An Empirical Study on the Impact of the Foreign Institutional Investments (FIIs) on the Volatility of Bombay Stock Exchange (Sensex)

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Abstract
The foreign institutional investments have become an important factor impacting the stock market volatility. The fluctuations in the stock market(SM) affect the returns of the investors. Also one of the reasons of fluctuation is foreign institutional investments. This study is an aim to find the impact of FIIs on the Bombay Stock Exchange (Sensex). BSE is the oldest stock exchange of India and ranks 10th in term of market capitalization in the world. The tools used in the study is Augmented Dickey Fuller test to study the stationarity of the time series and the GARCH model has been used to study the impact of the FIIs on the volatility of the BSE-Sensex. The phase of the learn is from January 2015 to December 2019. Monthly information have be taken on behalf of research. The research study outcomes revealed that the FIIs have very important impact on the volatility of SM i.e. Bombay Stock Exchange- Sensex

Keywords: Volatility, FIIs Capital Flows, SENSEX, GARCH

1. Introduction

The stock exchange is an organized place where the investors and traders trade in the equity and debentures mostly. In general, the investment in stock market is considered very risky and analyst are doing all kind of research to understand the reasons for volatility of the market so as to minimize the risk of investment. The investors put their hard-earned money in the stock exchange and so it is very significant to understand the dynamics of the market. After the financial reforms in 1991, LPG, the foreign capital flows in the stock market has increased significantly. The volume of trades and investment by the FIIs has increased in last three decades. Most of the economist considers them a fair-weather friend, that is when market follows an upward trend they invest, and whenever there is a sign of trouble they exit. So, if we can find the relation between the investment by the FIIs impact on the stock market, this will give a solution to investors that whether the movement of FIIs in the volatility of stock market is important or not. The study is confined only to Bombay Stock Exchange Sensex.

2. Review of Literature

Joo& Mir (2014) in their research paper titled “Influence of FIIs Investment on Instability of Indian Stock Market: An Experimental examination” studied the impact of the FIIs on the NIFTY(NSE) and SENSEX(BSE). The stage of the learn was from January 1999 to December 2013 and monthly data of the time series were taken. The told used in the research were the ADF test and the GARCH model. The outcome of the investigate showed that there is important influence of the FIIs on the unpredictability of NIFTY(NSE) and SENSEX(BSE).

Kumar and Arora (2015) in their investigate manuscript titled “Impact of Foreign Institutional depositors on Indian Capital Market” deliberated the relationship between the FIIs and the returns of the National Stock Exchange. The stage of the learn was commencing January 2012 to November 2014. The ADF test and the GARCH model was used for the study and it concluded that there be no important modifies in the stock market proceeds & instability is considerably concentrated subsequent to the market was open to foreign investors.

QueenslyJeyanthi (2016) in research paper "Impact of FIIs on National Stock Exchange of India" deliberated the impact of the FIIs on the National Stock replace. The period of the learn was from 2000-2001- to 2014 – 2015. Correlation & regression statistical tool were used for the learn. The outcome of the study stated that the FIIs has constructive contact on the National stock exchange.

Abid and Jhawar (2017) in their examine document titled "Impact of Foreign Institutional Investors (FIIs) on Indian Capital Market" deliberated the impact of the FIIs on the National Stock Exchange. The period of the study was from 2006 to 2016 and the tools used in the learn were correlation and regression investigation. The study concluded that FII impact the NIFTY of National Stock Exchange and thus the Indian economy.

3. Objectives

To study the influence of the FIIs on the instability of the Bombay Stock Exchange (Sensex) Returns.

Research Methodology

The variables of the study are the Net FIIs and the Sensex returns. The phase of the learn is from January 2015 to December 2020. Monthly data of the time series is taken. First the stationarity of the time series variables is using the Augmented Dickey Fuller (ADF) Test as well as GARCH representation is used for the impact investigation of the Net FIIs on the Sensex returns.

Hypothesis:
H0: FIIs has no impact on the Sensex Returns
H1: FIIs impacts the Sensex Return.
Period of Study:January 2015 to December 2019

Analysis and Conclusion:

The data series is analyzed in the E-views software. The first test applies is checking of stationarity using the ADF test.

Null Hypothesis: FII has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.573804	0.0000
Test critical values:	1% level	-3.546099	
	5% level	-2.911730	
	10% level	-2.593551	

*MacKinnon (1996) one-sided p-values.

Table 1: ADF Test Results of FII

Null Hypothesis: SR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.433376	0.0000
Test critical values:	1% level	-3.546099	
	5% level	-2.911730	
	10% level	-2.593551	

*MacKinnon (1996) one-sided p-values.

Table 2: ADF Test Results of the SR

The test results of ADF test to test the presence of unit root was done on the Eviews software. Table 1 demonstrates that the P value is fewer than 0.05 and so the null hypothesis is Jdiscarded, and the conclusion is FII are stationary and do have the unit root. In Table 2 also the results of the ADF test demonstrates that the P value is fewer than 0.05 and so the null hypothesis is discarded, also the finish is SR is stationary & do not contain unit root.

The second step was to test the time series variable by using **GARCH model.**

Dependent Variable: SR
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 08/14/20 Time: 20:53
Sample: 2015M01 2019M12
Included observations: 60
Convergence achieved after 18 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(2) + C(3)*RESID(-1)^2 + C(4)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FII	2.26E-06	2.24E-08	100.9628	0.0000
		Variance Equation		
C	0.000100	0.000108	0.929412	0.3527
RESID(-1)^2	-0.133867	0.070191	-1.907177	0.0565
GARCH(-1)	1.109849	0.059542	18.63976	0.0000

4. GARCH Model Results

The results of the GARCH model shows that the ARCH term is rejected as it is more than 0.05 and the GARCH term is accepted as it is less than 0.05. Moreover, the p value of FII is less than 0.05, which reveals that the result is significant.

The volatility in Sensex is not influenced by the volatility information of the previous period. The volatility is influenced by the GARCH term i.e. the last period's volatility forecasted variance and the FIIs are also significant as per the results. This implies that the FIIs influences the volatility of the Sensex.

The conclusion infers that the FIIs influences the volatility of the BSE: Sensex.
The review of literature studied for the purpose also reveals that the volume of investments by the Foreign institutional savings is very high moreover the impact on the volatility of the SM is very high. A lot of

times the domestic investors returns suffers because of the uncertainty of investment by the FIIs in the SM. From my study, the outcome is that the FIIs will impact the volatility of the BSE (Sensex).

5. References

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