

A Study on the Impact of Foreign Institutional Investment on Bombay Stock Exchange (BSE)

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Abstract

The Foreign Institutional Investors (FIIs) have emerged as noteworthy players in the Indian stock market and their growing contribution adds as an important feature of the development of stock market in India. Foreign institutional investors have gained a significant role in Indian stock markets. In this context, present paper examines the contribution of foreign institutional investment in sensitivity index (Sensex). The study attempted to explain the impact of foreign institutional investment on Indian stock market. Also attempts to understand the volatility of BSE Sensex due to FII. The data for the study uses the information obtained from the secondary resources like website of BSE sensex.

Keywords: Foreign Institutional Investment (FII), Investors, Bombay Stock Exchange (BSE), Volatility

Introduction

The term foreign institutional investment denotes all those investors or investment companies that are not located within the territory of the country in which they are investing. These are actually the outsiders in the financial markets of the particular company. Foreign institutional investment is a common term in the financial sector of India.

FII flow supplements and augmented domestic savings and domestic investment without increasing the foreign debt of our country. Capital inflows to the equity market increase stock prices lower the cost of equity capital and encourage the investment by Indian firms.

In the Indian stock market, movement of the stock depends on the limited number of stocks. As FIIs purchase and sell the stocks there is a high degree of volatility in the stock market. If any set of development encourages outflow of capital that will increase the vulnerability of the situation in the stock market. Hence, there arises a need to study the "Impact of Foreign Institutional Investment on Indian Stock Market".

Review of Related Literature

The paper titled on (2010) "**Determinants of Foreign Institutional Investor's Investment in India**" by **Manjinder Kaur, Sharanjit S. Dhillon** explored the determinants of Foreign Institutional Investors' (FIIs) investment in India. Returns on Indian stock market have positive impact whereas US stock market returns have no significant influence on FIIs Investment to India. Stock market risk has negative influence on FIIs inflows to India. Market capitalization and stock market turnover of India have significant Positive influence only in short-run. Study concludes that FIIs inflows in India are determined by both stocks Market characteristics and macroeconomic factors.

The study titled on (2012) “**Impact of Foreign Institutional Investment on Stock Market with Special Reference to BSE**” by **Dr. Mamta Jain, Ms. Priyanka Laxmi Meena, Dr. T. N. Mathur** examined the contribution of foreign institutional investment in sensitivity index (Sensex) and examine the volatility of BSE Sensex due to FII. Foreign institutional investors have gained a significant role in Indian stock markets. The dawn of 21st century has shown the real dynamism of stock market and the various benchmarking of sensitivity index (Sensex) in terms of its highest peaks and sudden falls.

Objectives of the Study

The following are the objectives of the study;

1. To examine whether FIIs have any influence on BSE Sensex
2. To know the volatility in BSE due to FIIs

Hypothesis of the Study

The following are the null hypothesis of the study;

H0: There is no impact of foreign institutional investment on Bombay Stock Exchange (BSE)

H0: There is no significant difference in the levels of volatility in BSE due to FIIs.

Methodology of the Study

a) Universe

The monthly data sets of FII and BSE were taken as the universe of the study.

b) Sample

From the universe, the researcher has been selected the FII and BSE as the sample based on the monthly data sets.

c) Types and Sources of Data

The study is purely based on secondary data. The secondary data have to be collected from books, magazines, journals, previous studies and World-Wide Websites (www.bseindia.com, www.google.com).

d) Statistical Tools to be used for Analysis

For evaluating and analyzing the applicability of proposed topic for the study, certain statistical tools like

- i. Descriptive Statistics
- ii. ADF (or) Unit root test
- iii. Autocorrelation
- iv. GARCH

Analysis and Interpretation

I. Analysis of Foreign Institutional Investment on Bombay Stock Exchange (BSE) from 1.1.2012 to 31.12.2014 using Descriptive Statistics

Table 01 - Results of Descriptive Statistics Test of Foreign Institutional Investment on Bombay Stock Exchange (BSE)

PARTICULARS	BSE	FII
Total No. of observation	35	35
Mean	0.004120	-0.061510
Standard deviation	0.048869	0.746896
Skewness	0.201673	-3.153265
Kurtosis	2.606280	12.61257
Probability	0.793217	0.000000

Source: Computed from E-Views software

Interpretation

The results of descriptive statistics of BSE and FII were depicted in the Table – 01. The mean of BSE was (0.000412) positive and the mean of FII was (-0.061510) negative. Maximum and Minimum value of BSE (0.106607 and -0.093572) and Maximum and Minimum value of FII (0.802960 and -2.924206) and the BSE value of Standard deviation was (0.048869) and the FII value of Standard deviation was (0.746898) which means that, there is less risk . The skewness (0.201673) was positive in BSE. It indicates all the data were positively skewed. The skewness (-3.153265) was negative in FII. It indicates all the data were negatively skewed. The value of kurtosis was (2.606280) in BSE and in FII was (2.61257). The value of kurtosis was less than 3 which means that the deviation of data was less Hence there is a platykurtic kurtosis. The overall analysis of descriptive statistics of FII has less impact on BSE.

II. Analysis of Foreign Institutional Investment Bombay Stock Exchange (BSE) from 1.1.2012 to 31.12.2014 using Augmented Dickey Fuller Test Statistics

Table 02 - Results of Augmented Dickey-Filler Test of Foreign Institutional Investment on Bombay Stock Exchange (BSE)

PARTICULARS	TEST STATISTICS	PROBABILITY	DURBIN-WATSON
FII	-8.704164	0.000000	1.728796
BSE	-9.189127	0.000000	2.326997
CRITICALVALU			
1%			
5%		-3.6496	
10%		-2.9558	
		-2.6164	

Source: Computed from E-Views software

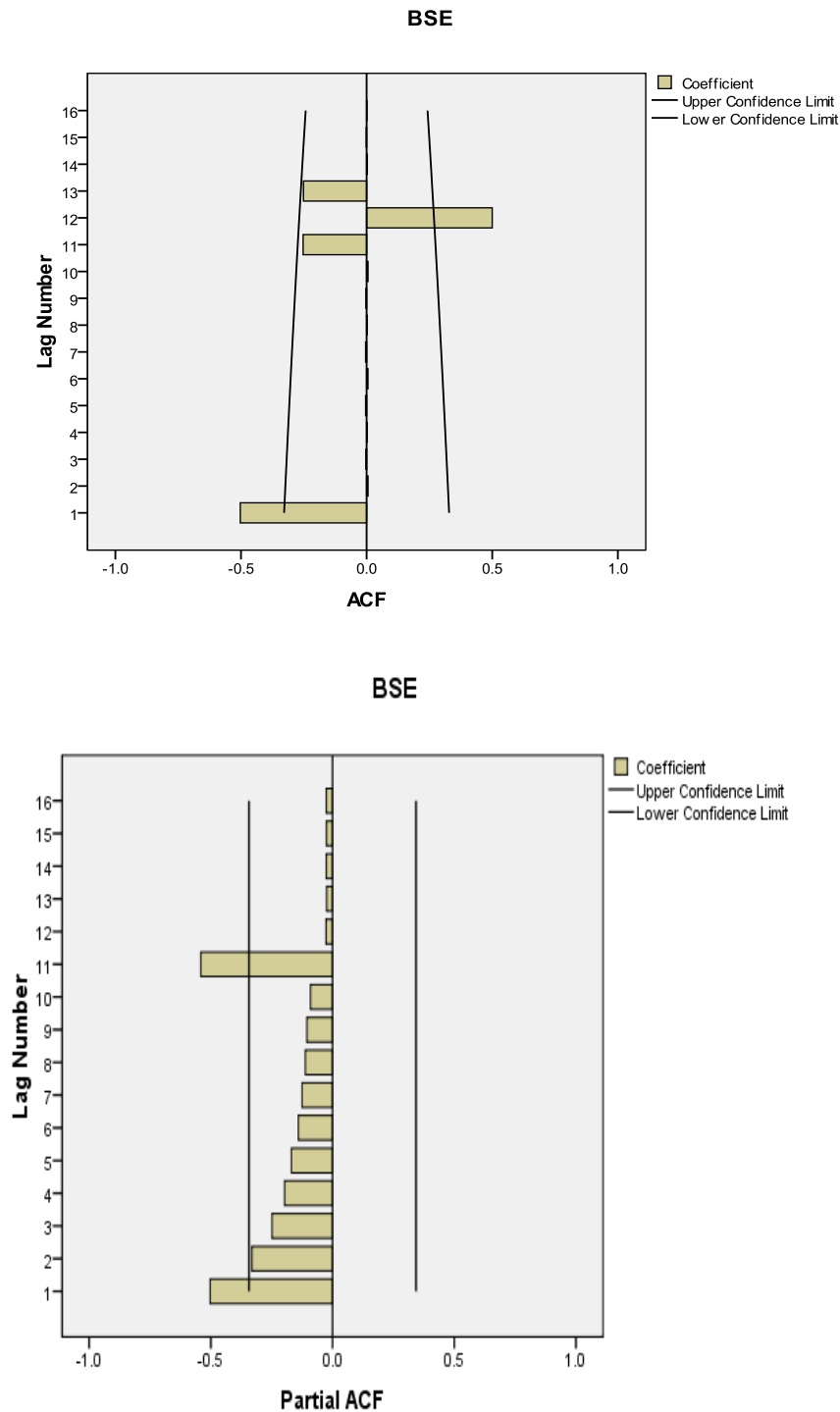
Interpretation

ADF test was performed to check the stationarity of the time serious. The results of ADF of **BSE** and **FII** were shown in Table – 02. The ADF test statistics of **BSE** was (-9.189127)

which is lesser than the critical value of 1%, 5%, and 10% were (-3.6496, -2.9558, -2.6164), hence, the data was stationarity. The ADF test statistics of **FII** was (-8.704164) which is lesser than the critical value of 1%, 5%, and 10% were (-3.6496, -2.9558, -2.6164) therefore, the data was stationarity. The value of Durbin-Watson statistics was (2.326997) in **BSE** and in **FII** was (1.728796), which is more than 2. It means that data was stationarity.

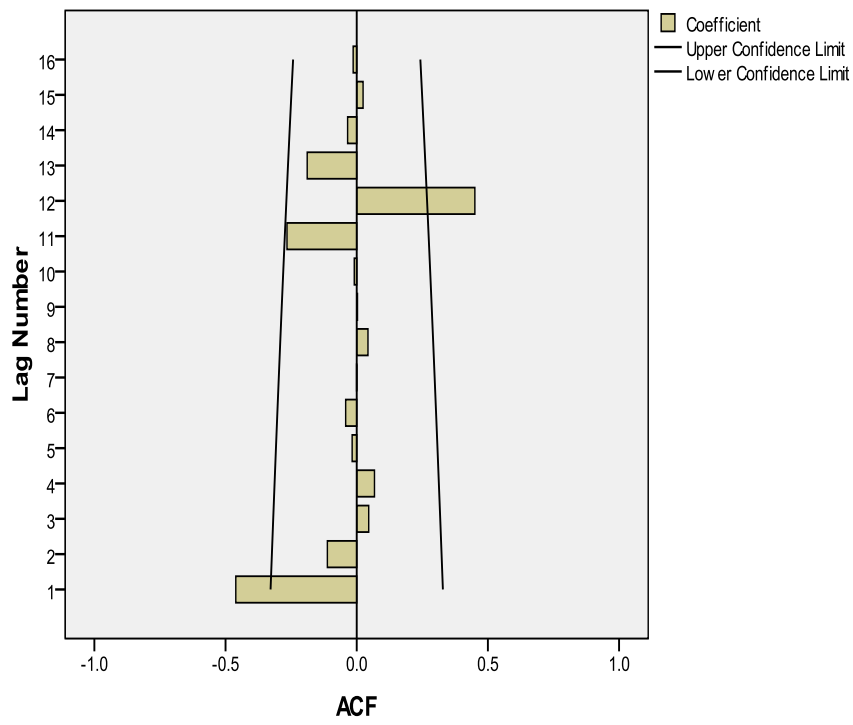
III. Analysis of Autocorrelation Test Results of foreign institutional Investment on Bombay Stock Exchange (BSE) from 01.01.2012 to 31.12.2014

Results of Autocorrelations of BSE SENSEX

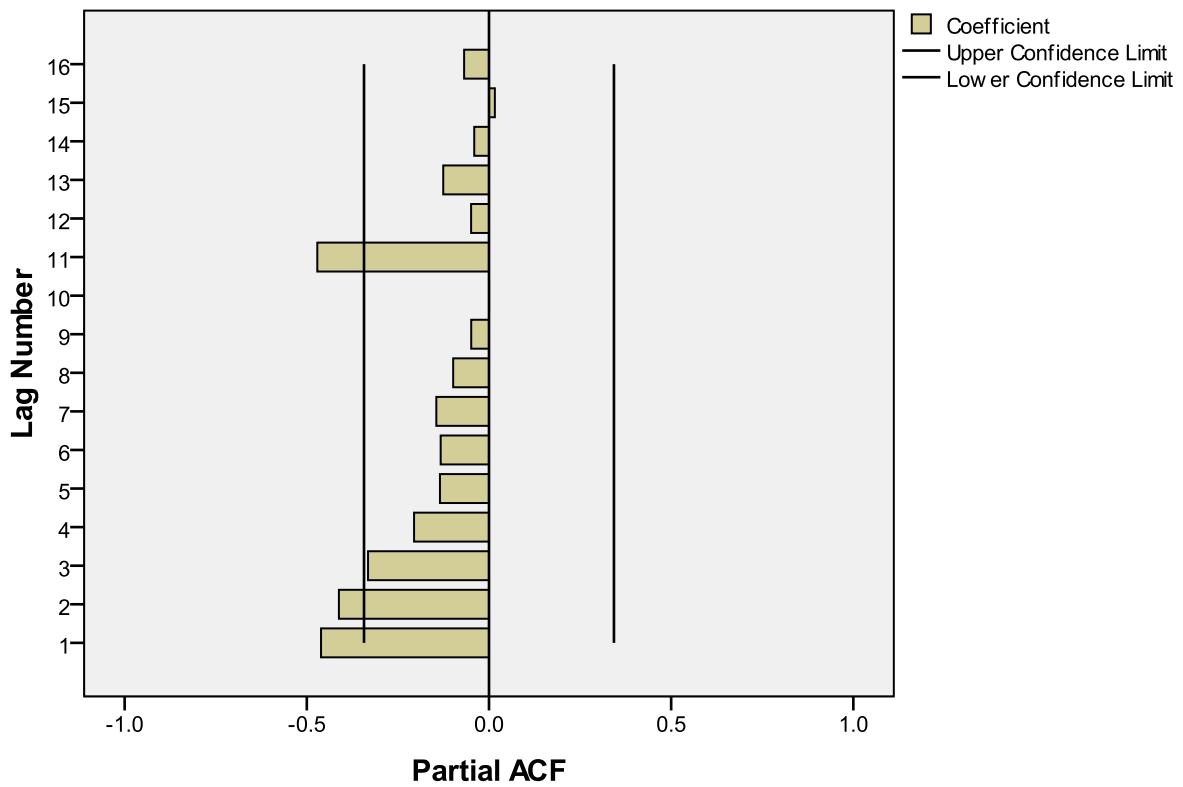


Results of Autocorrelation of FII

FII



FII



Interpretation

Initially these are significant spikes of ACF or PACF’s as shown above which indicate that the residuals are Gray noise. So that there is a significant pattern left in the time series. After that, there are no significant spikes of ACF or PACF’s of residual are White noise throughout the study period.

IV. Analysis of GARCH Test of Foreign Institutional Investment on Bombay Stock Exchange (BSE) from 01.01.2012 to 31.12.2014

Table 03 - Results of GARCH Test of Foreign Institutional Investment on Bombay Stock Exchange (BSE) from 01.01.2012 to 31.12.2014

FII			BSE		
VARIABLE	CO-EFFICIENT	STANDARD ERROR	VARIABLE	CO-EFFICIENT	STANDARD ERROR
C	0.197267	0.071826	C	6.51E-05	5.03E-05
Resid (-1)^2	-0.070618	0.011657	Resid(-1)^2	-0.148077	0.112837
GARCH(-1)	0.680442	0.113720	GARCH(-1)	1.133092	0.118461
Mean		-0.061510	Mean		0.004120
R-squared		-0.006982	R-squared		-0.007317
Adjusted R-squared		-0.069918	Adjusted R-squared		-0.070274
S.D. dependent variable		0.746898	S.D. dependent variable		0.048869
Akaike info criterion		2.193264	Akaike info criterion		-3.255645
Schwarz criterion		2.326579	Schwarz criterion		-3.122329
Probability		0.0000	Probability		0.0000

Source: Computed from E-Views software

Interpretation

From the Table – 03 the basic GARCH(1,1) results were depicted the three co-efficient in the variance equation are listed as C, the intercept, ARCH(1) the first lag of the squared return, GARCH (1), the first lag of the squared return, lag of the conditional variance.

The R-Squared of **FII** (-0.006982) and **BSE** (-0.007317) are less than one, it shows that the series are stationarity. This indicates that yesterday’s price as influences over today’s price.

The value Akaike info criterion is less than the Schwarz criterions value in **FII** and in **BSE** it indicates that the market is volatile.

Findings of the Study

The following are the finding of the study.

- 1) The results of the descriptive statistics of foreign institutional investment on Indian stock market indicate that the mean returns of both FII and BSE are positive.
- 2) The selected samples of FII and BSE were suffered with moderate risk during the study period.
- 3) As per the result of Augmented Dickey- Filler Test equation of foreign institutional investment on Indian stock market was in stationarity.
- 4) The study finds that initially there is a significant spike of ADF or PACF's indicates that the residuals are gray noise that is high fluctuation. After that, there is no significant spike of ACF and PACF's residuals are white noise throughout the study period.
- 5) The study finds that the FII on BSE has a less impact during the study period.
- 6) According to the result of GARCH (1, 1) Model is selected sample of FII on BSE has experienced the GARCH effect.
- 7) The study finds that there is a linear correlation between the impacts of foreign institutional investment on Indian stock market (BSE).

Suggestions of the Study:

The following are the suggestion of the study,

- 1) From the analysis, it is suggested that the risk avoider may prefer the FII since the fluctuation is normal.
- 2) The study suggests that, the RBI and other government agencies have to play their role to tackle this situation.

Conclusion:

Foreign Institutional Investments are very much needed for India. They are necessary for the continuous development of our country. The economy of our country has shown a better performance and has led to the economic growth due to the FIIs. Though there are threats from the Foreign Institutional Investments, we should be positive and see the future of our country.

References:

- 1) <http://ejbe.org/EJBE2010Vol03No06p57KAUR-DHILLON.pdf>
- 2) <http://www.indianjournals.com/ijor.aspx?target=ijor:ajrbf&volume=2&issue=4&article=002>