

Impact of FIIs Investment on Volatility of Indian Stock Market: An Empirical Investigation

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Abstract

The investment by Foreign Institutional Investors (FIIs) has become a dynamic force in the development of Indian stock market and is increasingly seen as an important cause of stock market volatility. This state of affairs has propelled researchers to study the nexus between FIIs capital flows and stock market volatility. In order to ascertain the link between the two, present study makes a modest attempt to develop an understanding of the FIIs investment and its impact on stock market volatility. The study is conducted using monthly time series on NIFTY, SENSEX and FIIs activity for a period of fifteen years spanning from January, 1999 to December, 2013. To check the non-stationarity of the time series the Augmented Dickey-Fuller (ADF) unit root test is applied. In present study, statistical tools like mean, variance, standard deviation, skewness and correlation analysis are used to examine the impact of FIIs impact on Indian stock market volatility. In addition to these tools, GARCH model is also used to study the impact of FIIs capital flows on stock market volatility. The study reveals that there is significant relationship between FIIs capital flows and stock market volatility. Moreover, FIIs investment has statistically significant influence on volatility of NIFTY and SENSEX, used as proxy to Indian stock market.

Keywords: Volatility, FIIs Capital Flows, NIFTY, SENSEX, GARCH

JEL Classification: G10, G14

1. Introduction

A critical challenge for any economy is the allocation of savings to available investment opportunities. Economies that do this well can exploit new business ideas to spur innovation, create jobs and wealth at rapid pace. In contrast, economies that manage this process poorly dissipate their wealth, fail to support business opportunities and witness decline in their economic growth rate. In fact, healthy investment in the economy has positive impact on economic growth and leads to enlarged market size, which in turn attracts further capital inflow. In this context, if domestic capital falls short of required capital investment in the economy, foreign capital inflow fulfils this gap and plays a critical role in explaining growth of the host country. It not only accelerates the economic growth by supplementing domestic capital but brings in various other benefits to the host country like technology, skill development and latest know-how.

The investment of capital that flows from one country to another country is known as foreign investment. Inflow of foreign investment is normally encouraged in the capital scarce economies because it complements and stimulates domestic investment. In India, foreign investment were allowed in 1991 either through stock market investment in listed companies referred to as Foreign Institutional Investors (FIIs) investment or directly in listed and unlisted companies referred to as Foreign Direct Investment (FDI). Among two former plays a dynamic role in shaping the stock market indices and stock prices of various companies in the host country. FDI is considered as a developmental tool and helps in achieving the self-reliance in various sectors, thereby leads to overall development of economy.

However, FDI affects the growth directly through capital formation, strengthening infrastructure, increasing productivity and generating employment opportunities while as FIIs investment affects the growth indirectly by improving equity market performance of the host country and also tells upon on their corporate governance issues. FIIs capital flows are often viewed as double edged sword. On one hand, in emerging economies that undergoing through phase of liberalization FIIs investment improves market efficiency and leads to decline in the cost of capital. On the other hand, it is argued by the policy makers and researchers, that FII's trades exacerbate volatility in the stock markets of the host country.

The capital investment by FIIs is motivated not only by the domestic and external economic conditions but also by short run expectations, primarily developed by what is known as 'market sentiment'. These short run expectations in return develop an element of speculation and high mobility in FII's capital flows and as such give rise to volatility in stock market of host country. The common belief about equity market is that price or return indices in stock markets are frequently subject to extended deviation from fundamental values with subsequent reversals and that these savings are largely influenced or created by the mobility of foreign capital flows. In such a situation small investors have serious concern that whether prices accurately reflect their expectations about the present value of future cash flows. This hypothesis is referred to as market rationality to be distinguished from informational efficiency. The persistent anomaly calls into question market rationality and is evidenced by stock market volatility, stock market crashes and market overreactions. Volatility is defined as the degree of price variation between the share prices during a particular period and is a symptom of a high liquid market. Though some quantum of volatility is desirable because it highlights the changing values across economic activities and it facilitates resource allocation yet volatility created by the flow of funds by FIIs is detrimental for stock markets and investors. Volatility characterizes the stability or instability of any random variable. It is a common statistical measure of depression around the average of any random variable such as earnings, market-to-market values, market value, losses due to default etc.

Volatility has an adverse impact on the investors' decisions pertaining to the effective allocation of resources and thereby on investment in stock markets. Volatility makes investors averse to hold various stocks due to increased uncertainty in stock markets. Investors, in turn demand higher risk premium so as to cover increased risk resulted because of market volatility. All this culminates in increase in cost of capital, which consequently lowers physical investment and affects growth of economy negatively. Volatility of stock market is matter of serious concern for investors in general and policy makers in particular because it creates panicky situation in the market. In Indian stock market significant portion of investment comes through FII mode. The FIIs and its outflow all depends on the return and sentiment of the market. The inflow of investment by them swell up the stock market indices and their exit brings down the market indices and as such creates huge fluctuations in the stock market of host country, resulting in volatility. It is therefore a multi dollar question to answer as to what is the impact of FIIs investment on stock market volatility. It is against this backdrop that present study has been undertaken to analyze the influence of FIIs investment on stock market volatility.

2. Review of Literature

Foreign capital flow is an important promoter of growth in its own right (Akinlo, 2004; Buckley et.al, 2002; De Mello, 1997; Narayan, 2007 and Borensztein et.al, 1998). In effect, foreign capital investment is argued to increase the level of domestic capital formation. This will give rise to increase market size and employment opportunities on one hand and leads to volatility in the market on the other hand. Researchers are divided over the impact of FIIs investment on the volatility of stock markets, some researcher argue that the investment by FIIs gave rise to volatility in the stock market (Karmakar, 2006; Upadhyay, 2006; Singh, 2004; Biswas, 2005; Bhattacharya and Mukherjee, 2005; Pal, 2005; Batra, 2003; Porwal and Gupta, 2006), while as others state that their arrival do have destabilizing impact on prices of various stocks (Kim and Singal, 1993; Radelet and Sachs, 1998; Banerjee and Sarkar, 2006; and Mohan,2006). FIIs buy when the market increases and sell when the market falls, such a behavior push the stock prices away from fundamentals as revealed by studies on contemporaneous relation between FIIs investments and equity returns, based on monthly data (Bohn and Tesar, 1996; Berko and Clark, 1997). Krishna (2009) reveals in his study that the liquidity as well as volatility was highly influenced by the FIIs investment.

The inflow of FIIs investment depends on stock market returns, rate of inflation and ex- ante risk. In this context, study by Kulwantraj, 2004 has shown that stock market returns and ex-ante risk are major determinants of FIIs investment and this study has also stated that the investment by FIIs has no positive impact on the real economy.

In recent times FIIs trading activities in Indian stock market has increased significantly and high turnover in stock market is mainly attributed to FIIs trading (Pal, 2004). Sultana and Pardhasaradhi (2012) examined the impact of flow of FDI and FIIs on Indian stock market by analyzing the impact on Sensex and Nifty. They used secondary data for the period of 11 years from 2001 to 2011 and used multiple regression and correlation analysis. The study found that there is high degree of statistically significant positive correlation between foreign capital flows and Indian stock market. There seems to have strong evidence that FIIs on daily basis have been positive investors and trend chasers at the aggregate level and FIIs does not have a destabilizing impact on the equity market (Batra, 2004).

Behera (2010) studied the effects of FIIs investment on equity return and volatility using ordinarily least squares GARCH model. The study found that FIIs investments have a positive impact on both liquidity and returns and GARCH estimates suggest FIIs investments increase volatility in Indian stock market. Mamta et al (2012) examined the impact of foreign institutional investment on stock market using statistical tool of Karl Pearson's coefficient of correlation. The study attempted to examine the pattern of FII s and its effect on volatility of BSE Sensex. It was observed that there is highly positive correlation between FIIs investment and Sensex. Anubha (2013) in his research studied the influence of FIIs investment on Indian stock market by utilizing daily FIIs investment data and daily reruns of Sensex and Nifty for the period from 2001 to 2010. The study used correlation and regression techniques and observed that FIIs investment have significant positive impact on stock market and on major stock indices. The findings also show that the degree of impact of FIIs varies among various sectors of the economy.

Gupta (2011) examined the rise or fall of Indian stock market due to FIIs investment and her study covered the period from April 2006 to February 2011. She used linear regression analysis and Granger Causality Test to examine the cause or effect of FIIs on Indian stock market. The results of her study showed that FIIs investment flows are unpredictable and its movement depends on market sentiment, hence it was observed that increased volatility associated with FIIs investments results in severe price fluctuations in Indian stock market. Existing literature on the subject reveals that FIIs investment and equity returns have strong significant positive correlation (Agarwal, 1997; Chakrabarti, 2001; Nair and Trivedi, 2003). However, given the huge volume of investments, the FIIs play role of market makers and book their profits i.e. they buy financial assets when the prices are declining and sell when prices are increasing (Gordon and Gupta, 2003). Kumar et al (2002) studied the role of FIIs investment in Indian equity market and concluded that FIIs and Indian mutual funds are the powerful force in shaping the market. Similarly, Rao (1999) also ascertained FIIs investment is influential force in the Indian stock market.

From the above review of literature it is evident that FIIs investments play a significant role in the Indian stock market, influences the stock prices, in turn do give rise to volatility and destabilize the market occasionally. However, sometimes FIIs investment do not have destabilizing power but effects the liquidity of the market. Furthermore, foreign capital flows have great contribution to impact the economic behavior of the countries in a positive way.

3. Objectives

The present study has been undertaken with the following objectives:

- To analyze the trend investment by FIIs in Indian stock market.
- To understand the relation between FIIs investments and stock market volatility.
- To analyze the factors influencing volatility

4. Research Methodology

This study examines the trend and impact of FIIs on the volatility of Indian stock market. The scope of the research comprises of information derived from secondary data from various sources e.g. economic intelligence, SEBI, websites, journals and reports. The Sensex and Nifty was selected as the representative of the Indian stock market as they are most widely used indexes by market participants as benchmark indexes and account for the major market capitalization of listed companies and data for these two indices was collected from the websites of Bombay Stock Exchange (BSE) and National Stock Exchange. The study is descriptive in nature. The monthly data was collected for a period of fifteen years from January, 1999 to December, 2013. Monthly closing index values were taken for this period and the influence of FIIs was assessed.

The data was analyzed by volatility measures namely standard deviation, correlation and GARCH model. Firstly, with the help of correlation analysis the relationship between FIIs investment and selected stock market indices has been analyzed. Secondly, the yearly volatility for selected indices was computed. Thirdly, study has tested stationarity of time series through unit root test. Finally, the researcher examined the influence of FIIs on indices with the help of GARCH model.

4.1 Stationary Test

The stationary or otherwise of a data series can strongly influence its behavior and properties e.g. persistence of shocks will be infinite for non-stationary series. If two variables are trending over time, a regression of one on the other could have a high R^2 even if the two are totally unrelated, which is spurious regression. A data series is said to be stationary series if its mean and variance are constant over a period of time and the covariance between the two extreme time periods does not depend on the actual time at which it is computed but it depends only on lag amidst the two extreme time periods. In present study, stationarity of the time series data used for evaluation of influence of FIIs investment on stock market volatility has been tested systematically to rule out the likely spurious results. Since the testing of the unit root of data series is a precondition to the existence of co-integration relationship, originally, the Augmented Dickey-Fuller (ADF) test are widely used to test for stationarity (Dickey and Fuller, 1979 and 1981). In order to test the null hypothesis of unit root through ADF test, the following equation is used:

$$\Delta y_t = \alpha_0 + \lambda y_{t-1} + \sum_{i=0}^p \beta \Delta y_{t-1} + u_t$$

In the above equation, the null hypothesis of $\lambda = 0$ against the alternative hypothesis of $\lambda < 0$ is tested. So, the null hypothesis of non-stationarity would be rejected, if, λ is negative and significantly different from zero.

4.2 Model Used

One of the main applied econometrics models used for analyzing volatility is the least square model. This is a natural choice, because applied econometricians are typically called upon to determine how much one variable will change in response to a change in some other variable. Increasingly, however, econometricians are being asked to forecast and analyze the size of the errors of the model. In this case, the questions are about volatility, and the standard tools have become the ARCH/GARCH models. The basic version of the least square model assumes that the expected value of all error terms, when squared, is the same at any given point. This assumption is called homoscedasticity, and it is this assumption that is the focus of ARCH/GARCH models. Data in which the variances of the error terms are not equal, in which the error terms may reasonably be expected to be larger for some points or ranges of the data than for others, are said to suffer from heteroskedasticity. ARCH/GARCH models treat heteroskedasticity as a variance to be modeled (Engle, 2001).

To explore the influence of FIIs investment on stock market volatility, the equation of econometric model employed in the present study is:-

$$RET_t = C_0 + C_1 RET(-1) + \varepsilon_t \quad (1)$$

$$h_t = b_0 + b_1 a \varepsilon_{t-1}^2 + b_2 h_{t-1} + b_3 NetFII_t \quad (2)$$

In the above equation RET_t is return of the asset at time t ; $RET(-1)$ is lagged return and ε_t is representing the residual returns.

In this model, the mean equation is written as a function of constant with an error term. Since σ_t^2 is the one – period ahead forecast variance based on past information, it is called the conditional variance. The conditional variance equation specified as a function of three terms:

- A constant term: C_0
- News about volatility from the previous period, measured as the lag of the squared residual from the mean equation: ε_{t-1} (the ARCH term)
- Last period forecast variance: σ_{t-1} (the GARCH term).
- FII stands for net FII equity investments in rupees million.

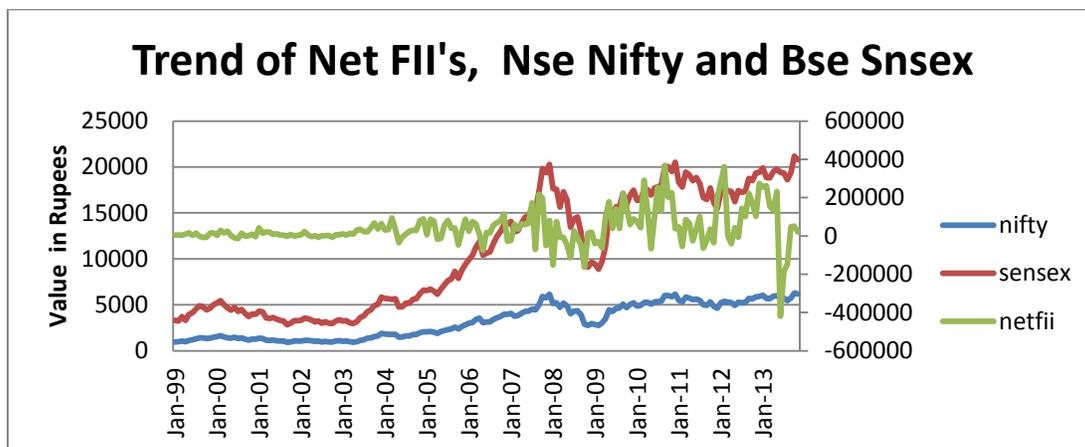
The conditional variance equation models the time varying nature of volatility of the residuals generated from the mean equation. This specification is often interpreted in a financial context, where an agent or trader predicts this period's variance by forming a weighted average of a long term average (the constant), the forecast variance from last period (the GARCH term), and information about volatility observed in the previous period (the ARCH term). If the asset return was unexpectedly large in either the upward or the downward direction, then the trader will increase the estimate of the variance for the next period.

5. Empirical Results and Findings

5.1 Trend Analysis

The trend analysis presented in Figure 1 suggests that FIIs capital flows have grown significantly in last one and half decade and this analysis depicts that FIIs have shown good interest in Indian stock market because of tremendous investment opportunities available in the Indian economy. The FIIs flows are determined by both external factors viz. available investment opportunities and return on investments in short and long run period and internal factors like political stability, state of the economic growth, lagged stock return and changes in credit rating of companies and country risk. The entry of FIIs in Indian markets dates back to 1992-93 i.e. the dawn of liberalization process in India. The FIIs investment has increased over the years with fluctuating trend depending on the market sentiment. The present study has taken NIFTY and SENSEX as representative to Indian stock market because they are both well recognized at national and international level. The trend of NIFTY, SENSEX and monthly Net FIIs flows in last fifteen years is presented in the graph reveals all three variables have moved together over the period of study but the fluctuations of FIIs flows is more pronounced than NIFTY and SENSEX. It is also observed from the graph that fluctuation in NIFTY and SENSEX follows same pattern as is observed in case of FIIs flows but reverse is not true for the same. This lime lights that trend in fluctuation in indices is corroborating with fluctuation in FIIs flows pattern, however, every time fluctuation in net FIIs is not matching with the trend in indices.

Figure 1: Graph



5.2 Volatility Analysis

Stock market volatility indicates the degree of price variation between the share prices during a particular period. A certain degree of market volatility is unavoidable, even desirable, as the stock price fluctuation indicates changing values across economic activities and it facilitates better resource allocation. But frequent and wide stock market variations cause uncertainty about the value of an asset and affect the confidence of the investor. The risk averse and the risk neutral investors may withdraw from a market at sharp price movements. Extreme volatility disrupts the smooth functioning of the stock market. The literature on stock market volatility is voluminous, but, some general conclusions on common stock risk have emerged from this research. The overall stock market volatility has fluctuated over the time with no discernible trend and some authors have argued that volatility is higher during the bear markets (Pandian and Jeyanthi, 2009).

Volatility of Indian stock market with reference to NIFTY and SENSEX which are very real representative of Indian capital market and volatility of Net FIIs flows has been analyzed by traditional measures i.e. variance, standard deviation and extreme volatility measure of skewness. The modeling of volatility will be done in next section which analyses the influence of FIIs flows on volatility together with other internal shocks of time series influencing volatility.

5.3 Traditional Volatility Analysis

The Table 1 contains the descriptive statistics of three series viz. NIFTY Returns, SENSEX Returns and Net FIIs Flows to India. This analysis presents an insight into the average; volatility, in terms of variation in the returns and distribution of the three time series data. The analysis presented in the table reveals that yearly mean of all the series is showing the upward trend and variance too has shown increasing trend. The standard deviation shows that there is variability among yearly standard deviation among the NIFTY, Net FIIs Flows. The standard deviation is highest in case of FIIs followed by SENSEX and NIFTY. The FIIs flows has witnessed highest monthly volatility during the years 2010, 2012 and 2013 and comparatively lowest volatility in the year 1999, and this connotes that FIIs flows have become much more volatile than past.

The volatility of SENSEX and NIFTY also started to increase at an alarming rate since 2007 and reached highest level in 2009 and this period shows highest volatility in study period and volatility started to decrease from the year 2010. Except few years in between the skewness for most of the years is positive for the all the three series. The positive skewness implies that the observations are distributed on the above side of the means i.e., higher probability of obtaining positive observations and vice versa.

Table: 1-Descriptive Statistics of FII's

Year	Mean			Variance			Standard Deviation			Skewness		
	FII's	Nifty	Sensex	FII's	Nifty	Sensex	FII's	Nifty	Sensex	FII's	Nifty	Sen-sex
1999	5796	1220	4167	706,48,576	35,851	4,13,386	8405	189	643	-0.26	-.16	-.31
2000	5749	1390	4502	1805,82,231	19,636	2,82,492	13438	140	532	0.4	.36	.35
2001	10859	1117	3476	1500,85,692	17,968	1,99,598	12251	134	447	1.65	.78	.78
2002	3015	1045	3231	646,34,721	4,174	37,782	8040	65	194	1.32	-.16	.05
2003	29875	1264	3968	4128,06,318	89,909	8,61,742	20318	300	928	0.75	.84	.78
2004	34898	1750	5552	14619,08,463	29,223	2,82,407	38235	171	531	0.11	.19	.33
2005	35467	2297	7498	20467,87,060	81,078	10,78,157	45241	285	1,038	-0.44	.57	.52
2006	34752	3420	11648	26872,47,806	1,19,560	17,63,932	51839	346	1,328	-0.7	.40	.47
2007	67,511	4681	15901	84403,32,533	6,88,387	69,72,254	91871	830	2,641	0.24	.81	.72
2008	-34773	4199	14,029	54447,71,570	8,26,869	98,41,587	73789	909	3,137	-0.66	-.57	-.49
2009	74136	4183	13941	81056,93,256	8,13,297	102,08,667	90032	902	3,195	-0.03	-.63	-.64
2010	149604	5462	18208	150802,92,310	1,93,359	21,18,747	122802	440	1,456	0.09	.38	0.43
2011	31126	5320	17724	59976,14,158	1,49,099	16,21,952	77444	386	1,274	0.81	-.50	-.47
2012	137904	5411	17831	164058,65,279	89,914	9,38,217	128085	300	969	0.26	.47	.43
2013	37103	5908	19727	410606,05,903	68,485	7,73,523	202634	262	880	-1.06	.18	.70

Source: Computed and Compiled from Data

5.4 Correlation Analysis

Pearson correlation analysis is used to study the degree of statistical relationship between the Net FIIs flows, NIFTY and SENSEX. Table 2 presents the output of correlation analysis, run for the 15 yearly monthly data of Net FIIs flows, NIFTY returns and SENSEX returns. Based on the results it can be deduced that there is moderate positive but highly significant correlation between FIIs flows and NIFTY (.337) and SENSEX (.331). The correlation is significant at 1 per cent level of significance. The exhibit reveals that FIIs investment has significant and positive relationship on the stock market volatility.

Table: 2 -Correlations Analyses

		Net FII Flows	NIFTY Monthly Close	SENSEX Monthly Close
Net FII Flows	Pearson Correlation	1	.337**	.331**
	Sig. (2-tailed)		.000	.000
	N	180	180	180

** . Correlation is significant at the 0.01 level (2-tailed).

5.5 Augmented Dickey Fuller (ADF) Test

Stationary of data is a precondition for the application of any econometric model. So first data series are tested whether it is stationary or not and Augmented Dickey Fuller (ADF) test has been applied for this purpose. First the check stationary of NIFTY and SENSEX returns is taken. The two null hypotheses are framed about the monthly returns of NIFTY and SENSEX which are tested at 1 per cent, 5 per cent and 10 per cent level of significance. The results generated by the test are exhibited in the Table 3.

The results of ADF test reveals that null hypothesis is rejected because the computed ADF test statistics is -12.61024 and -12.52275 for NIFTY returns and SENSEX return respectively are smaller than critical values -2.577945, -1.942614,-1.615522 at 1 per cent, 5 per cent and 10 per cent level of significance respectively, therefore the null hypothesis is rejected. Hence, it is concluded that the NIFTY and SENSEX monthly returns do not have a unit root problem and the series is stationary, which is significant at 1 per cent, 5 per cent and 10 per cent level of significance. After the confirmation of stationary nature of data series GARCH (1, 1) model is applied to examine the influence of internal and external shock in general and Net FIIs flows in particular on volatility.

Table: 3-Stationary Test

Null Hypothesis: NIFTY RETURN contains a unit root andSENSEX RETURN contains a unit root			
Augmented Dickey-Fuller (ADF) test statistic		t-Statistic	Prob.*
	NIFTY return	-12.61024*	0.0000
	SENSEX return	-12.52275*	0.0000
Test Critical Values	1% level	-2.577945	
	5% level	-1.942614	
	10% level	-1.615522	

Source: Computed Data

*indicates significant at 0.1, 0.05 and 0.01 marginal level.

5.6 GARCH Test

After confirmation of stationary nature of data series the estimated GARCH (1, 1) model is applied, using Net FIIs investment as independent variable in case of conditional variance equation. Though we have two equations one each for means and variance which are estimated together as a system, yet we have presented the results of variance equation only. The estimation is conducted for both NIFTY and SENSEX returns and the results are exhibited in Table 4. Part A reports the results using NIFTY return (Mean Values) equation to estimate volatility equation and part B reports the SENSEX variance equation results.

Table4 presents parameter estimates of Garch (1, 1) model for NIFTY and SENSEX returns. The variance equation gives the one period ahead forecast variance based on past information, known as conditional variance. In the above specification the conditional variance is a function of three terms viz constant term (C), information about volatility from previous period, last period forecasted variance and exogenous variable, which Net FIIs in case of our study. The GARCH results of NIFTY returns show that only GARCH term and Net FIIs is significant which indicates that current volatility is influenced by past volatility and Foreign Institutional Investment Flows are influencing the volatility of NIFTY returns and arch term which is information about volatility in previous period measured as lag of squared residual from mean equation, which is not significant at 5 percent level of significance. So the volatility of NIFTY is influenced by previous volatility and Net FIIs flows.

Table: 4-Parameter Estimates of Garch Models

Part A: Nifty Returns				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
Variance Equation				
C	4.358765	2.805205	1.553813	0.1202
RESID(-1)^2	0.011144	0.020729	0.537607	0.5908
GARCH(-1)	0.931703	0.045512	20.47152	0.0000
NET FIIs	-3.10E-05	1.13E-05	-2.736460	0.0062
Part B: Sensex Returns				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
Variance Equation				
C	54.44259	14.73144	3.695673	0.0002
RESID(-1)^2	-0.016461	0.099905	-0.164768	0.8691
GARCH(-1)	0.436777	0.276315	1.580719	0.0139
NET FIIs	-0.000173	6.29E-07	-275.0503	0.0000

Source: Computed Data

The GARCH results of SENSEX returns show the similar results as shown by NIFTY returns. As is evident from the results the arch term is not significant which shows that volatility of SENSEX is not influenced by information about volatility in previous period but last period's forecasted variance represented by GARCH term and Net FIIs is significant, so it exhibits that last periods volatility of SENSEX and Net FIIs are influencing the volatility of SENSEX. Thus, it is concluded that FIIs investments does have influence on the stock market volatility of India, which can be inferred from the results of volatility on NIFTY and SENSEX by FIIs flows.

6. Conclusion

Much of the perception about the adverse effects of trading by FIIs and volatility is based on hearsay and plausible conjectures, but there have been very few systematic studies of the relationship between FIIs trading and volatility. It was ascertained that that volatility of NIFTY and SENSEX has increased over a period but volatility has reached maximum during the financial crisis period then it again came down. The volatility of FIIs also has increased over the period particularly during crises period. Correlation analysis revealed that there is moderate low positive correlation between Net FIIs and NIFTY and SENSEX. From the results of GARCH test analysis, it was inferred that volatility of Indian stock market is influenced by the previous periods volatility and FIIs investment are also contributing significantly to the volatility of NIFTY and SENSEX, which are major indices representing Indian stock market. So results suggest that volatility of Indian stock market and FIIs has increased over the period of study but the volatility was maximum during financial down turn and then normalized to moderated levels.

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