



ORIGINAL RESEARCH PAPER

Finance

TRADING BEHAVIOUR OF FOREIGN INSTITUTIONAL INVESTORS IN INDIA: AN EMPIRICAL STUDY

KEY WORDS: FII equity investment, Indian stock market, Trend analysis, NIFTY, Investment Behaviour

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ABSTRACT

The study is about the investment behaviour of "Foreign Institutional Investors" (FII) in the Indian stock market w.r.t their trading behaviour and its impact on stock market movements. We have collected the daily data of investment of FII net equity investments and NIFTY 50 index in Indian stock markets for a long time period from the year 2000 to 2022. The paper used trend analysis and the relationship between FII net equity investments and NIFTY 50 index. The paper found a significant relationship and causality in the direction of NIFTY to FII investments. The FII are found to invest with consistency in the Indian stock market and are also responsible to contribute significantly to the development of the Indian stock market.

1. INTRODUCTION

Is the trading behaviour of foreign institutional investors (FII) contributing to the development of the Indian stock market and enhancing the shareholder's wealth in the Indian stock market? This paper examined the long-term investment behaviour of FII in the Indian stock market. The FII being more informative, focused, and hunting for good returns vis global portfolio management is expected to include Indian companies and participate in Indian stock markets. Being the fastest-growing economy in the world the Indian stock market attracts foreign investors (FII) from every part of the globe. These FII investors, however, are more inclined to make profits from emerging stock markets and also have the tendency to pull the invested money from the market in case of any domestic or geopolitical disturbance. FII investment behaviour also results in high ups and downs in the stock market and also an opportunity for informed investors to take wise investment decisions. The FII being informed investors provide stability to the stock markets, however, also provides uncertainty in the markets. FII as an informed investor is more likely to hold large-cap and liquid stocks (Shiller, 1984, 1990). Cutler et al. (1990) found positive feedback trading with positive autocorrelation in FII trading behaviour.

This paper is an effort to examine the long-term trends in the FII investment behaviour in the Indian stock market and evaluate the relationship between the investment behaviour of FII with NIFTY 50 stock index representing the barometer of the Indian economy. The paper discusses the major findings related to FII investment behaviour, followed by the research methodology adopted in the paper and the discussion of the major findings from the analysis done in the paper.

2. Literature Review

FII prefers to invest in emerging markets with sound accounting standards and legal frameworks, and also in firms with fair discretionary policies (Aggarwal et al, 2005) and suggested for the country and the firm level to create an environment favorable for FII investment. Institutional investors usually take time to analyse the new information to react and initiate investment strategies, thereby causing instability and uncertainty in the markets (Lakonishok et al., 1992). Goodfellow et.al. (2009) evaluated the presence of herding among individual investors vs institutional investors and observed that herding behavior existed amongst individuals during volatile markets, however, the institutional investors did not display the herding behavior, rather, use this as an opportunity. Tayde and Rao (2011) used the daily data of buying/selling of stocks listed on the Bombay Stock Exchange (BSE) by FIIs and found that FIIs demonstrated herding, positive feedback trading behaviour, especially in large-cap stocks due to their higher liquidity.

of 32 countries during 2000–2010 and found that FII and local institutions perform similarly, however different in their trading behaviour. In case of non-English-speaking countries, the smart-money effect is higher for local institutions than FII. Bose (2012) examine the relationship between FII and mutual funds in the Indian stock market, during the crisis period of 2008–2012 using a multivariate structural vector autoregression (VAR) framework and found that FIIs have a significant impact on market performance due to their positive feedback trading behaviour. Ulku Luman (2012) examined the trading behaviour and market returns of institutional, Hight Network Individuals (HNI), and FII using VAR model and found a highly positive linkage with synchronous returns.

Kadanda & Raj (2017) investigated the FII, local institutions and stock market returns in India with high-frequency data, and found that these institutional investors adopted different trading strategies. FIIs investments follow the trends in the stock market, however, local institutional investors believe in value investments, more prominent during the crisis. FII outperforms the markets due to highly diversified portfolios and aggressive trading strategies (Varah's, 2018)

3. Research Methodology

The aim of the paper is to analyse the long-term trends in the equity investment behaviour of the FII in the Indian stock market. The paper examines the relationship between the equity investment of FII and the Indian stock market as represented by NIFTY 50 index. The following hypothesis are looked at:

- H₁: *There exists a significant long-term trend in the behaviour of FII investment in the Indian stock market.*
- H₂: *FII investment significantly influences the movements in the Indian stock market.*

Daily data of NIFTY 50 index and FII equity investment behaviour is collected for the period of 21 years from 1 April 2000 to 31st March 2022. The daily compounded log returns of NIFTY index are estimated with the help of the log difference of consecutive day index values. Daily net equity investment by FII in the Indian stock market is included. The log difference transformation is done to make the NIFTY time series stationary in nature to apply statistical methods. The log returns for NIFTY 50 index series are estimated by using the following method:

$$r_{it} = \ln (P_{it} / P_{it-1})$$

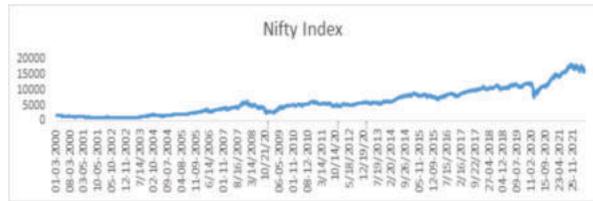
Where r_t represents NIFTY index returns on t th day, P_{it} indicates the i th day NIFTY index value which is the adjusted closing of the day and P_{it-1} indicates the lag one (previous day) adjusted closing NIFTY value. The data is collected from the official website of the National Stock Exchange (i.e. nseindia.com). The paper used EVIEWS 12 software to apply

Ferreira et.al, (2017) compare the performance of local vs FII

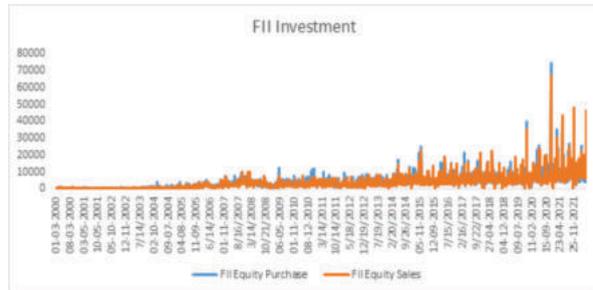
the descriptive analysis, time series plots, ADF unit root test, trend analysis, correlation, and regression analysis.

4. Analysis and Results

This section discusses the analysis of the data collected for the study. The long-term behaviour of the FII investments in the Indian stock market(y-axis) and the NIFTY equity index(x-axis) is reported below in graphs 1 & 2:



Graph 1



Source: Authors' calculations

Graph 2

The figure reported the growth of the FII investments in India w.r.t the equity buy and equity sell in the stock market. The NIFTY 50 index also showed tremendous growth during the selected time period. Table 1 reported the descriptive statistics of the NIFTY 50 index and FII equity investment behaviour during the selected period.

Table 1: Descriptive statistics

Series	Mean (Standard Deviation)	Minimum	Maximum	Median
NIFTY 50 Index	6088.926 (4235.665)	854.2	18477.05	5324.5
FII equity investment (INR billion)	114.527 (1240.614)	-8295.17	28739.17	71.85

Table reported that the average FII investment during the selected time period is INR 114.527 billion with a maximum value of INR 28739.17 billion and minimum value of INR - 8295.17. The positive and negative sign represents the net equity buy and sell respectively. Similarly, the average NIFTY 50 index during the selected time period is found to be 6088.926 with a maximum value of 18477 and a minimum value of 854.2. The long-term trend analysis is done for NIFTY 50 index and FII equity investment behaviour during the selected period. The following equation is applied to examine the long-term trend:

$$Y_t = \alpha + \beta * \text{time}$$

Where Y_t represents the time series, α is the intercept and β indicates the trend (daily) in the behaviour of the selected series. Table 2 reported the results of the long-term trend analysis of both the series, i.e. NIFTY 50 index, and FII equity investment behaviour during the selected period.

Table 2: Long-term trend analysis

Series	Trend Component (Daily)	Trend Component (Annual)	T stats
NIFTY 50 Index	2.490	622.5	215.34*
FII equity investment (INR billion)	0.049	12.25	4.798**

Results reported the presence of a significant long-term trend in the NIFTY 50 index and FII equity investment behaviour. Since the trend is found positive, it can be concluded that the NIFTY 50 index as well as FII equity investment increases with time.

4.2 Unit root Test

Since most of the financial time series in the literature are found to random walk, or contain the unit root, thus the ADF unit root test is applied on both the NIFTY 50 series as well as FII net equity investment series. Mathematically, ADF test is expressed as

$$\Delta y_t = \rho y_{t-1} + \mu + \lambda_t + \alpha_1 \sum_{i=1}^p y_{t-i} + u_t$$

Where Y_t is the included financial time series, μ indicates the drift component, λ is the trend component and ρ represents the unit root. The ADF test assumes the null hypothesis that the included series contains a unit root. Table 3 shown below reported the results of ADF unit root test

Table 3: ADF Unit root test using ADF test

Time series under consideration	ADF Statistics	P Value	Remark
NIFTY 50 Index (At level)	-1.915	0.646	Non-Stationary
NIFTY 50 Index (At log first difference)	- 2.433	0.000	Weakly Stationary
FII equity net investments	-14.733	0.000	Weakly Stationary

Source: Authors' calculations

Table 3 reported the results of the ADF unit root test applied on FII equity net investments and NIFTY 50 series at a level and after log difference transformation. The FII equity investment is found to be stationary at the level, however, the NIFTY 50 index is found non-stationary at the level but becomes stationary after log difference transformation. Thus, NIFTY returns and FII net equity investments are further used for the analysis.

4.3 Relationship between NIFTY & FII equity investments

To examine the relationship between the NIFTY returns and FII net equity investments, regression analysis is used. The NIFTY 50 index returns are assumed as a dependent variable and assumed to be influenced by the FII net equity investments as an independent variable. The regression is represented by the following equation, applied to examine the long-term relationship:

$$NIFTY_t = \alpha + \beta * FII \text{ equity investment}$$

Where $NIFTY_t$ is the dependent variable, α is the intercept and β indicates the slope coefficient indicating the influence of FII equity investments on NIFTY 50 index returns. Table 4 reported the results of the regression analysis.

Table 4: Regression analysis

Dependent Variable	Series	Regression Coefficient	T stats	R square
NIFTY 50 index return	Intercept	0.0001	23.564**	9.07%
	FII equity investment (INR billion)	0.148	17.23**	

Table reported the presence of a significant impact of FII net equity investments on the NIFTY 50 index returns. The slope coefficient (0.148) is found to be significant (t stats = 17.23). The relationship in the direction of FII net equity investments to NIFTY 50 index returns is found significant indicating that the FII equity investments significantly contribute to the movements of the Indian stock market. The positive response of FII equity investments to the daily NIFTY index returns is

that the FII prefer to invest in developing economies like India and shows consistency in their investment behaviour.

5. Discussion, Managerial Implications, and Conclusion

FII investments in the Indian stock market indicate the interest of giant and well-informed investors in the Indian business. The FII investors are found interested in the Indian stock market. The investment of these well-informed rational investors injected positive sentiments into the stock market in India. The consistent trading by FII investments also helps to push the markets in a positive direction. The results motivate rational investors to participate in the Indian business through the equity route. The analysis also recommends the chasing of the trends strategy as adopted by giant FII investors.

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