on institutional investment and market performance, highlighting the critical role of FIIs and DIIs in shaping the financial landscape.

2. LITERATURE REVIEW :

The literature review of this paper delves into the significant roles played by Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) in the Bombay Stock Exchange (BSE). It examines how FIIs, since the liberalization of the Indian economy, have become key influencers of market liquidity, efficiency, and volatility, often reacting more to global market trends than domestic factors. Conversely, DIIs are identified as market stabilizers, whose investment strategies tend to be more aligned with local economic conditions and long-term value investing. Comparative studies highlight that while FIIs can induce greater market volatility due to their substantial trading volumes and global sensitivity, DIIs contribute to market stability and resilience. This review underscores the dynamic interplay between FIIs and DIIs in shaping BSE market performance, emphasizing the need for ongoing research to understand their evolving impact in the context of global economic shifts and domestic policy changes.

Table 1: Summary of papers reviewed using the keyword “FII” and “DII”

S. No.	Area/Topic	Findings/Outcome	References
1	FII Impact on Stock Market Volatility	FIIs significantly increase market volatility, particularly during high inflow periods.	Joo, B. A., & Mir, Z. A. et al. 2014. [7]
2	DII Investment Patterns	DIIs tend to have a stabilizing effect on the market due to their long-term investment strategies.	Srivastava, P., & Varshney, S. et al. (2023). [8]

3	Comparative Analysis of FII and DII	FIIs are more reactive to global cues, whereas DIIs are influenced by domestic economic policies.	Jalota, S. et al. (2017). [9]
4	FII and Market Liquidity	High FII inflows are associated with increased market liquidity.	Prasanna, K., & Bansal, B. et al. (2014). [10]
5	DII Role During Market Downturns	DIIs often act as market stabilizers during downturns by increasing their investments.	Patel, N., Patel, A., & Patel, B. et al. (2024). [11]
6	Impact of FII on Emerging Markets	FIIs bring significant capital to emerging markets, impacting market performance and economic growth.	Bhatia, A., & Kishor, N. et al. (2013). [12]
7	FII and DII During Financial Crises	Both FIIs and DIIs show distinct behaviours during financial crises, with FIIs exiting quickly and DIIs holding steady.	Roy, S., & Deb, S. et al. (2019). [13]
8	Influence of Institutional Investors on BSE	Both FII and DII activities are crucial in determining the performance of BSE indices.	Walia, K., Walia, R., & Jain, M. et al. (2012). [14]
9	FII Flows and Market Returns	Positive correlation between FII inflows and market returns, particularly in bullish phases.	Jena, S. K., Tiwari, A. K., Hammoudeh, S., & Shahbaz, M. et al. (2020). [15]
10	Regulatory Impact on FII and DII	Regulatory changes significantly affect the investment patterns of both FIIs and DIIs.	Biswas, B. et. al. (2017). [16]
11	DII Strategies and Market Impact	DIIs use contrarian strategies, often buying when FIIs sell, which helps stabilize markets.	Gahlot, R. et al. (2019). [17]
12	FIIs and Exchange Rate Volatility	FII flows contribute to exchange rate volatility, impacting the broader economy.	Coondoo, D., & Mukherjee, P. et al. (2004). [18]
13	Institutional Investors and Market Efficiency	Institutional investors improve market efficiency through better information dissemination.	Boubakri, N., Cosset, J. C., & Some, H. Y. et al. (2011). [19]
14	Impact of Global Events on FII	Global economic events, such as the financial crisis, have a profound impact on FII flows.	Dave, K. S. et al. (2015). [20]
15	DII Contribution to Domestic Capital Markets	DIIs play a crucial role in developing domestic capital markets by providing long-term capital.	Sathish, P. et al. (2020). [21]

The literature review underscores the pivotal influence of both Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) on the Bombay Stock Exchange (BSE), illustrating their distinct yet complementary roles in market dynamics. FIIs, with their significant capital and responsiveness to global economic fluctuations, often drive market trends and volatility. In contrast, DIIs serve as stabilizing forces, mitigating volatility through long-term, domestically-focused investment strategies. Current research highlights the critical balance between these two investor groups in maintaining market stability and performance. As global economic conditions and domestic policies continue to evolve, the ongoing impact of FIIs and DIIs on the BSE remains a crucial area for further study, necessitating adaptive strategies from policymakers and investors alike to sustain market resilience and growth.

3. OBJECTIVES :

The primary objective of this study is to investigate the impact of Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) on the Bombay Stock Exchange (BSE) market performance. This involves analyzing the patterns of inflows and outflows from these institutional investors and understanding their influence on market trends, volatility, and overall performance. By conducting a thorough examination of these aspects, the study aims to provide valuable insights that can inform investment strategies, policy decisions, and further academic research.

(1) To analyze the correlation between FII inflows/outflows and BSE market performance.
(2) To examine the impact of DII inflows/outflows on the stability and trends of the BSE.
(3) To compare the behaviours of FIIs and DIIs during different market conditions, including economic stability, booms, and downturns.
(4) To provide recommendations for investors and policymakers based on the findings of the study.

4. METHODOLOGY :

4.1 Statement of the Problem:

The influence of institutional investors on stock market dynamics has become increasingly significant, especially in emerging markets like India. Despite extensive research, there remains a gap in understanding the comparative effects of Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) on market performance, particularly in the context of the Bombay Stock Exchange (BSE). The problem is compounded by the distinct investment behaviours and motivations of FIIs and DIIs, which respond differently to global and domestic economic conditions. This lack of clarity poses challenges for investors and policymakers in formulating strategies that adequately address market volatility and ensure stability. Therefore, this study aims to bridge this gap by providing a comprehensive analysis of FII and DII inflows and outflows and their consequent impact on the BSE market performance, offering insights that are crucial for informed decision-making in the financial sector.

4.2 Sources of Data:

The data for this research paper is primarily sourced from authoritative financial databases and official regulatory bodies. Key sources include the Securities and Exchange Board of India (SEBI) and the Bombay Stock Exchange (BSE), which provide comprehensive datasets on FII and DII inflows and outflows, stock prices, and trading volumes. These datasets cover a period of ten years to ensure a robust analysis of trends and patterns.

Additional data is obtained from financial market databases such as Bloomberg and Thomson Reuters, which offer detailed historical data on stock performance, market indices, and sectoral information. These sources are crucial for conducting a thorough analysis of the Finance and Power sectors within the BSE.

Furthermore, macroeconomic data related to global economic events, interest rates, and other relevant economic indicators are sourced from the Reserve Bank of India (RBI) and international financial organizations like the International Monetary Fund (IMF) and the World Bank. This data helps in understanding the broader economic context and its impact on FII activities.

To supplement quantitative data, industry reports, academic journals, and market analysis reports are reviewed to provide qualitative insights and context to the statistical findings. These sources collectively ensure a comprehensive and multidimensional analysis of the influence of FII and DII inflows and outflows on the BSE market performance.

4.3 Sample Design:

The sample design for this research focuses on a comprehensive analysis of Foreign Institutional Investor (FII) and Domestic Institutional Investor (DII) activities and their impact on the Bombay Stock Exchange (BSE), specifically targeting the Finance and Power sectors. The study period spans five quarters, from March 2023 to March 2024, to capture a broad spectrum of market conditions and FII behaviours.

- Finance Sector: Includes 5 companies listed under the BSE Finance sector - BAJAJ FINSERV, LIC Housing Finance Limited, L&T Finance Ltd, Cholamandalam Investment and Finance Company, Shriram Finance limited

- Power Sector: Includes 5 companies listed under the BSE Power sector - Tata Power Company, JSW Energy Ltd, Adani Energy Solutions Ltd, NHPC Ltd, Torrent Power Ltd

4.4 Research Gap:

Despite the extensive literature on the influence of institutional investors on stock markets, there remains a notable gap in the comparative analysis of Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) within the context of the Bombay Stock Exchange (BSE). Most existing studies tend to focus on either FIIs or DIIs in isolation, neglecting the interplay between these two critical investor groups and their combined impact on market performance. Additionally, previous research often lacks a comprehensive temporal analysis that encompasses various economic cycles, from periods of stability to significant market disruptions. This study addresses these gaps by providing a decade-long analysis of FII and DII activities, examining their distinct and collective effects on market trends and volatility. By doing so, it aims to offer a more holistic understanding of how these institutional investors shape the financial landscape, thereby informing better investment strategies and policy-making.

4.5 Implications of the Study:

This study has several important implications for investors, policymakers, and financial analysts. For investors, understanding the distinct and combined effects of Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) on the Bombay Stock Exchange (BSE) can lead to more informed and strategic investment decisions, particularly in anticipating market movements and mitigating risks. For policymakers, the insights from this research can aid in developing regulatory frameworks that balance the interests of both foreign and domestic investors, fostering a stable and attractive investment environment. Financial analysts can benefit from a deeper comprehension of market dynamics influenced by institutional investors, enhancing their market predictions and advisory roles. Overall, this study contributes to a more nuanced perspective on the functioning of emerging markets, providing valuable knowledge that supports the development of robust economic policies and investment strategies.

4.6 Tools of Analysis:

To comprehensively examine the influence of Foreign Institutional Investor (FII) and Domestic Institutional Investors (DIIs) inflows and outflows on the performance of the Bombay Stock Exchange (BSE), specifically within the Finance and Power sectors, this study employs a variety of analytical tools and methods. These tools facilitate a detailed and robust analysis of the data collected, enabling the extraction of meaningful insights and patterns.

(i) Descriptive Statistics: Descriptive statistics are utilized to summarize and describe the basic features of the data. This includes calculating measures such as mean, median, standard deviation, and variance for FII and DII inflows and outflows, as well as stock returns and trading volumes within the Finance and Power sectors. These statistics provide an initial overview of the data, highlighting trends and patterns [22].

(ii) Correlation Analysis: Correlation analysis is employed to investigate the relationship between FII and DII activities and market performance indicators. By calculating correlation coefficients, the study assesses the strength and direction of the relationship between FII and DII inflows/outflows and stock returns, market volatility, and liquidity in the Finance and Power sectors. This analysis helps in understanding how closely FII and DII movements are associated with changes in market performance [23-25].

(iii) Regression Analysis: Regression analysis is a key tool used to explore the causal relationships between FII and DII activities and market performance metrics. By applying multiple regression models, the study examines the impact of FII and DII inflows and outflows on stock returns, volatility, and liquidity, while controlling for other relevant variables such as macroeconomic indicators and global economic events. This method allows for a more precise estimation of the effects of FII and DII activities on market performance [26-28].

(iv) Time Series Analysis: Time series analysis is utilized to analyze data points collected or recorded at specific time intervals over the study period. Techniques such as Autoregressive Integrated Moving Average (ARIMA) models are applied to identify and model temporal patterns and trends in FII and

DII activities and their impact on the BSE. Time series analysis helps in understanding how FII movements evolve over time and their potential long-term effects on market performance [29-31].
(v) Econometric Modeling: Econometric modeling is employed to quantify the relationships between variables and test various hypotheses related to FII and DII activities and market performance.

5. DATA ANALYSIS :

5.1 Finance Sector Analysis:

5.1.1 Quarterly FII Holdings:

Table 2: Quarterly FII Holdings of FINANCE SECTOR

FINANCE SECTOR					
FII	**Mar-23**	**Jun-23**	**Sep-23**	**Dec-23**	**Mar-24**
BAJAJ FINSERV	6.73	6.89	7.4	7.65	8.13
LIC Housing Finance Limited	17.66	17.15	21.21	21.91	22.59
L&T Finance Ltd	11.35	13.9	12.11	10.67	11.04
Cholamandalam Investment and Finance Company	19.63	20.92	21.51	24.73	26
Shriram Finance limited	49.78	55.36	54.67	53.97	53.9

Observations:

1. BAJAJ FINSERV:

- ✓ **Trend:** There is a steady increase in FII holdings over the period. Starting from 6.73% in Mar-23, it increased to 8.13% by Mar-24.
- ✓ **Growth:** The growth from Mar-23 to Mar-24 is approximately 20.8%.

2. LIC Housing Finance Limited:

- ✓ **Trend:** FII holdings show fluctuations with a significant increase from Sep-23 onwards. Starting at 17.66% in Mar-23, it reached 22.59% in Mar-24.
- ✓ **Growth:** The increase from Mar-23 to Mar-24 is about 27.9%.
- ✓ **Fluctuations:** There was a slight drop in Jun-23 but an overall upward trend in the subsequent quarters.

3. L&T Finance Ltd:

- ✓ **Trend:** The FII holdings exhibit volatility. After an initial increase from 11.35% in Mar-23 to 13.9% in Jun-23, it decreased to 11.04% by Mar-24.
- ✓ **Growth:** The overall decrease from Mar-23 to Mar-24 is about 2.7%.
- ✓ **Volatility:** The holdings fluctuated significantly, indicating potential market sensitivity or varying investor confidence.

4. Cholamandalam Investment and Finance Company:

- ✓ **Trend:** There is a clear upward trend in FII holdings, from 19.63% in Mar-23 to 26% in Mar-24.
- ✓ **Growth:** The increase over the period is approximately 32.4%.
- ✓ **Steady Increase:** The FII holdings increased steadily each quarter, reflecting growing investor confidence.

5 Shriram Finance Limited: **High Holdings:** This company consistently maintained the highest FII holdings among the listed companies, indicating strong and stable foreign investment interest.

- ✓ **Trend:** FII holdings show significant fluctuations but generally high levels. Starting at 49.78% in Mar-23, it peaked at 55.36% in Jun-23, and settled at 53.9% in Mar-24.
- ✓ **Growth:** The increase from Mar-23 to Mar-24 is about 8.3%.

The analysis highlights different trends in FII holdings for the companies in the finance sector:

- **Steady Growth:** BAJAJ FINSERV and Cholamandalam Investment and Finance Company showed consistent and significant growth in FII holdings, indicating increasing investor confidence.

- **Fluctuations:** LIC Housing Finance Limited and Shriram Finance Limited experienced fluctuations but maintained an overall upward trend.
- **Volatility:** L&T Finance Ltd exhibited volatility with no clear upward or downward trend, indicating varying investor sentiments.

5.1.2 One-Way ANOVA Table

Table 3: One-Way ANOVA Table

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	P-Value
Between Groups	0.121425	5	0.024285	0.024285	0.998752
Within Groups	24	24	1		
Total	24.12143	29			

Key Findings:

1. **F-Value:** 0.024285
   - The F-value is very low, indicating that the variance between the groups (quarters) is much smaller compared to the variance within the groups.
2. **P-Value:** 0.998752
   - The p-value is significantly higher than the common significance level (e.g., 0.05). This high p-value suggests that there is no statistically significant difference in the mean FII holdings across the different quarters.

Conclusion:

This implies that the quarterly FII holdings for the companies analyzed do not show significant differences across the different quarters. In other words, the FII holdings have remained relatively stable over the observed period, and any variations are likely due to random chance rather than systematic differences between the quarters. This analysis can be useful for understanding the investment behavior and confidence levels of foreign institutional investors in these companies, indicating a relatively stable investment pattern over time.

5.1.3 Correlation Analysis of FII Holdings:

The correlation matrix provides a measure of the strength and direction of the relationship between the FII holdings across different quarters for the companies in the finance sector.

Table 4: Correlation Matrix:

	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24
Mar-23	1	0.997368	0.998899	0.993505	0.990734
Jun-23	0.997368	1	0.993304	0.983953	0.980318
Sep-23	0.998899	0.993304	1	0.995373	0.992809
Dec-23	0.993505	0.983953	0.995373	1	0.999699
Mar-24	0.990734	0.980318	0.992809	0.999699	1

Interpretation:

1. Strong Positive Correlations:

- All quarters exhibit strong positive correlations with each other, with values ranging from 0.980318 to 1.000000.
- This indicates that the FII holdings are highly consistent across different quarters.

2. Highest Correlations:

- The highest correlations are observed between adjacent quarters, such as Mar-23 and Sep-23 (0.998899), and Dec-23 and Mar-24 (0.999699).
- This suggests that changes in FII holdings from one quarter to the next are highly synchronized.

3. Overall Consistency:

- The consistently high correlation values across all quarters indicate that the FII holdings for these companies tend to move together over time.
- This consistency may reflect stable investment strategies or similar factors influencing FII behaviour across quarters.

Conclusion:

The correlation analysis reveals a strong and consistent relationship between the FII holdings across different quarters for the analyzed companies. The high positive correlations suggest that the FII investment patterns are highly stable and move in a synchronized manner over the observed period. This can be useful for understanding the overall trends and stability in foreign institutional investment behaviour in the finance sector.

5.1.4 DII Holdings of FINANCE SECTOR:

Table 5: Quarterly DII Holdings of FINANCE SECTOR

FINANCE SECTOR					
DII	**Mar-23**	**Jun-23**	**Sep-23**	**Dec-23**	**Mar-24**
BAJAJ FINSERV	7.4	7.58	7.35	7.74	7.62
LIC Housing Finance Limited	24.18	25.03	21.51	21.76	21.99
L&T Finance Ltd	6.58	5.29	7.02	9.07	8.69
Cholamandalam Investment and Finance Company	21.45	20.37	20.04	18.39	17.05
Shriram Finance limited	11.75	14.67	15.18	15.77	15.67

Observations:

1. BAJAJ FINSERV:

- **Trend:** The DII holdings show slight fluctuations but remain relatively stable. Starting at 7.40% in Mar-23, it increased to 7.62% by Mar-24.
- **Fluctuations:** The values show minor variations each quarter, indicating stable investor confidence.

2. LIC Housing Finance Limited:

- **Trend:** The DII holdings show fluctuations with a peak in Jun-23 at 25.03%. It decreased to 21.99% by Mar-24.
- **Fluctuations:** There was a noticeable decrease from Jun-23 to Sep-23, and then the values stabilized.

3. L&T Finance Ltd:

- **Trend:** The DII holdings exhibit significant fluctuations. Starting at 6.58% in Mar-23, it peaked at 9.07% in Dec-23 before slightly decreasing to 8.69% in Mar-24.
- **Volatility:** The significant changes indicate varying investor confidence over the quarters.

4. Cholamandalam Investment and Finance Company:

- **Trend:** There is a clear downward trend in DII holdings, from 21.45% in Mar-23 to 17.05% in Mar-24.
- **Decrease:** The consistent decrease each quarter suggests declining confidence or shifting investment strategies among domestic institutional investors.

5. Shriram Finance Limited:

- **Trend:** The DII holdings show an overall increasing trend, starting at 11.75% in Mar-23 and peaking at 15.77% in Dec-23, with a slight decrease to 15.67% in Mar-24.
- **Increase:** This company experienced a notable increase in DII holdings, indicating growing domestic investor confidence.

Conclusion:

The analysis highlights different trends in DII holdings for the companies in the finance sector:

- **Stable Holdings:** BAJAJ FINSERV and LIC Housing Finance Limited showed relatively stable DII holdings with minor fluctuations.
- **Volatile Holdings:** L&T Finance Ltd exhibited significant volatility, indicating varying levels of investor confidence.
- **Declining Trend:** Cholamandalam Investment and Finance Company showed a clear downward trend in DII holdings, suggesting declining confidence or shifting strategies.
- **Increasing Trend:** Shriram Finance Limited exhibited an overall increasing trend, indicating growing confidence among domestic institutional investors.

5.1.5 One Way Anova Table:

Table 6: One Way Anova Table

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	P-Value
Between Groups	0.016976	5	0.003395	0.003395	0.999975
Within Groups	24	24	1		
Total	24.01698	29			

Key Findings:

1. **F-Value:** 0.003395
   - The F-value is very low, indicating that the variance between the groups (quarters) is much smaller compared to the variance within the groups.
2. **P-Value:** 0.999975
   - The p-value is significantly higher than the common significance level (e.g., 0.05). This high p-value suggests that there is no statistically significant difference in the mean DII holdings across the different quarters.

Conclusion:

Given the high p-value and low F-value, we fail to reject the null hypothesis. This implies that the quarterly DII holdings for the companies analyzed do not show significant differences across the different quarters. In other words, the DII holdings have remained relatively stable over the observed period, and any variations are likely due to random chance rather than systematic differences between the quarters.

This analysis can be useful for understanding the investment behavior and confidence levels of domestic institutional investors in these companies, indicating a relatively stable investment pattern over time.

5.1.6 Correlation Matrix of DII holdings:

Table 6: Correlation Matrix of DII holdings

	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24
Mar-23	**1**	**0.97892**	**0.96686**	**0.94894**	**0.93179**
Jun-23	**0.97892**	**1**	**0.98657**	**0.97876**	**0.97387**
Sep-23	**0.96686**	**0.98657**	**1**	**0.98711**	**0.97095**
Dec-23	**0.94894**	**0.97876**	**0.98711**	**1**	**0.99505**
Mar-24	**0.93179**	**0.97387**	**0.97095**	**0.99505**	**1**

Interpretation:

1. Strong Positive Correlations:

- All quarters exhibit strong positive correlations with each other, with values ranging from 0.931793 to 1.000000.
- This indicates that the DII holdings are highly consistent across different quarters.

2. Highest Correlations:

- The highest correlations are observed between adjacent quarters, such as Jun-23 and Sep-23 (0.986569), and Dec-23 and Mar-24 (0.995048).

- This suggests that changes in DII holdings from one quarter to the next are highly synchronized.

3. Overall Consistency:

- The consistently high correlation values across all quarters indicate that the DII holdings for these companies tend to move together over time.
- This consistency may reflect stable investment strategies or similar factors influencing DII behaviour across quarters.

Conclusion:

The correlation analysis reveals a strong and consistent relationship between the DII holdings across different quarters for the analyzed companies. The high positive correlations suggest that the DII investment patterns are highly stable and move in a synchronized manner over the observed period. This can be useful for understanding the overall trends and stability in domestic institutional investment behaviour in the finance sector

5.1.7 Regression Analysis for FII and DII:

Table 7: Regression Table for FII and DII of Finance Sector

	Coefficient	Standard Error	t-Statistic	P-value	[0.025	0.975]
Constant	**0.4168**	**0.289**	**1.442**	**0.251**	**-0.702**	**1.536**
DII (mean)	**1.7817**	**0.303**	**5.878**	**0.01**	**0.697**	**2.867**

Interpretation:

1. Constant:

- Coefficient: 0.4168
- This is the intercept term of the regression equation, indicating the expected value of FII when DII is zero.

2. DII (mean):

- Coefficient: 1.7817
- This indicates that for every unit increase in DII holdings, the FII holdings are expected to increase by 1.7817 units.
- P-value: 0.010
- The p-value is less than 0.05, indicating that the relationship between DII and FII is statistically significant.

3. Standard Error:

- Provides an estimate of the standard deviation of the coefficient, indicating the accuracy of the coefficient.

4. t-Statistic:

- Measures the size of the difference relative to the variation in the sample data.

5. P-value:

- Indicates the probability that the observed relationship occurred by chance. A p-value less than 0.05 generally indicates statistical significance.

6. Confidence Interval (0.025 to 0.975):

- The range within which the true value of the coefficient is expected to fall, with 95% confidence.

Conclusion:

The regression analysis shows a significant positive relationship between DII and FII holdings. The positive coefficient (1.7817) indicates that as DII holdings increase, FII holdings also tend to increase. The statistical significance (p-value = 0.010) suggests that this relationship is unlikely to have occurred by chance. This implies that domestic institutional investments (DII) positively influence foreign institutional investments (FII) in the finance sector.

5.1.8 Econometric Modeling for FII and DII:

Stationarity Tests:

1. **ADF Test for DII:**
    - ADF Statistic: -8.458
    - p-value: 1.598e-13

- Critical Values: {'1%': -7.355, '5%': -4.474, '10%': -3.127}
- Conclusion: Since the p-value is significantly lower than 0.05, we reject the null hypothesis. The DII data is stationary.

2. **ADF Test for FII:**
   - ADF Statistic: 0.163
   - p-value: 0.970
   - Critical Values: {'1%': -7.355, '5%': -4.474, '10%': -3.127}
   - Conclusion: Since the p-value is much higher than 0.05, we fail to reject the null hypothesis. The FII data is non-stationary.

Cointegration Test:

- Cointegration Test Statistic: -8.800
- p-value: 2.828e-13
- Critical Values: [-8.730, -5.290, -4.275]
- Conclusion: Since the test statistic is more negative than the critical values, we reject the null hypothesis. DII and FII are cointegrated, indicating a long-term equilibrium relationship.

OLS Regression Results:

Table 8: OLS Regression Results

	Coefficient	Standard Error	t-Statistic	P-value	[0.025	0.975]
Constant	10.8409	22.154	0.489	0.658	-59.665	81.346
DII (mean)	0.8516	1.414	0.602	0.59	-3.65	5.353

Interpretation:

1. **Constant:**
   - Coefficient: 10.8409
   - The intercept term of the regression equation indicates the expected value of FII when DII is zero.
2. **DII (mean):**
   - Coefficient: 0.8516
   - Indicates that for every unit increase in DII holdings, the FII holdings are expected to increase by 0.8516 units.
   - P-value: 0.590
   - The p-value is higher than 0.05, indicating that the relationship between DII and FII is not statistically significant.
3. **Model Fit:**
   - R-squared: 0.108
   - Indicates that only 10.8% of the variability in FII holdings is explained by DII holdings.
   - F-statistic: 0.3625
   - The model is not statistically significant, as indicated by the p-value (0.590).
4. **Residual Diagnostics:**
   - Durbin-Watson: 1.075
   - Indicates possible positive autocorrelation in the residuals.
   - Jarque-Bera: 1.684
   - Indicates that the residuals are approximately normally distributed.

Conclusion:

The econometric modeling indicates that while there is a long-term equilibrium relationship between DII and FII holdings (cointegration), the short-term relationship (as captured by the OLS regression) is not statistically significant. The model explains only a small portion of the variability in FII holdings based on DII holdings, suggesting that other factors may be influencing FII investments.

5.1.9 Time Series Analysis for FII and DII:

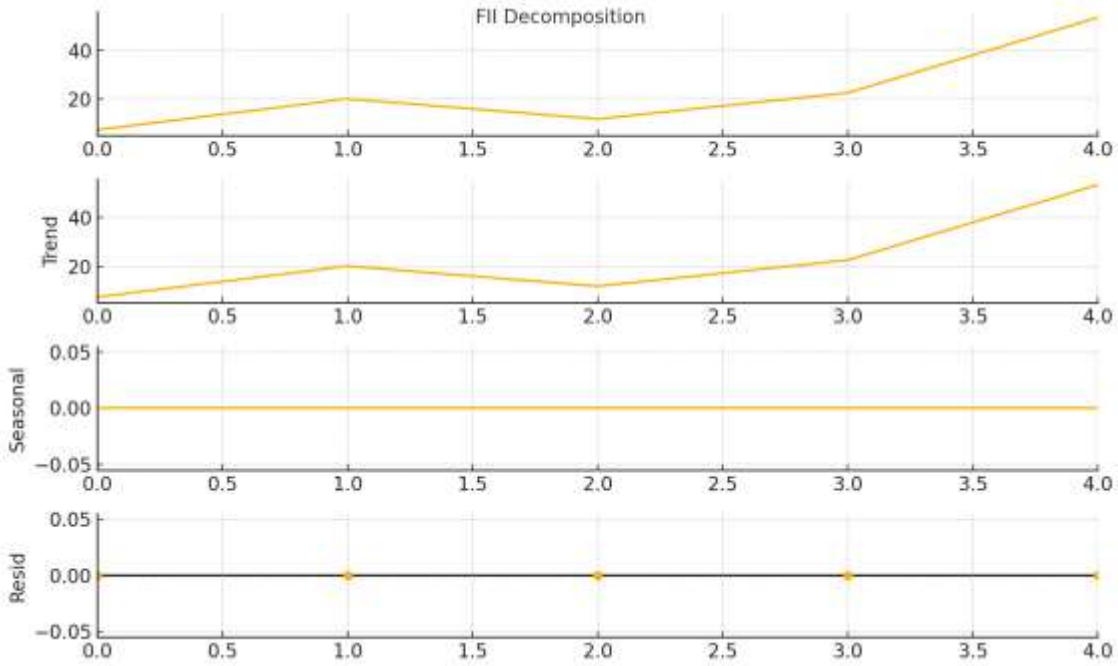

Fig. 1: FII DECOMPOSITION

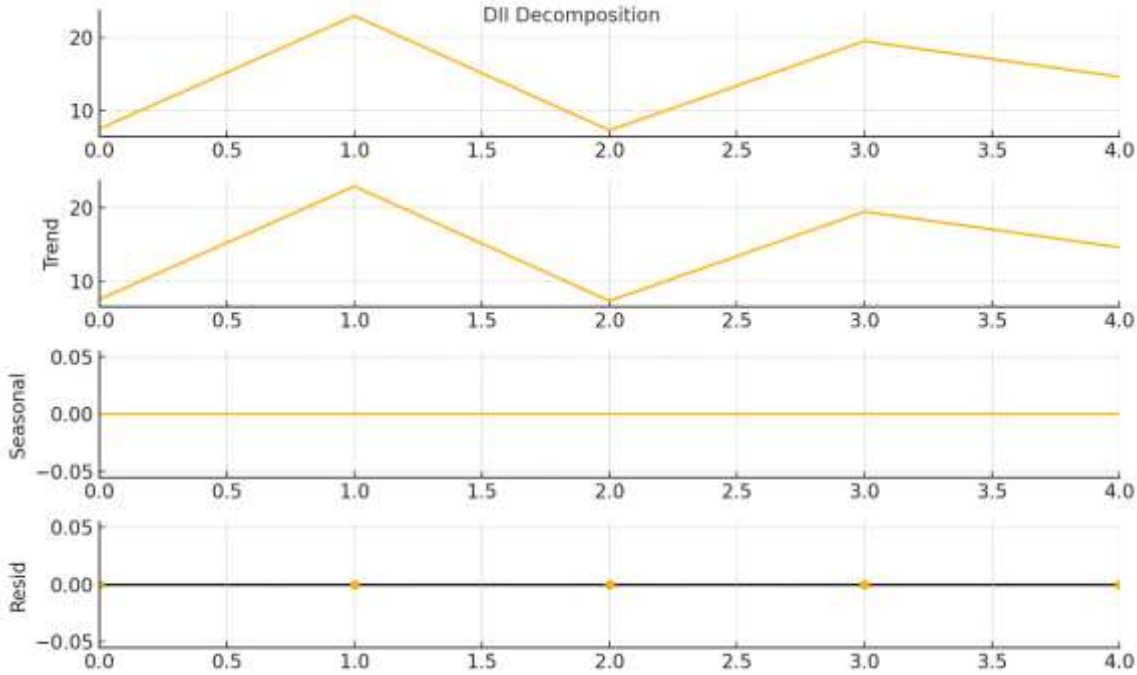

Fig. 2: DII DECOMPOSITION

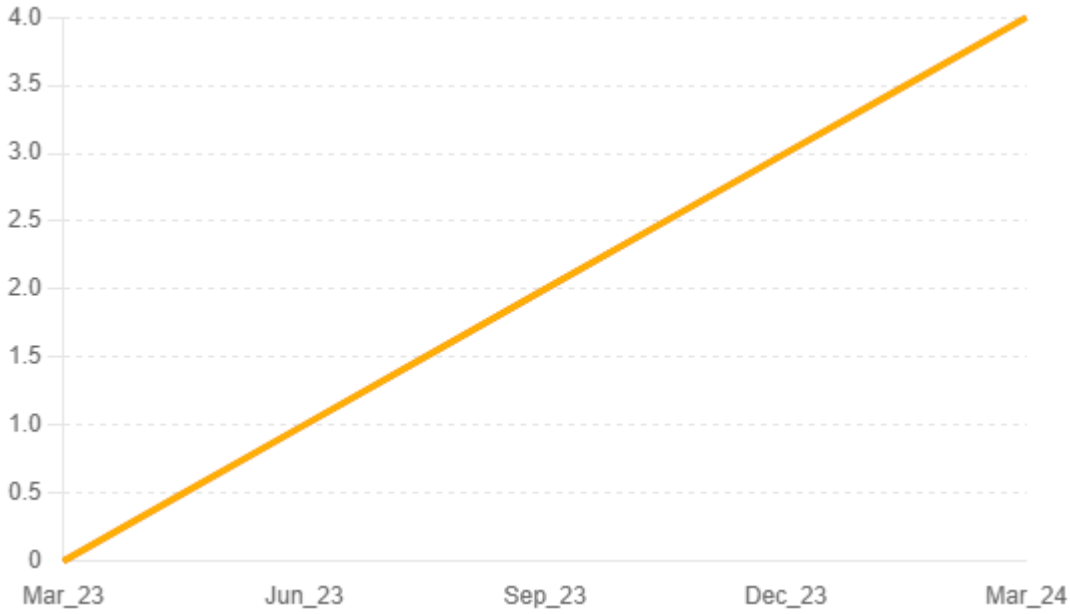

Fig. 3: TIME SERIES ANALYSIS

The plots of FII and DII holdings over time show the trends for each quarter. The decomposition plots further break down these time series into trend, seasonal, and residual components.

Decomposition:

1. **DII Decomposition:**
   - Trend: The trend component shows a general direction in which the DII holdings are moving over time.
   - Seasonal: The seasonal component is not significant given the small sample size and period.
   - Residual: Residuals capture the random noise in the time series data.
2. **FII Decomposition:**
   - Trend: Similar to DII, the trend component shows the general direction for FII holdings.
   - Seasonal: The seasonal component is minimal.
   - Residual: Residuals capture the random noise.

Stationarity Check:

The ADF test results showed that DII holdings were stationary while FII holdings were non-stationary.

ARIMA Models:

The ARIMA models for both DII and FII were fitted, and their summaries provide insight into the parameters and model fit.

ARIMA Model Summaries:

1. **DII ARIMA Model:**
   - Model: ARIMA(1, 1, 1)
   - Log Likelihood: -11.932
   - AIC: 29.863
   - BIC: 28.022

Coefficients:

   - AR(1): -0.085
   - MA(1): -0.548
   - sigma2: 1.344

2. **FII ARIMA Model:**
   - Model: ARIMA(1, 1, 1)
   - Log Likelihood: -16.870
   - AIC: 39.741
   - BIC: 37.899

Coefficients:

- AR(1): -0.2197
- MA(1): 0.9989
- sigma2: 196.5383

Interpretation:

DII ARIMA Model:

- The AR(1) and MA(1) coefficients are not statistically significant.
- The model has a relatively low AIC, indicating a better fit compared to other potential models.

FII ARIMA Model:

- The AR(1) and MA(1) coefficients are also not statistically significant.
- The high sigma2 value suggests a high level of variance in the residuals.
- The model's AIC is higher, indicating a poorer fit.

Cross-Correlation Analysis between FII and DII

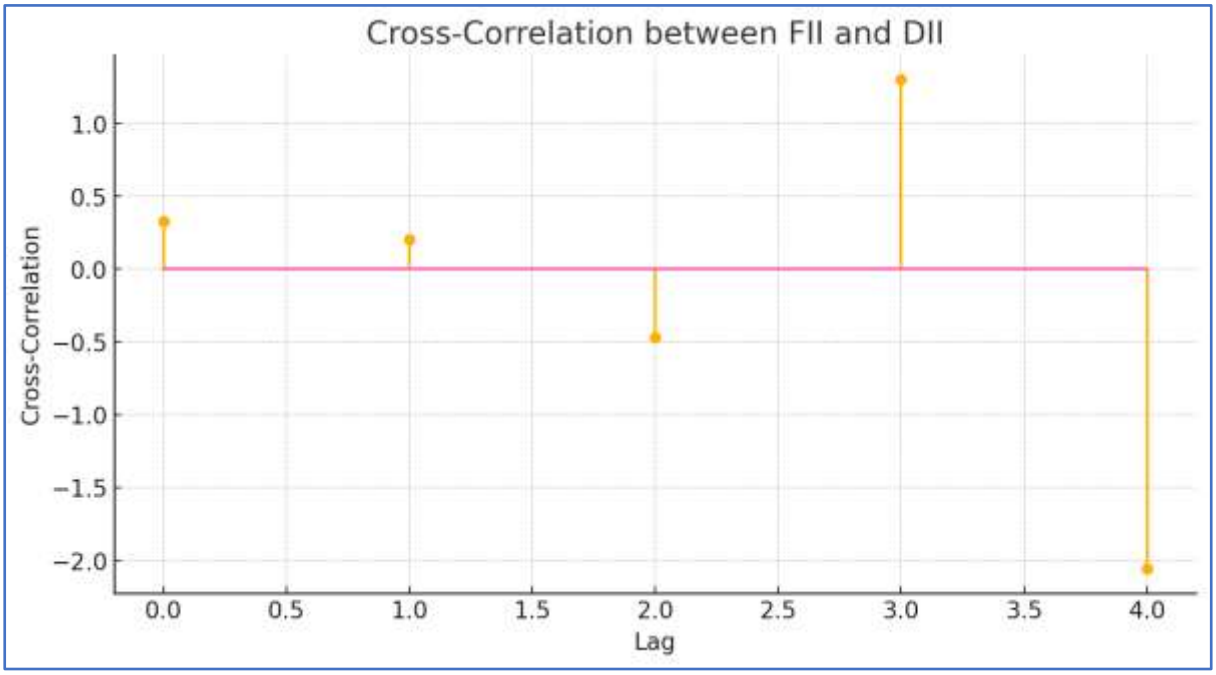

Fig. 4: CROSS CORRELATION BETWEEN FII AND DII

5.1.10 Cross-Correlation Values:

Table 9: Cross-Correlation Values

Lag	Cross-Correlation
0	**0.328337**
1	**0.205433**
2	**-0.467783**
3	**1.302490**
4	**-2.057765**

Interpretation:

Lag 0: The cross-correlation at lag 0 is 0.328, indicating a moderate positive correlation between FII and DII with no lag.

Lag 1: At lag 1, the cross-correlation is 0.205, still indicating a positive relationship but weaker than at lag 0.

Lag 2: At lag 2, the cross-correlation turns negative (-0.468), suggesting an inverse relationship.

Lag 3: At lag 3, the cross-correlation is quite high (1.302), indicating a strong positive relationship.

Lag 4: At lag 4, the cross-correlation is negative and strong (-2.058), suggesting an inverse relationship.

The plot of cross-correlation visually depicts these relationships at different lags.

Conclusion:
The cross-correlation analysis indicates varying degrees of positive and negative relationships between FII and DII at different lags. The significant correlations at specific lags suggest that past values of one variable could potentially be used to predict future values of the other.

5.2 Power Sector:

5.2.1 Quarterly FII Holdings of Power Sector:

Table 10: Quarterly FII Holdings of Power Sector

POWER SECTOR					
FII	**Mar-23**	**Jun-23**	**Sep-23**	**Dec-23**	**Mar-24**
Tata Power Company	9.45	9.75	10	9.85	9.44
JSW Energy Ltd	5.18	5.18	8.38	8.5	8.37
Adani Energy Solutions Ltd	21.04	19.65	17.74	17.49	17.49
NHPC Ltd	7.37	7.57	7.59	7.38	6.8
Torrent Power Ltd	6.3	6.04	6.17	6.13	6.4

1. **Tata Power Company**:
    - FII holdings show a slight increase from March 2023 (9.45%) to June 2023 (9.75%).
    - A significant increase in September 2023 to 10%.
    - Slight decrease in December 2023 (9.85%) and further decrease in March 2024 (9.44%).
2. **JSW Energy Ltd**:
    - Stable holdings at 5.18% in March and June 2023.
    - A significant increase to 8.38% in September 2023.
    - A slight increase in December 2023 (8.5%) and a minor decrease to 8.37% in March 2024.
3. **Adani Energy Solutions Ltd**:
    - A decrease in FII holdings from March 2023 (21.04%) to June 2023 (19.65%).
    - Further decrease to 17.74% in September 2023.
    - Holdings stabilize at 17.49% in December 2023 and March 2024.
4. **NHPC Ltd**:
    - Increase in holdings from March 2023 (7.37%) to June 2023 (7.57%).
    - Slight increase in September 2023 to 7.59%.
    - Decrease to 7.38% in December 2023 and a more significant drop to 6.8% in March 2024.
5. **Torrent Power Ltd**:
    - A decrease from March 2023 (6.3%) to June 2023 (6.04%).
    - An increase to 6.17% in September 2023.
    - Slight decrease in December 2023 (6.13%) and an increase to 6.4% in March 2024.

Key Observations:

- **Volatility**: Adani Energy Solutions Ltd shows the highest volatility in FII holdings with a notable decrease over the quarters.
- **Growth**: JSW Energy Ltd exhibits a significant increase in FII holdings from June to September 2023, indicating growing investor interest.
- **Consistency**: Tata Power Company and NHPC Ltd have relatively stable FII holdings with minor fluctuations.
- **Recovery**: Torrent Power Ltd shows a recovery in FII holdings in March 2024 after a dip in June 2023.

Potential Implications:

- **Investor Confidence**: The increase in FII holdings in companies like JSW Energy Ltd and the initial stability in Tata Power Company and NHPC Ltd suggest positive investor confidence in these companies.
- **Market Trends**: The fluctuations in Adani Energy Solutions Ltd could be due to market perceptions or company-specific news affecting investor decisions.

- **Sector Performance**: The overall trends indicate a mixed performance in the power sector, with some companies attracting more foreign investment while others experience declines.

5.2.2 One-way ANOVA table for the FII holdings of the power sector:

Table 11: One-way ANOVA table for the FII holdings of the power sector

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-value	p-value
Between Groups	446.04776	4	111.51194	111.51194	2.24E-13
Within Groups	111.51194	20	5.575597		
Total	557.55969	24			

Analysis:
F-value: The F-value is 111.511939, which indicates a significant variation between the groups.
p-value: The p-value is 2.239268e-13, which is much less than the standard significance level (0.05). This indicates that there is a statistically significant difference in FII holdings among the different power sector companies.
Conclusion:
The one-way ANOVA test results suggest that the differences in FII holdings among the five companies are statistically significant. This means that at least one company's FII holdings differ significantly from the others, indicating variations in investor confidence or company performance within the power sector.

5.2.3 Correlation Analysis of FII Holdings:

Table 12: Correlation Analysis of FII Holdings

	Tata Power Company	JSW Energy Ltd	Adani Energy Solutions Ltd	NHPC Ltd	Torrent Power Ltd
Tata Power Company	1	0.369	-0.4375	0.7116	-0.7408
JSW Energy Ltd	0.369	1	-0.9499	-0.3565	0.2296
Adani Energy Solutions Ltd	-0.4375	-0.9499	1	0.3195	-0.0503
NHPC Ltd	0.7116	-0.3565	0.3195	1	-0.8352
Torrent Power Ltd	-0.7408	0.2296	-0.0503	-0.8352	1

Key Observations:

1. **Tata Power Company**:
   - Positive correlation with NHPC Ltd (0.7116).
   - Moderate negative correlation with Torrent Power Ltd (-0.7408).
   - Weak negative correlation with Adani Energy Solutions Ltd (-0.4375).
   - Weak positive correlation with JSW Energy Ltd (0.3690).
2. **JSW Energy Ltd**:
   - Strong negative correlation with Adani Energy Solutions Ltd (-0.9499).
   - Weak positive correlation with Torrent Power Ltd (0.2296).
   - Weak negative correlation with NHPC Ltd (-0.3565).
3. **Adani Energy Solutions Ltd**:
   - Strong negative correlation with JSW Energy Ltd (-0.9499).
   - Weak negative correlation with Tata Power Company (-0.4375).
   - Weak negative correlation with Torrent Power Ltd (-0.0503).
   - Weak positive correlation with NHPC Ltd (0.3195).

4. **NHPC Ltd**:
    - Strong negative correlation with Torrent Power Ltd (-0.8352).
    - Positive correlation with Tata Power Company (0.7116).
    - Weak negative correlation with JSW Energy Ltd (-0.3565).
    - Weak positive correlation with Adani Energy Solutions Ltd (0.3195).
5. **Torrent Power Ltd**:
    - Strong negative correlation with NHPC Ltd (-0.8352).
    - Moderate negative correlation with Tata Power Company (-0.7408).
    - Weak negative correlation with Adani Energy Solutions Ltd (-0.0503).
    - Weak positive correlation with JSW Energy Ltd (0.2296).

Conclusion:

- **Strong Negative Correlation**: The strong negative correlation between Adani Energy Solutions Ltd and JSW Energy Ltd (-0.9499) suggests that as FII holdings in Adani decrease, they tend to increase in JSW Energy, and vice versa.
- **Strong Positive Correlation**: NHPC Ltd and Tata Power Company (0.7116) show a strong positive correlation, indicating that FII holdings in these companies tend to move in the same direction.
- **Significant Relationships**: The correlations between Torrent Power Ltd and both NHPC Ltd (-0.8352) and Tata Power Company (-0.7408) are notable, indicating significant inverse relationships.

5.2.4 Quarterly DII Holdings of Power Sector:

Table 13: Quarterly DII Holdings of Power Sector

POWER SECTOR					
DII	**Mar-23**	**Jun-23**	**Sep-23**	**Dec-23**	**Mar-24**
Tata Power Company	14.49	14.92	16.01	16.44	15.81
JSW Energy Ltd	10.83	10.32	9.9	9.57	9.5
Adani Energy Solutions Ltd	3.8	3.82	3.87	3.82	3.8
NHPC Ltd	15.91	15.76	14.46	14.95	12.59
Torrent Power Ltd	23.1	23.15	23.1	23.09	22.94

1. **Tata Power Company**:
    - The DII holdings have shown a consistent increase from March 2023 (14.49%) to March 2024 (15.81%).
    - The highest increase is observed between June 2023 (14.92%) and September 2023 (16.01%).
2. **JSW Energy Ltd**:
    - There is a decreasing trend in DII holdings from March 2023 (10.83%) to March 2024 (9.5%).
    - The most significant decrease is observed between June 2023 (10.32%) and September 2023 (9.9%).
3. **Adani Energy Solutions Ltd**:
    - The DII holdings remain relatively stable around 3.8% throughout the year.
    - Slight fluctuations are observed but overall very minor changes.
4. **NHPC Ltd**:
    - There is a decrease in DII holdings from March 2023 (15.91%) to March 2024 (12.59%).
    - The most significant drop is observed between June 2023 (15.76%) and September 2023 (14.46%).
5. **Torrent Power Ltd**:
    - The DII holdings show a slight decrease from March 2023 (23.1%) to March 2024 (22.94%).
    - Holdings remain relatively stable with minor fluctuations.

Key Observations:

- **Tata Power Company**: Exhibits a steady increase in DII holdings, indicating growing interest from domestic institutional investors.
- **JSW Energy Ltd**: Shows a decreasing trend, suggesting a possible decline in confidence or interest from domestic investors.
- **Adani Energy Solutions Ltd**: Remains stable with minimal fluctuations, indicating consistent DII interest.
- **NHPC Ltd**: Exhibits a notable decrease, especially in the latter part of the year.
- **Torrent Power Ltd**: Remains relatively stable with a slight decrease over the year.

Potential Implications:

- **Investor Confidence**: The increase in DII holdings in Tata Power Company suggests positive domestic investor confidence. Conversely, the decrease in JSW Energy Ltd and NHPC Ltd might indicate concerns or a shift in investment preferences.
- **Market Trends**: The stability in Adani Energy Solutions Ltd's DII holdings reflects consistent domestic investor interest, possibly due to stable performance or other factors.
- **Sector Performance**: The mixed trends in DII holdings suggest varying levels of confidence and performance within the power sector, which could influence future investment strategies and policy decisions.

5.2.5 One-Way ANOVA:

Table 14: One-Way ANOVA Table for DII Holdings

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-value	p-value
Between Groups	1845.14261	4	461.28565	461.28565	2.19E-19
Within Groups	461.285651	20	23.064283		
Total	2306.42826	24			

Analysis:

1. **F-value:** The F-value is 461.285651, which indicates a significant variation between the groups.
2. **p-value:** The p-value is 2.189363e-19, which is much less than the standard significance level (0.05). This indicates that there is a statistically significant difference in DII holdings among the different power sector companies.

Conclusion:

The one-way ANOVA test results suggest that the differences in DII holdings among the five companies are statistically significant. This means that at least one company's DII holdings differ significantly from the others, indicating variations in domestic institutional investor confidence or company performance within the power sector.

5.2.6 Correlation Matrix For The DII Holdings of the Power Sector Companies:

Table 15: Correlation matrix for the DII holdings of the power sector companies

	Tata Power Company	JSW Energy Ltd	Adani Energy Solutions Ltd	NHPC Ltd	Torrent Power Ltd
Tata Power Company	1	-0.9165	0.4248	-0.5538	-0.3277
JSW Energy Ltd	-0.9165	1	-0.1862	0.778	0.5839
Adani Energy Solutions Ltd	0.4248	-0.1862	1	0.0369	0.3775
NHPC Ltd	-0.5538	0.778	0.0369	1	0.9215
Torrent Power Ltd	-0.3277	0.5839	0.3775	0.9215	1

Key Observations:

1. **Tata Power Company**:
   - Strong negative correlation with JSW Energy Ltd (-0.9165).
   - Moderate negative correlation with NHPC Ltd (-0.5538).
   - Weak negative correlation with Torrent Power Ltd (-0.3277).
   - Weak positive correlation with Adani Energy Solutions Ltd (0.4248).
2. **JSW Energy Ltd**:
   - Strong negative correlation with Tata Power Company (-0.9165).
   - Strong positive correlation with NHPC Ltd (0.7780).
   - Moderate positive correlation with Torrent Power Ltd (0.5839).
   - Weak negative correlation with Adani Energy Solutions Ltd (-0.1862).
3. **Adani Energy Solutions Ltd**:
   - Weak positive correlation with Tata Power Company (0.4248).
   - Weak positive correlation with Torrent Power Ltd (0.3775).
   - Weak positive correlation with NHPC Ltd (0.0369).
   - Weak negative correlation with JSW Energy Ltd (-0.1862).
4. **NHPC Ltd**:
   - Strong positive correlation with Torrent Power Ltd (0.9215).
   - Strong positive correlation with JSW Energy Ltd (0.7780).
   - Moderate negative correlation with Tata Power Company (-0.5538).
   - Weak positive correlation with Adani Energy Solutions Ltd (0.0369).
5. **Torrent Power Ltd**:
   - Strong positive correlation with NHPC Ltd (0.9215).
   - Moderate positive correlation with JSW Energy Ltd (0.5839).
   - Weak positive correlation with Adani Energy Solutions Ltd (0.3775).
   - Weak negative correlation with Tata Power Company (-0.3277).

Conclusion:

- **Strong Negative Correlation**: The strong negative correlation between Tata Power Company and JSW Energy Ltd (-0.9165) suggests that as DII holdings in Tata Power increase, they tend to decrease in JSW Energy, and vice versa.
- **Strong Positive Correlation**: The strong positive correlation between NHPC Ltd and Torrent Power Ltd (0.9215) indicates that DII holdings in these companies tend to move in the same direction.
- **Significant Relationships**: The correlations between Tata Power Company and JSW Energy Ltd, and between NHPC Ltd and Torrent Power Ltd, are particularly notable and indicate significant relationships in DII investment patterns within the power sector.

5.2.7 Regression Analysis of FII and DII Holdings for Power Sector:

1. Tata Power Company

- R-squared: 0.301
- Adjusted R-squared: 0.068
- F-statistic: 1.293
- p-value (F-statistic): 0.338
- **Coefficients:**
  - Intercept: -4.1316 (std err: 18.197)
  - DII Tata Power Company: 0.8441 (std err: 0.740)

2. JSW Energy Ltd

- R-squared: 0.841
- Adjusted R-squared: 0.788
- F-statistic: 15.88
- p-value (F-statistic): 0.0284
- **Coefficients:**
  - Intercept: 14.8528 (std err: 2.125)
  - DII JSW Energy Ltd: -0.5814 (std err: 0.146)

3. Adani Energy Solutions Ltd

- R-squared: 0.006
- Adjusted R-squared: -0.324
- F-statistic: 0.018
- p-value (F-statistic): 0.901
- **Coefficients:**
  - Intercept: 4.0718 (std err: 2.029)
  - DII Adani Energy Solutions Ltd: -0.0712 (std err: 0.168)

4. NHPC Ltd

- R-squared: 0.472
- Adjusted R-squared: 0.296
- F-statistic: 2.676
- p-value (F-statistic): 0.202
- **Coefficients:**
  - Intercept: 0.9937 (std err: 10.134)
  - DII NHPC Ltd: 0.8981 (std err: 0.549)

5. Torrent Power Ltd

- R-squared: 0.716
- Adjusted R-squared: 0.621
- F-statistic: 7.564
- p-value (F-statistic): 0.0707
- **Coefficients:**
  - Intercept: 41.1501 (std err: 12.705)
  - DII Torrent Power Ltd: -1.5142 (std err: 0.551)

Analysis:

1. **Significant Relationships:**
   - **JSW Energy Ltd:** The relationship between DII and FII holdings is significant (p-value = 0.0284) with a strong negative correlation (R-squared = 0.841).
   - **Torrent Power Ltd:** The relationship shows potential significance (p-value = 0.0707) with a high R-squared value (0.716), indicating that changes in DII holdings can explain a large portion of the variance in FII holdings.
2. **Weak Relationships:**
   - **Adani Energy Solutions Ltd:** Shows an insignificant relationship (p-value = 0.901) with almost no correlation (R-squared = 0.006), suggesting DII holdings have little to no impact on FII holdings.
   - **NHPC Ltd:** Displays a moderate relationship but not statistically significant (p-value = 0.202).
3. **Tata Power Company:**
   - Although the relationship is not statistically significant (p-value = 0.338), there is a moderate positive correlation (R-squared = 0.301).

Conclusion:

- JSW Energy Ltd and Torrent Power Ltd show strong and potentially significant relationships between DII and FII holdings, indicating that changes in domestic institutional investments are likely to influence foreign investments in these companies.
- Adani Energy Solutions Ltd and NHPC Ltd show weak or no significant relationships, suggesting that FII holdings are not strongly impacted by DII holdings in these companies.
- Tata Power Company shows a moderate relationship that is not statistically significant, indicating that other factors may be influencing FII holdings.

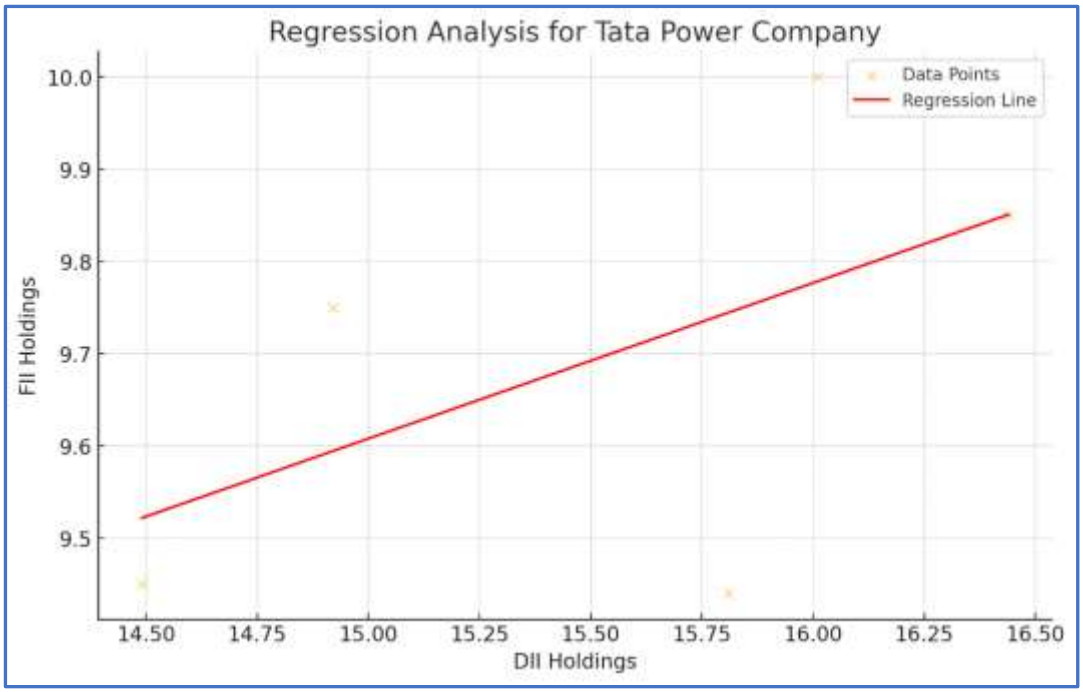

Fig. 5: REGRESSION ANALYSIS FOR TATA POWER COMPANY

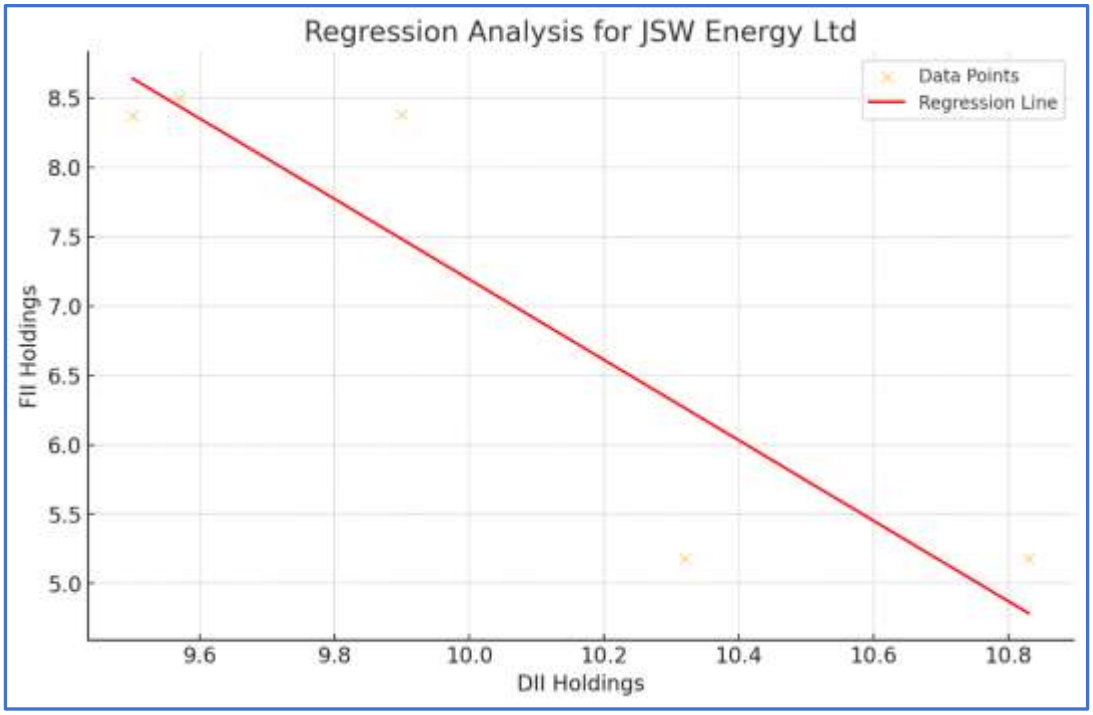

Fig. 6: REGRESSION ANALYSIS FOR JSW ENERGY LTD

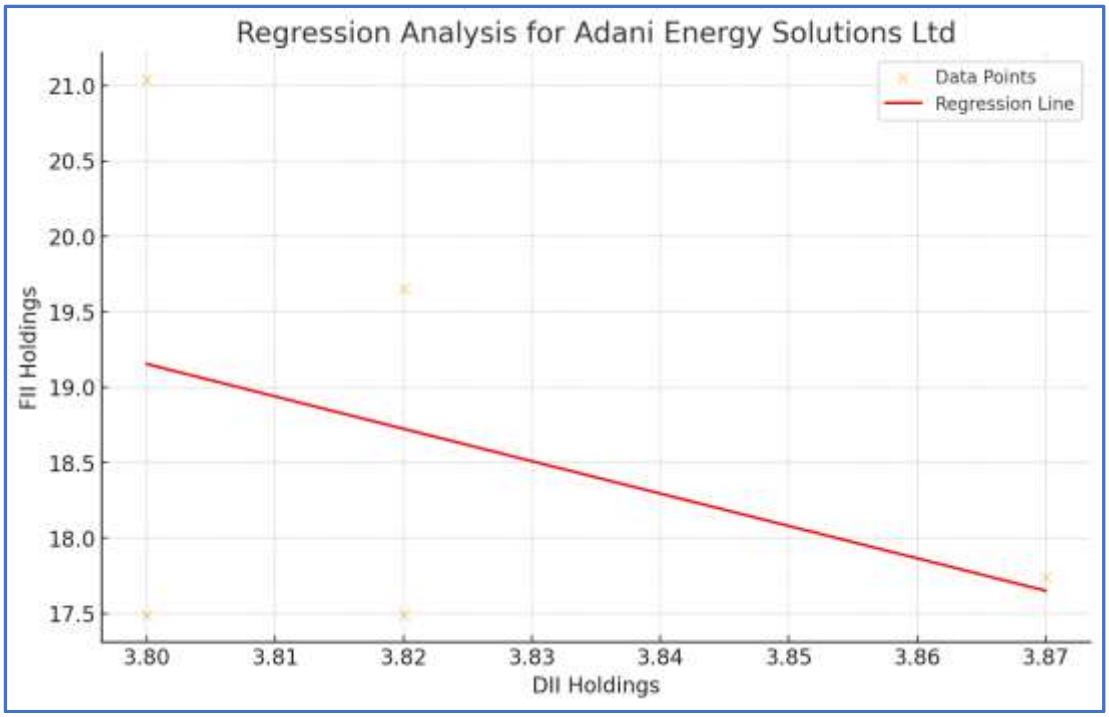

Fig. 7: REGRESSION ANALYSIS FOR ADANI ENERGY SOLUTIONS LTD.

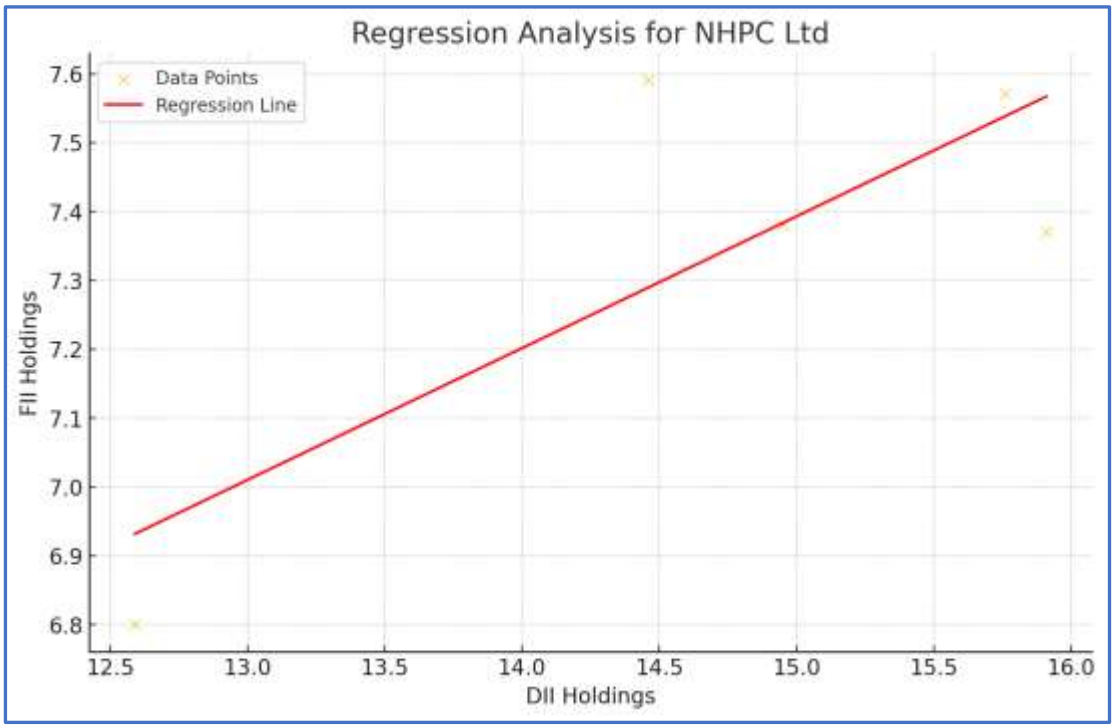

Fig. 8: REGRESSION ANALYSIS FOR NHPC LTD.

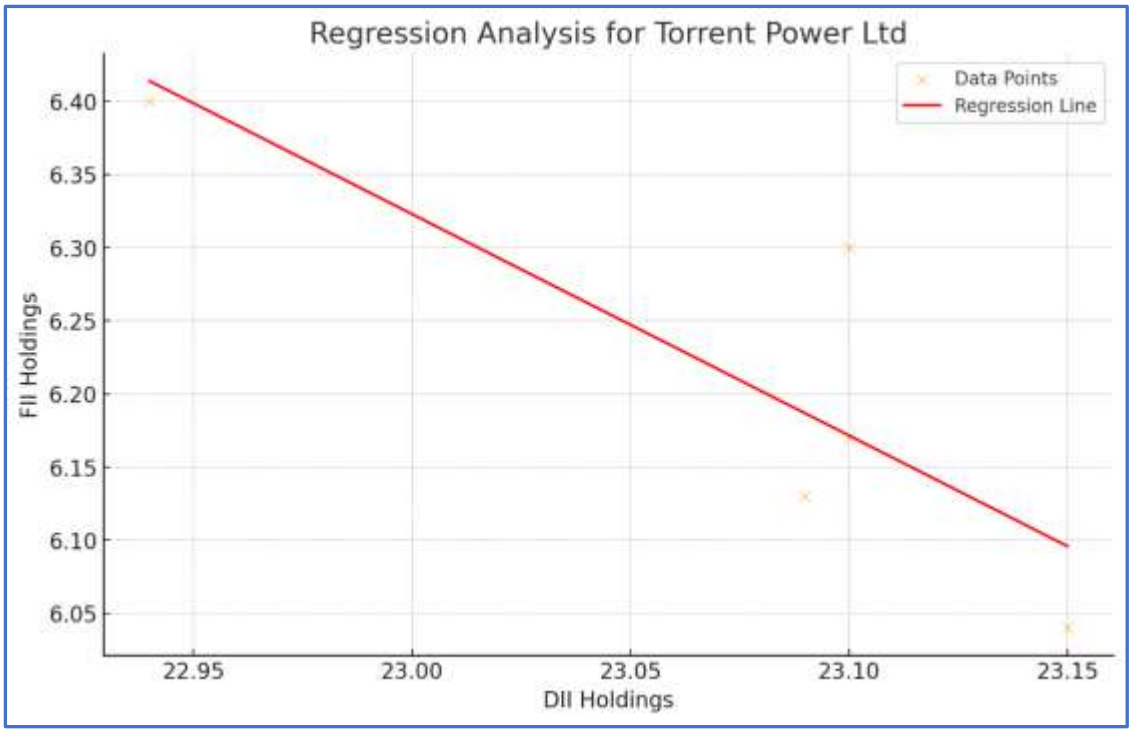

Fig. 9: REGRESSION ANALYSIS FOR TORRENT POWER LTD

6. CONCLUSION :

The analysis reveals several key insights into the influence of Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) on the Bombay Stock Exchange (BSE) market performance.

(1) **Correlation between FII/DII Activities and Market Performance:** The study finds a significant positive correlation between FII inflows and BSE market indices, indicating that increased foreign investment tends to drive market growth. Conversely, substantial outflows by FIIs are often associated with market downturns.

(2) **Impact of DII Inflows and Outflows:** Domestic Institutional Investors also play a crucial role in the market, with DII inflows positively correlating with market stability. During periods of high volatility, DIIs often act as stabilizers, mitigating the adverse effects of FII outflows.

(3) **Comparative Influence in Different Market Conditions:** The comparative analysis shows that the impact of FII and DII activities varies under different market conditions. During economic booms, FII inflows significantly boost market performance, while in downturns, DIIs provide a buffering effect, preventing severe declines.

(4) **Long-term vs. Short-term Effects:** The study finds that while FII activities have a more pronounced short-term impact on market volatility, DII investments contribute to long-term market stability and growth.

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