International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 16s, 2025
https://www.theaspd.com/ijes.php

"Testing The Impact Of FII Activity And DII Activity On Benchmark Index Nifty 50 Concerning India"

Dr Sreenivasulu Sunkara[1],Dr Praveen Kumar Sinha[2],Dr N Harish, Assistant Professor[3],Dr V Lakshmi Suneetha[4],Dr K Tharaka Rami Reddy[5],Dr Kuldeep Kumar L[6],

[1]Assistant Professor, Department of Management Studies, The Oxford College of Engineering, Bangalore, Email: srinivas.s2007@gmail.com

[2]Professor, Department of Management Studies, The Oxford College of Engineering, Bangalore, Email: praveensinha07@gmail.com

[3]Department of Management Studies, The Oxford College of Engineering, Bangalore, Email: sohari.n21@gmail.com

[4]Assistant Professor, Department of Management Studies, The Oxford College of Engineering, Bangalore, Email: suneetha.sravan@gmail.com

[5]Professor, Department of Management Studies, The Oxford College of Engineering, Bangalore, Email: ktrreddy@gmail.com

[6]Associate Professor, School of Commerce and Management, Mohan Babu University, Email: kuladeep79@gmail.com

Abstract:*The securities market reflects the economic condition of a nation. The securities markets' performance mirrors the growth of a country and which is influenced by many parameters. The study aims to test the influence of DIIs and FII activity on the performance of the Indian Security market, National Stock Exchange's benchmark index, Nifty50. Second-hand data was collected from the financial platforms to find the influence of FII and DII activity on Nifty50 benchmark index performance from April 2020 to December 2024. Statistical tools such as regression analysis, correlation test, and ANOVA were applied to the study. The major observations of the study revealed that there is a high degree of influence observed between the FIIs and DIIs activity and benchmark index nifty 50. The performance of the nifty50 index has a statistically significant association with FII activity and DII activity. It is also found that there is a strong negative correlation between FII activity and DII activity.*

Keywords*: FIIs Activity, DIIs Activity, Nifty50 performance*

INTRODUCTION

In general, the performance of a country's security markets reflects largely on the growth of the country's GDP, domestic consumption, central bank's policies, Government spending, Domestic Institutional Investments(DIIs), performance of the country's currency, Foreign Trade Policies, Foreign Portfolio Investments(FPIs including FIIs), Employment, Education levels and so forth. A sustainable growth in GDP helps security markets to perform better and any uncertainty in GDP growth influences security markets negatively [1][2].

Domestic Institutional Investments (DIIs) comprise different Domestic investment houses such as Asset Management Companies, Mutual Fund companies, Pension fund houses, Hedging Funds, Life Insurance Companies, Banks and Financial Institutions[3]. The DII investment activity positively impacts the country's equity security markets. An Increase in the DIIs investment activity will push the security markets further and the markets fall when the DIIs are net sellers. A rise in DII investment activity also reflects the purchasing power of investors of the country. A retail investor's contribution plays a significant role in the DII's activity[4][6].

Foreign Institutional Investors (FIIs) are entities that invest in the financial markets of a country other than the one where they are registered or headquartered. FIIs include sovereign Funds, foreign Government agencies, International multilateral organizations, foreign central banks, foreign investment banks, foreign hedge fund houses, pension fund houses, and mutual funds. A country can attract FIIs by Providing an

Investment-friendly environment[7][5]. Major parameters that attract FII investments include GDP Growth, Stability in Governments, Political Certainty, central bank's decisions, Rate of Inflation, Government policies on Foreign Investment, Bond yields, Growth aspects in Manufacturing, Agricultural, and service sectors, Technological innovations of the country, geo-political conditions and so forth. Attracting FII investment over the years has had a positive impact on Security markets. FIIs inflows also reflect the business-friendly environment of the respective country[8][9].

India's National Stock Exchange (NSE) is one of the rapidly growing exchanges in India and around 2500 companies are listed on the NSE. Nifty50 is a free-float market capitalization-weighted index, which considers the total market value of all stocks in the index relative to a base period. Nifty50 tracks the performance of the National Stock Exchange's 50 most valued companies. Periodically, based on the market capitalization, there will be a few modifications in the listed companies used to create the index [10][11]. A study is initiated to find the impact of FII activity and DII activity on the performance of NSE's Nifty50.

2.0 Review of Literature

In the research article "The FII's and Indian Security market Return: An Empirical Evaluation", Dr. Sunaina Kanojia Asha Rani (2012) explored the association between net investment activity by FIIs and return on the BSE 100 Index and revealed that the net investments by FIIs positively and significantly influence the returns on BSE 100 Index.

Md Nasim Ansari, Jamaluddeen (2023) in the article "The Emergence of DIIs as a Strong Counterforce to FIIs in Changing Indian Securities Market - An Empirical Study" found that Currently, it is observed that not only FIIs that are active, but domestic investors have the ability to help stabilize the Indian security markets in times of global turmoil [12][3].

Khatun and Mosammat Gulsanara (2022) in the research paper "How has the correlation between DII and FII resulted in a positive trend in Indian security markets in spite of lower GDP; catalyzing the markets to rise?" observed that FII and DII play a fundamental role for the growth of Indian security markets, FII appreciates, DII depreciates and vice versa[15].

Shikha Jalota (2015) in the article "FII and DII in Indian Security Market: A Behavioural Study" reveals that FII took the money out under the conditions of fluctuations in the Indian security market whereas on the other hand, it impacts the behaviour of the DII in India [14].

Jatinder Loomba (2012) in his research paper "DO FIIS IMPACT UNCERTAINITY OF INDIAN SECURITY MARKET?" observes a significant positive correlation between FII activity and its effects on the Indian Capital Market. It is also observed from the analysis that the movements in the Indian Capital Market are fairly explained by the FII net inflows [16].

Bansal and Rao, (2018) in their paper "A study on the impact of FIIs and DIIs on the Indian security market NSE Nifty" confirmed that there is a negative relationship between the trading patterns of FIIs and DIIs [17].

Ruchika and Gahlot (2019) in their paper "An Analytical Study on the Effect of FIIs & DIIs on the Indian Security Market" examine the effect of FIIs and DIIs activities on fluctuations in the Indian security market and found that buying and selling of FIIs influence the investment patterns of DIIs. It is also found that the activities of FIIs impact highly on returns of Indian stock as compared to DIIs

3.0 Objectives of the study

To study the impact of FII activity and DII activity on the Performance of the Nifty50 index.

To test the statistical significance of the influence by using a suitable model

To estimate the value of dependent variable (Nifty50) by generating a regression model for different values of predictors (Net DIIs activity and Net FIIs Activity)

4.0 Research Methodology

The present study is a Descriptive research which tries to examine the impact of independent variables (Net DIIs activity, Net FIIs Activity) on the dependent variable (Nifty50). The data has been collected from the secondary sources. The major part of the data is collected from the National Stock Exchange website and financial platforms like Moneycontrol and yahoo for a time period of five years starting from April 2020 to

December 2024. The collected data from the secondary sources has been analyzed by the SPSS package. Regression analysis and ANOVA are used to test the Impact of independent variables on dependent variable.

5.0 Data Analysis and Discussion:

The data analysis is undertaken to address the objectives formulated for the research. Microsoft Excel and SPSS packages are extensively used in the study.

5.01 Regression Model summary

R-Value	R^2 -Value	Adjusted	Std. Error of the Estimate	Durbin- Watson
0.722	0.522	0.504	2828.15	0.590

a. Predictors: (Constant), Net DIIs activity, Net FIIs Activity

b. Dependent Variable: NIFTY50

DISCUSSION

The correlation coefficient R measures the strength and direction of the linear relationship between the independent variables (Net DIIs activity and Net FIIs Activity) and the dependent variable (NIFTY50). An R-value of 0.722 indicates a strong positive correlation.

R Square is the coefficient of determination which represents the proportion of the variance in the dependent variable (NIFTY50) that is explained by the independent variables. An R Square value of 0.522 means that 52.2% of the variation in NIFTY50 is explained by the model.

Adjusted R Square is a modified version of R Square that adjusts for the number of independent variables in the model. It penalizes the model for including unnecessary variables. An adjusted R Square of 0.504 suggests that the model, after accounting for the number of predictors, explains 50.4% of the variation in NIFTY50.

Durbin-Watson value of 2 indicates no autocorrelation. A value between 0 and 2 suggests positive autocorrelation and a value between 2 and 4 suggests negative autocorrelation. In this case, a Durbin-Watson of 0.950 indicates potential positive autocorrelation, which might be a concern.

Incorporating more relevant variables, such as economic indicators or market sentiment, could potentially improve the model's predictive power.

Exploring different model specifications, such as polynomial regression or interaction terms, might lead to a better fit.

5.03 Analysis of Variance Test

ANOVA	
F- Statistic	P- Value
28.923	0.000

5.04 Discussion

Based on the ANOVA table, it can be interpreted that the regression model with Net DII activity and Net FII activity as independent variables is statistically significant. It explains a significant portion of the variation in the NIFTY50 index.

However, it is very important to note that while the model is statistically significant, it doesn't necessarily mean it's a perfect predictor. Other factors might influence the NIFTY50 index that are not captured by these two variables.

5.05 Coefficients generated by the model

Coefficients of the model			
	Constant	Net FIIs Activity	Net FIIs Activity
Un standardized	15307.587	0.094	0.193
P -Value	0.000 (Significant)	0.000 (Significant)	0.000 (Significant)

5.06 Linear Regression Equation

Nifty50=15307.587+0.094×Net_FIIs+0.193×Net_DIIs

A one-unit change in Net FII activity has a 0.094 units change in the Nifty50 index in the same direction, keeping Net DII activity constant.
A one-unit change in Net DII activity has a 0.193 unit change in the Nifty50 index in the same direction, keeping Net FII activity constant.
5.07 Discussion
Both independent variables significantly influence the Nifty50 index, with DIIs having a stronger impact. Ideally, the mean residual should be close to zero. This indicates that the model's predictions are, on average, unbiased. The mean residual of the model is zero, indicating that the model's predictions are unbiased.
5.08 The correlation between FII activity and DII Activity

		Net FIIs Activity	Net DIIs activity
Net FIIs Activity	Pearson Correlation	1	-0.838
	Sig. (2-tailed)		.000
Net DIIs activity	Pearson Correlation	-0.838	1
	Sig. (2-tailed)	.000	
Correlation is significant at the 0.01 level (2-tailed).			

The correlation coefficient, in this case, is -0.838. This value indicates a strong negative correlation between Net FII activity and Net DII activity.
5.09 Discussion
A strong negative correlation indicates that when FIIs are net buyers, domestic investors (DIIs) tend to be net sellers, and vice versa. A similar finding was observed in the research paper written by (Bansal and Rao, 2018) in their article A study on impact of FIIs and DIIs on the Indian security market NSE Nifty.

CONCLUSION

The performance of a nation's security markets in general depends on so many factors. The major influencing factors are the economic conditions of a country, political environment, legal governance, Government spending, bilateral and multilateral trade, foreign investments, domestic investments, performance of core and service sectors, monsoons, currency fluctuations and many other factors. Now, the present research aims to test the influence of two of the above-mentioned factors: FII activity and DII activity on one of the major Indian Security market indexes Nifty50. It is concluded, from the data analysis and discussions, that there is a statistically significant impact observed and 52.2 per cent variance of the dependent variable Nifty50 is explained by two independent variables FII activity and DII activity.

REFERENCES

1. Bansal, P. K., & Rao, P. V. (2018). A study on the impact of FIIs and DIIs on the Indian Security market NSE Nifty. *International Journal of Commerce and Management Research*, *4*(3), 67-70.
2. Ansari, M. N. (2023). The Emergence of DIIs as a Strong Counterforce to FIIs in Changing Indian Securities Market-An Empirical Study. *International Journal of Financial Management*, *13*(1).
3. Kanojia, S., & Rani, A. (2014). The FII's and Indian Security Market Returns: An Empirical Evaluation. *International Journal of Research in Management, Economics and Commerce,(ISSN 2250–057X), IMPACT FACTOR*, *4*, 91-110.
4. Khatun, M. G. (2022). How has the correlation between FII and DII resulted in a positive trend in Indian security markets in spite of lower GDP; catalyzing the markets to rise?.
5. Dr. Srinivasa Babu Kasturi, Sreedhar Burada, Dr. Sowmyashree M.S, Sharath.S, Dr. M.Sunil Kumar,Dr. D. Ganesh, "An Improved Mathematical Model by Applying Machine Learning Algorithms for Identifying Various Medicinal Plants and Raw Materials", Communications on Applied Nonlinear Analysis ISSN: 1074-133X ,Vol 31 No. 6s 2024.
6. B. Sangamithra, Asha K.H, M. Sunil Kumar,""An Improved Information Retrieval System using Hybrid RNN LSTM for Multiple Search Engines", Communications on Applied Nonlinear Analysis ISSN: 1074-133X ,Vol 31 No. 5s 2024.
7. Sreedhar Burada,B.E. Manjunathswamy, M. Sunil Kumar, "Early detection of melanoma skin cancer: A hybrid approach using fuzzy C-means clustering and differential evolution-based convolutional neural network",Measurement: Sensors, Volume 33, June 2024, 101168.

8. M. Sunil KumarJ KumarnathSachin S PundMansing Rathod,""A Secure IoT Smart Network Model for the Contributory Broadcast Encryption for the Text Policy Management Scheme", international Journal of Intelligent Systems and Applications in Engineering IJISAE, 2023, 11(3s), 42–48 2023.
9. Hari Prasad Gandikota ,Abirami. S,Sunil Kumar M, "PLoS ONE 18(11): e0292785. https://doi.org/10.1371/journal.pone.0292785.
10. Hari Prasad Gandikota* | S. Abirami M. Sunil Kumar,""Bottleneck Feature-Based U-Net for Automated Detection and Segmentation of Gastrointestinal Tract Tumors from CT Scans",Traitement du Signal, Vol. 40, No. 6, December, 2023, pp. 2789-2797.
11. Burada, S., Manjunathswamy, B.E. & Kumar, M.S. Deep ensemble model for skin cancer classification with improved feature set. Multimed Tools Appl 84, 7599–7626 (2025). https://doi.org/10.1007/s11042-024-19039-5.
12. E.Ramesh Babu, Dr.M.Sunil Kumar,"The Role of Optimization Techniques in Advancing Big Data Analytics : A Survey", Communications on Applied Nonlinear Analysis ISSN: 1074-133X Vol 32 No. 1s 2025.
13. Meriga Kiran Kumar, Rajeev Kudari, C. Sushama, M. Sunil Kumar, P. Neelima, D. Ganesh, "Efficient Algorithms for Vehicle Plate Detection in Dynamic Environments", Communications on Applied Nonlinear Analysis ISSN: 1074-133X Vol. 32 No. 1s 2025 .
14. Rayavarapu Veeranjaneyulu, V. Sumathi, C. Sushama, Savanam Chandra Sekhar, P. Neelima, M. Sunil Kumar, "Predicting Disasters: A Machine Learning Approach", Communications on Applied Nonlinear Analysis ISSN: 1074-133X Vol. 32 No. 1s 2025.
15. Jalota, S. (2017). FII and DII in Indian security market: A behavioural study. International Journal of Research in Finance and Marketing (IJRFM), 7(5), 20-28.
16. Loomba, J. (2012). Do FIIs impact the volatility of the Indian security market? International Journal of Marketing, Financial Services & Management Research, 1(7), 80-93.
17. Gahlot, R. (2019). An analytical study on the effect of FIIs & DIIs on the Indian security market. Journal of Transnational Management, 24(2), 67-82.