FOREIGN INSTITUTIONAL INVESTORS AND INDIAN STOCK MARKET

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Abstract

The investment made by FIIs in any capital market has grabbed the attention of researchers to identify the relationship between the capital market performance and net inflow of FIIs. The present study is focused to examine the relationship in the movement of investment by foreign institutional investors and movement of Indian stock market. To conclude it can be said that the degree of relationship is very low in the capital flows by FIIs on Indian stock markets and movement in the stock market indices. But the performance of equity index of National Stock Exchange, i.e., S&P CNX Nifty has shown some drift in the findings obtained through previous results.

Keywords: Foreign Institutional Investors, Indian Stock Market, Correlation, Dependence, Causality-test.

Introduction

Till 1980s Indian economy has remained quite closed towards the foreign investments but it was well realized by the government during 1990s that the foreign investment can play significant role to promote economic growth. It was the time when the wave of economic reforms also touched the capital market. The objective was all clear, i.e., to fasten the pulse of development in all economic activities. At the initial stages of reforms with regard to FIIs the credit can be given to the New Industrial Policy, 1991 framed by the government to focus on the importance of foreign direct investment in order to augment technological updating in a globalized world. In order to give further push to foreign investment, Government of India permitted the portfolio investment made by foreign institutional investors in India. The initial guidelines regarding the flow of capital by FIIs was suggested by Narsimhan Committee Report on financial system of India. Figure 1 given below has showed the trend of number of FIIs and Net Investment made by them during last decade. The information of the same has been obtained through the report published by SEBI.

The capital market of India was gradually opened for foreign institutional investors. They were allowed to invest in all traded securities on the primary market and secondary markets including various financial products, viz., shares, debentures and warrants etc. India has always been an attractive destination for foreign investors as Indian economy has always been a good performer among other Asian countries. But whenever a crisis has been identified on Indian capital market or a financial crisis occurring at world level, it has always impacted the capital flows by portfolio investors. Therefore continuous evidences are obtained by researchers indicating the volatility shifts on the stock market due to the behavior of foreign institutional investors.

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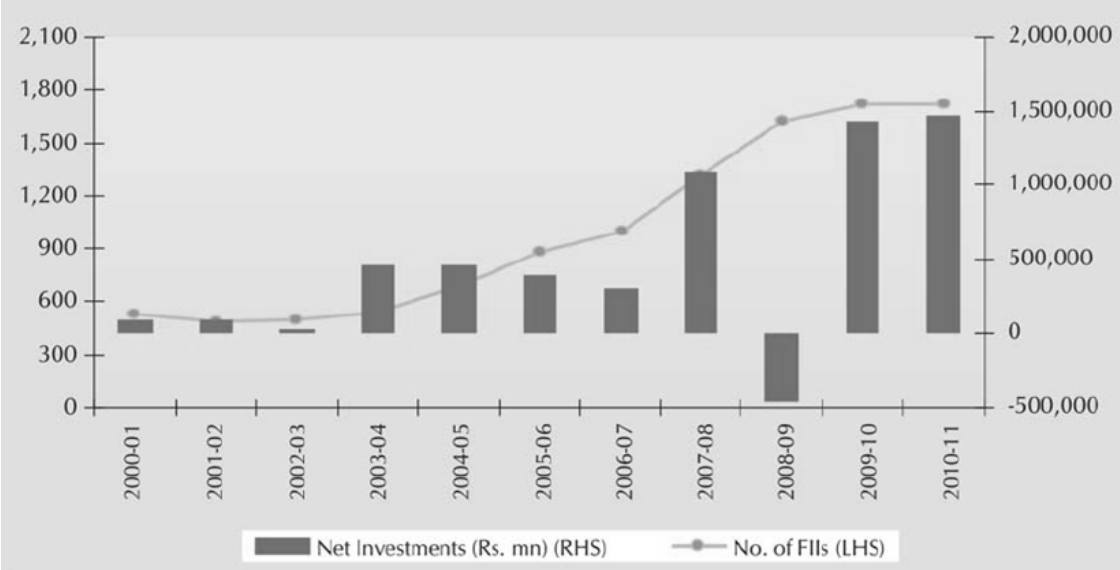
Figure 1. Number of FIIs and Net Investments



There is tremendous growth in the portfolio investments made by foreign institutional investors. Table 1 given below has shown the data with regard to this. The data given in the table has been obtained from the annual report published by Security Exchange Board of India.

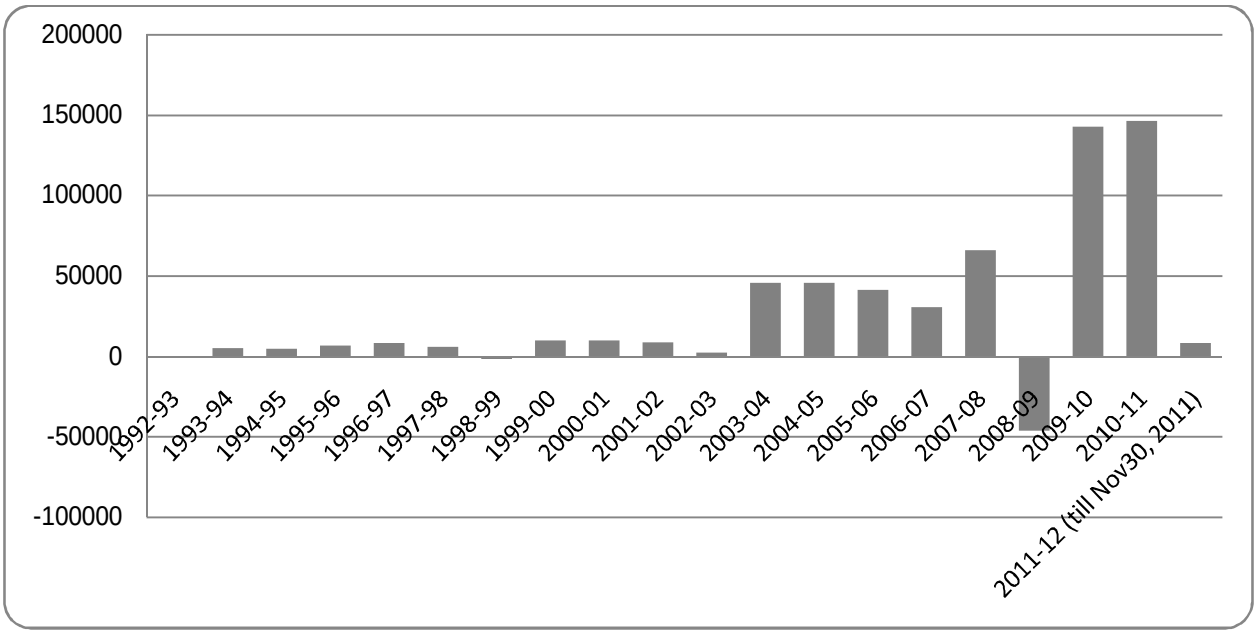
Table 1. Trends in FII Investment

Period	Purchases (₹ mn.)	Sales (₹ mn.)	Net Investment (₹ mn.)	Net Investment (US $ mn.)	Cumulative Net Investment (US $ mn.)
2000-01	**740,506**	**641,164**	**99,342**	**2,159**	**13,396**
2001-02	**499,199**	**411,650**	**87,549**	**1,846**	**15,242**
2002-03	**470,601**	**443,710**	**26,891**	**562**	**15,804**
2003-04	**1,448,575**	**990,940**	**457,635**	**9,949**	**25,754**
2004-05	**2,169,530**	**1,710,730**	**458,800**	**10,173**	**35,927**
2005-06	**3,449,780**	**3,055,120**	**394,660**	**9,334**	**45,261**
2006-07	**5,205,090**	**4,896,680**	**308,410**	**6,709**	**51,967**
2007-08	**9,480,196**	**8,389,304**	**1,090,892**	**16,040**	**68,006**
2008-09	**6,145,810**	**6,603,920**	**-458,110**	**-11,356**	**56,650**
2009-10	**8,464,400**	**7,037,810**	**1,426,580**	**30,253**	**89,333**
2010-11	**9,925,990**	**8,461,610**	**1,464,380**	**32,226**	**121,561**
Apr-11	767,320	695,360	71,960	1,616	123,175
May-11	770,460	813,220	-42,760	-948	122,227
Jun-11	806,240	757,410	48,830	1,083	123,310
Jul-11	772,180	665,660	106,530	2,399	125,709
Aug-11	695,900	774,930	-79,030	-1,766	123,943
Sep-11	648,680	667,350	-18,660	-342	123,600
Apr-Sep 2011	**4,460,790**	**4,373,930**	**86,880**	**2,042**	**123,600**

Source: SEBI
Note: This data pertains to the investments by FIIs in Indian securities market including private placement and mergers & acquisitions

The foreign institutional investments include overseas pension funds, mutual funds, investment trusts, asset management companies, nominee companies, banks, institutional portfolio managers, university funds, endowments, foundations, charitable trusts, charitable societies, a trustee or power of attorney holder incorporated or established outside India proposing to make proprietary investments on behalf of a broad-based fund. In India, Foreign institutional investment is generally made on short-term basis and in most of the cases the investment by foreign institutional investors is channelized by financial markets. As discussed above, the FIIs can invest in the instruments of primary and secondary market; it is fully administered by Reserve Bank of India under Portfolio Investment Scheme (PIS). The PIS gives all guidelines and rules and regulation regarding the investment by FIIs.

Figure 2. Trends of FII till Nov., 2011



The recent financial crisis has very strongly affected the capital flows by FIIs. As depicted in the trend given above (Figure 2), during 2008-09 there was huge outflow of capital by the portfolio investors. But gradually the Indian capital market regained the faith of foreign investors but the performance has not been reported consistently and even during last year there was a shift in the investment by FIIs. Therefore the present paper is focused to examine the impact of FIIs on Indian Stock markets.

Review of Literature

The investment made by FIIs in any capital market has grabbed the attention of researchers to identify the relationship between the capital market performance and net inflow of FIIs. A good number of research findings are available indicating the volatility shifts in the capital market movement due to immunization of FIIs and vice-versa. Some of the significant studies were conducted in the mid 90s by Tesar and Werner (1994, 1995), Bohn and Tesar (1996), Brennan and Cao (1997). These studies examined the aggregate international portfolios and found evidence of positive, contemporaneous correlation between FII inflows and stock market returns. Bekaert and Harvey (1998), and Errunza (2001) have found further evidences that FII

flows do not have significant effect in increasing volatility of stock returns. Calvo, et al., (1999) suggested that foreign investors pursue irrational trading strategies such as herding and quick changes in sentiments that make the emerging stock markets more volatile and argued that the information disadvantage and diversified international portfolio investment create incentives for rational herd behavior causing financial markets in emerging economies to be volatile. Fitz Gerald (1999) documented that the large and sudden reversals of foreign equity investments make them extremely volatile in character. Agarwal (1997) based on the correlation of returns during the period 1987-1996 found that emerging markets exhibit a high correlation with one another except for some of the South-East Asian economies, where the overall correlation between the emerging market is low.

Jo (2002) has also documented the instances of increased volatility due of investment by foreign institutions in comparison to investment made by domestic investors. Bae et.al. (2002) further documented that high unpredictable patterns are identified in the stocks picked by foreign investors in comparison to other stocks. On the contrary, Gordon and Gupta (2003) have documented that lagged domestic stock market returns are an important determinant of FII flows. Sivakumar (2003) has further examined the net flows of foreign institutional investment over a period of time and documented various evidences on how much the Indian stock market is stabilized or destabilized due the inflows and outflows of Foreign Institutional investments.

Kumar (2006) documented that the movement in Indian stock market can be explained with the direction of funds floated by foreign institutional investors. Therefore motivated by some interesting and time varying evidences with regard to the relationship between FIIs and stock market performance, the present study is destined to examine the relationship of FIIs and performance of Indian stock market.

Objectives of Study

The present study is focused to obtain the following objectives:

1. Whether there exists any relationship in the movement of investment by foreign institutional investors and movement of Indian stock market?
2. If any relationship is identified, then to further examine the degree of dependence of performance of Indian stock market on the movement of Indian stock market.

Research Methodology

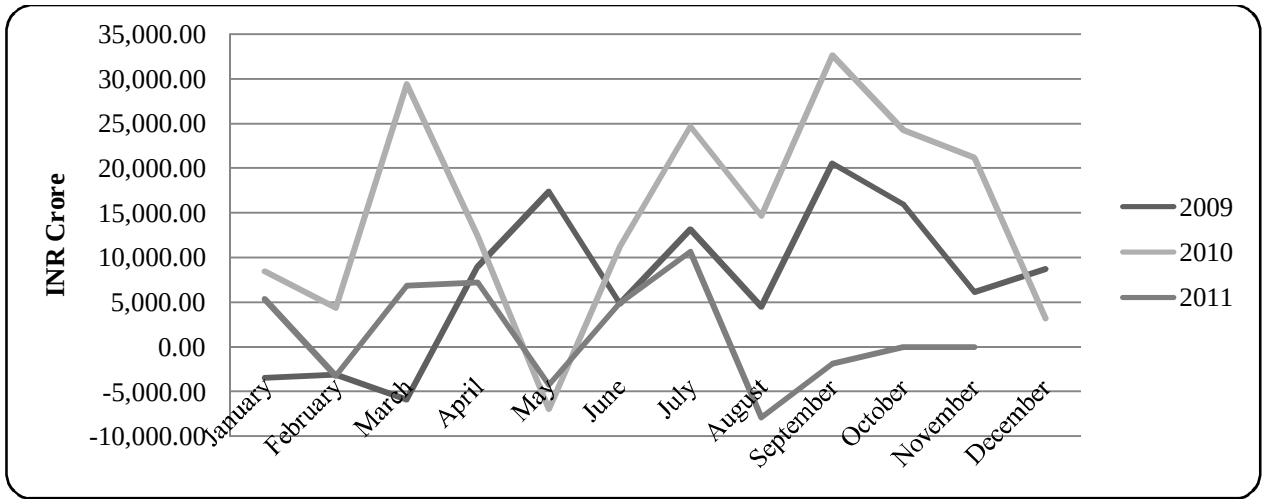
The present study has considered monthly observations of BSE Sensex index listed on Bombay Stock Exchange and S&P CNX Nifty listed on National Stock Exchange to represent the Indian stock market. The data for the same has been obtained from official websites of Bombay Stock Exchange (www.bseindia.com) and National Stock Exchange (www.nseindia.com) respectively. The data for the monthly observations of net inflows by FIIs (Foreign Institutional Investors) has been obtained from the official website of Reserve Bank of India (www.rbi.org.in). The Table 2 and Figure 3 given below have expressed the monthly flow of net capital investment made by FIIs in India. In order to examine the impact of FIIs on Indian stock market, both correlation and regression analyses have been done. The correlation analysis helps to identify the degree of co-movement in the flows by FIIs and performance of Indian capital market. To calculate correlation coefficient, simple Karl Pearson's method has been used. In addition to this, the simple linear regression analysis will help to identify the dependence of the Indian capital market performance on the capital flows by foreign institutional investors.

Table 2. Net Investments by FIIs From 2009 to 2011 (in INR crore)

	2009	2010	2011
January	-3,443.00	8,412.60	5,363.50
February	-3,124.40	4,363.00	-3,269.80
March	-5,890.00	29,437.50	6,882.90
April	8,998.50	12,393.10	7,196.10
May	17,405.80	-6,986.10	-4,276.00
June	4,898.30	11,249.10	4,883.30
July	13,181.70	24,724.00	10,652.90
August	4,523.30	14,686.30	-7,902.50
September	20,572.70	32,668.00	-1,865.70
October	15,972.60	24,302.60	3078.8
November	6,181.40	21,210.70	-3,263.2
December	8,710.70	3,213.80	
Total FII Investment	87,987.60	179,674.60	**17480.3**

Source: Official website of SEBI

Figure 3. Monthly flow of FII



Further the regression analysis shows the dependence of dependent variable on the independent variables but it does not necessarily imply causation. The Granger (1969) approach to the question of whether x causes y is to see how much of the current y can be explained by past values of y and then to see whether adding lagged values of x can improve the explanation. Y is said to be Granger-caused by x if x helps in the prediction of y, or equivalently if the coefficients on the lagged x's are statistically significant. It is important to note that two-way causation is frequently the case; x Granger causes y and y Granger causes x. Further important thing to note in case of Granger causality test is that the statement "x Granger causes y" does not

imply that y is the effect or the result of x. Granger causality measures precedence and information content but does not by itself indicate causality.

$$y_t = \alpha_0 + \alpha_1 y_{t-1} + \ldots\ldots\ldots \alpha_1 y_{t-1} + \beta_1 x_{t-1} + \ldots\ldots\ldots + \beta_1 x_{t-1} + \varepsilon_t$$

$$x_t = \alpha_0 + \alpha_1 x_{t-1} + \ldots\ldots\ldots \alpha_1 x_{t-1} + \beta_1 y_{t-1} + \ldots\ldots\ldots + \beta_1 y_{t-1} + \square_t$$

for all possible pairs of (x, y) series in the group. The f-statistics tests the joint hypothesis for each equation. The null hypothesis is that x does not Granger-cause in the first regression and that y does not Granger-cause x in the second regression.

Analysis and Interpretation

Table 3 has discussed the correlation between Sensex and FIIs and Table 4 has shown the correlation between S&P CNX Nifty and FIIs. As depicted in Table 3, the correlation coefficient is 0.139 indicating a lower degree of positive correlation between BSE Sensex index and FIIs movement. This coefficient was found statistically insignificant as its p-value was found as 0.418 which is quite higher than 1 percent and 5 percent level of significance.

Table 3. Correlation Between BSE Sensex and FIIs

		BSE Sensex	FIIs
BSE Sensex	Pearson Correlation	1	.139
	Sig. (2-tailed)		.418
	N	36	36
FIIs	Pearson Correlation	.139	1
	Sig. (2-tailed)	.418	
	N	36	36

The correlation coefficient was identified lower between S&P CNX Nifty and FIIs too. It was also found statistically insignificant (0.404).

Table 4. Correlation Between S&P CNX Nifty and FIIs

		S&P CNX Nifty	FIIs
S&P CNX Nifty	Pearson Correlation	1	.143
	Sig. (2-tailed)		.404
	N	36	36
FIIs	Pearson Correlation	.143	1
	Sig. (2-tailed)	.404	
	N	36	36

In addition to above, Table 5 and Table 6 have shown the findings of simple linear regression model. Both the tables have shown that there is no significant dependency in the

movement of stock market indices was found by the movement of FIIs. The beta coefficient was also found very low in case of both the indices.

Table 5. Simple Linear Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16524.788	492.588		33.547	.000
	FIIs	.061	.075	.139	.820	.418

Dependent Variable: BSE Sensex, Independent Variable: Capital flows by FIIs

Table 6. Simple Linear Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4967.894	144.613		34.353	.000
	FIIs	.019	.022	.143	.844	.404

Dependent Variable: S&P CNX Nifty, Independent Variable: Capital flows by FIIs

As discussed above, the simple regression analysis has not indicated any significant result on the basis of which we can draw a conclusive statement about the relationship between the movement of capital flows by foreign institutional investors and movement of stock market indices. The further analysis has been done on the basis of Granger causality test. As shown in Table 7 and Table 8, the Granger-Causality test examines the two null hypotheses.

Table 7 has depicted that both the statements of null hypothesis are accepted as the p-value of f-statistic was found insignificant at 1 percent and 5 percent level of significance indicating that neither FIIs movement nor movement in BSE Sensex index identified as a precedent over the other series. But some more facts were identified when the same test was applied on S&P CNX Nifty and FIIs series. As depicted in Table 8, the first null hypothesis is accepted that movement in Nifty does not Granger Cause movement in FIIs at both the accepted levels of significance. But the second hypothesis is rejected which states movement in FIIs not Granger cause movement in S&P CNX Nifty at 5 percent level of significance.

Table 7. Findings of Granger-Causality Test (BSE Sensex and FIIs)

Null Hypothesis:	Obs	F-Statistic	Prob.
Movement in FIIs does not Granger Cause Movement in Sensex	34	3.30900	0.0508
Movement in Sensex does not Granger Cause Movement in FIIs		2.38397	0.1100

Table 8. Findings of Granger-Causality Test (S&P CNX Nifty and FIIs)

Null Hypothesis	Obs	F-Statistic	Prob.
Movement in Nifty does not Granger Cause Movement in FIIs	34	2.78988	0.0780
Movement in FIIs does not Granger Cause Movement in Nifty		4.08633	0.0273

To conclude it can be said that the degree of relationship is very low in the capital flows by FIIs on Indian stock markets and movement in the stock market indices. These findings are further supported by simple regression analysis. But the performance of equity index of National Stock Exchange, i.e., S&P CNX Nifty has shown some drift in the findings obtained through previous results. In case of NSE, it has been identified that the FIIs cause certain fluctuation in the performance of stock market index. It works as a precedent factor. Further studies can be conducted to explore the findings of present paper. These studies can focus whether the causality identified over the National Stock Exchange is a result of seasonal variations or there are some other common global trends responsible for such results.

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