IMPACT OF FII IN RECENT STOCK MARKET VOLATILITY

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ABSTRACT

The growth of relationship of interdependence between individuals and institutions across geographical and political boundaries through globalisation leads to increase of flow of investments capital. Globalisation refers to a process of increasing economic integration and growing economic interdependence between countries in the world economy. For a developing country, opening up of the stock market to FII can act as catalyst in improving efficiency of the market. As FII arrival is associated with the importation of sophisticated financial technology, adoption of the technology to the domestic environment, and greater investments in improving information processing and financial services. However these benefits should be weighted against uncertainties associated with opening up of the market. One of the major concerns is that the portfolio funds may lead to greater volatility in domestic stock prices. If foreign stock prices for any reason fluctuate the domestic prices will also respond to the fluctuations. This paper focuses on the impact of FIIs in the stock market volatility in recent times.

INTRODUCTION

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For a developing country, opening up of the stock market to FII can act as catalyst in improving efficiency of the market. As FII arrival is associated with the importation of sophisticated financial technology, adoption of the technology to the domestic environment, and greater investments in improving information processing and financial services. However these benefits should be weighted against uncertainties associated with opening up of the market. One of the major concerns is that the portfolio funds may lead to greater volatility in domestic stock prices. If foreign stock prices for any reason fluctuate the domestic prices will also respond to the fluctuations. This paper focuses on the impact of FIIs in the stock market volatility in recent times.

The concept of Volatility:

The volatility of an asset indicates the variability of its returns. Most academic studies have defined volatility in terms of statistical measures of the variability of stock price changes. An important aspect of volatility is its emphasis on the variability rather than the direction of price movement.

Factors affecting long-term volatility:

1. Corporate leverage
2. Personal leverage
3. Business conditions

Factors affecting short-term volatility:

1. Trading volume
2. Computerized trading
3. Noise trading
4. International linkages
5. Market makers
6. Takeovers
7. Supply of equities
8. The press

Profile of foreign portfolio investments:

The FII currently operating in India are different types. They are as follows:

1. Pension Funds
2. Mutual Funds
3. Trusts
4. Asset management companies etc.,

FIIs of different countries, predominantly American, began their operations in India. The member of registered FII as on Feb 20, 2004 stood at 533 (as per SEBIøs website accessed at end of Feb 2004). But only a small number of these registered FII are active in the market.

The prominent FII are Templeton, CSFB, HSBC, Morgan Stanley, Indian Fleming etc.,

Over the years, FII have been allowed the freedom to invest in any security on both primary and secondary markets and gradually they became an integral part of the Indian capital market.

It can be observed from monthly patterns in FII flow that the quarter Jan-Mar in any calendar year witnessesø strong inflows compared with other quarters. This is understable since most of the FII will revise their portfolio after Christmas.

The Indian capital market continued to attract FII as their registered net purchases of over Rs. 1,00,000 crores on cumulative basis till the trading weekend.

The FII made gross purchases of Rs. 4,23,104.7 crores and sale of Rs. 2,22,372.9 crore thus registering a net inflow of Rs. 1,00,732.9 crore, according the data available with SEBI.

In the current year, the gross purchases and sales were Rs.29, 899.5 crore and Rs. 23,270.2 crore respectively to record net inflow of Rs. 6,629.8 crore.

This is because according to Ambereesh Baliga, Vice-President, Karvy stock broking, õThis is the beginning of a correction and it should continue for while more. Lots of negatives are there on the horizen-FII flows slowing down due to year-end, the stamp paper scame and elections. Though, it looks like the intermediate down trend has come to an end, concerns over lack of institutional support and weak global markets stay partö

FII Investment for the Period of December 2009

Rs. in Crores

Date	Purchases	Sales	Net Investments	Weekly Average
01-12-09	2976.1	2276.2	699.8	3451.3
02-12-09	4548.8	2238.9	2309.9	
03-12-09	3914.9	2402.8	1512.1	
04-12-09	2365.2	1936.5	428.7	
07-12-09	2303.8	1858.9	444.9	2355.0
08-12-09	1937	1939.9	-2.9	
09-12-09	2873.7	1879.6	994.1	
10-12-09	2105.8	2402.7	-296.9	
11-12-09	2554.8	2178.2	376.7	
14-12-09	2167.8	1825.7	342	2208.6
15-12-09	1830.1	1655.6	174.5	
16-12-09	2295.4	2181.4	114	
17-12-09	2215.1	2354.4	-139.3	
18-12-09	2534.6	2045.5	489.1	
21-12-09	2234.8	2318.2	-83.4	1987.6
22-12-09	1837.4	2095.7	-258.3	
23-12-09	1410.8	1185.8	224.9	
24-12-09	2467.5	1114	1353.5	
29-12-09	1594.7	783.4	811.3	1596.0
30-12-09	1776.1	1391.7	384.5	
31-12-09	1417.2	1063.4	353.9	
01-12-09	2976.1	2276.2	699.8	3451.3

FII INVESTMENTS – DECEMBER 2009

4000

1000

Net Investment
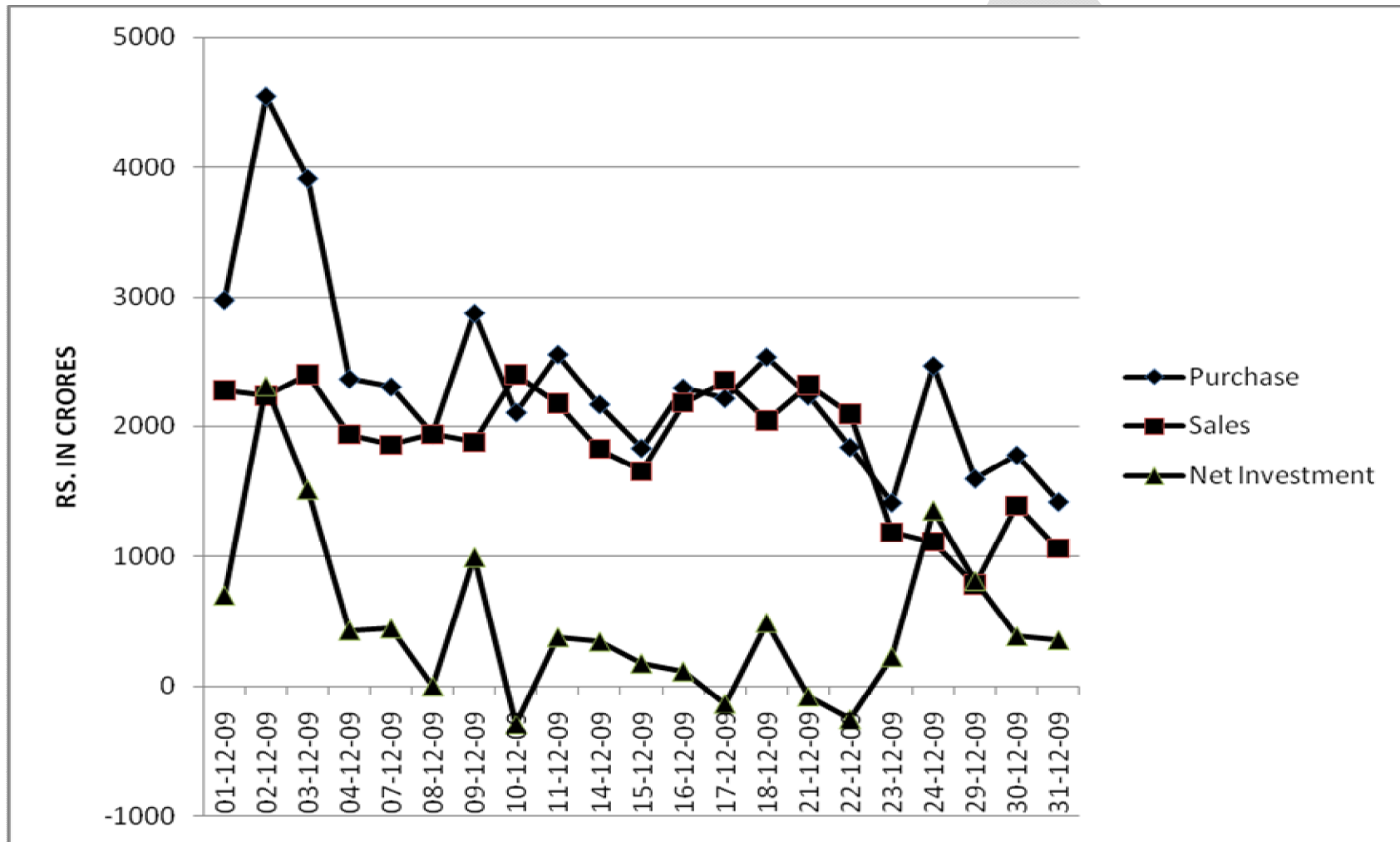
S&P CNX Nifty-December 2009

Date	Close	Change	Weekly Average
01-12-09	6356.3	1323.60	6355.67
02-12-09	6357.9	1.60	
03-12-09	6368.38	10.48	
04-12-09	6340.1	-28.28	
07-12-09	6287.74	-52.36	6,348.56
08-12-09	6388.56	100.82	
09-12-09	6343.96	-44.60	
10-12-09	6372.06	28.10	
11-12-09	6350.5	-21.56	
14-12-09	6336.14	-14.36	6,257.14
15-12-09	6246	-90.14	
16-12-09	6257.11	11.11	
17-12-09	6256.77	-0.34	
18-12-09	6189.67	-67.10	
21-12-09	6146.13	-43.54	6,287.77
22-12-09	6189.52	43.39	
23-12-09	6386.57	197.05	
24-12-09	6428.86	42.29	
29-12-09	6440.68	11.82	6,438.46
30-12-09	6417.72	-22.96	
31-12-09	6456.97	39.25	

S&P CNX NIFTY DECEMBER 2009
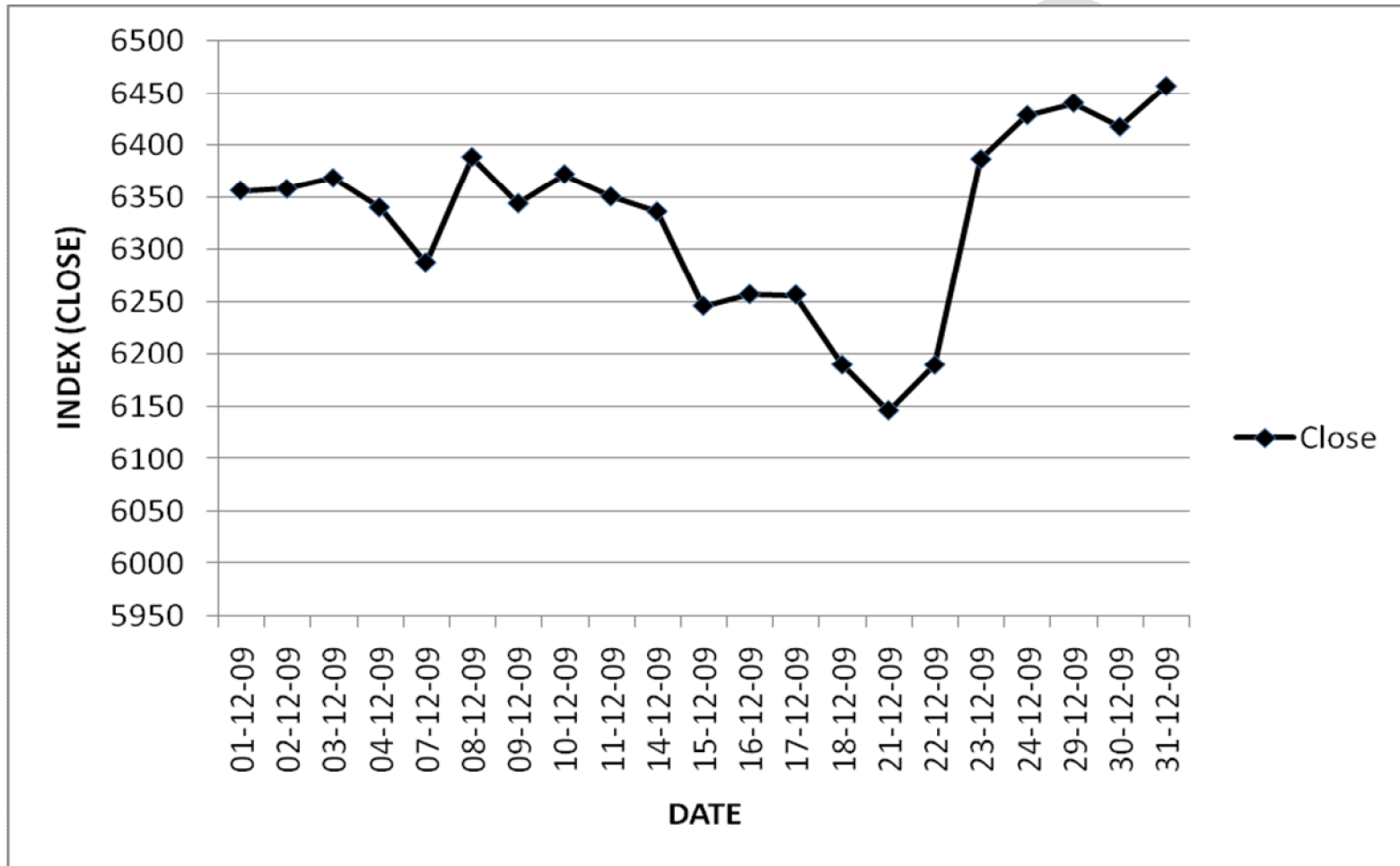
BSE Sensex - December 2009

Date	Close	Change	Weekly Average
01-12-09	17,198.27	272.05	17163.85
02-12-09	17,169.91	-28.36	
03-12-09	17,185.68	15.77	
04-12-09	17,101.54	-84.14	
07-12-09	16,983.14	-118.40	17,128.88
08-12-09	17,227.68	244.54	
09-12-09	17,125.22	-102.46	
10-12-09	17,189.31	64.09	
11-12-09	17,119.03	-70.28	
14-12-09	17,097.55	-21.48	16,900.31
15-12-09	16,877.16	-220.39	
16-12-09	16,912.77	35.61	
17-12-09	16,894.25	-18.52	
18-12-09	16,719.83	-174.42	
21-12-09	16,601.20	-118.63	16,971.23
22-12-09	16,692.00	90.80	
23-12-09	17,231.11	539.11	
24-12-09	17,360.61	129.50	
29-12-09	17,401.56	40.95	17,403.40
30-12-09	17,343.82	-57.74	
31-12-09	17,464.81	120.99	

BSE SENSEX - DECEMBER 2009
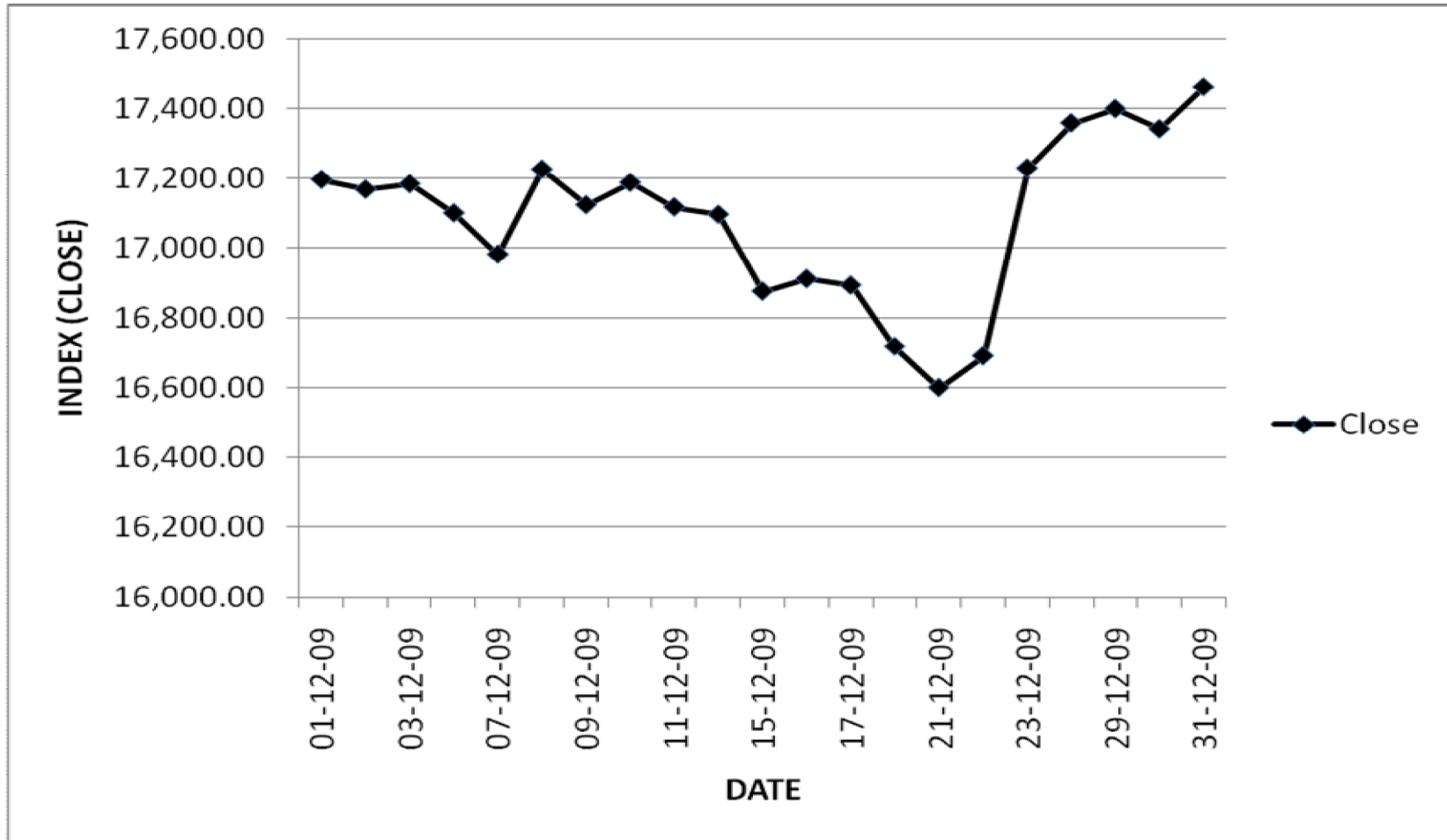
RESEARCH OBJECTIVE

This empirical work aims to study the changes in volatility (if any) of the stock market with reference to increase (or) decrease in the volume of FIIs investments.

Data:

The data used to test the volatility changes comprises with S&P CNX Nifty and BSE Sensex, December 2009.

METHODOLOGY

The difference between BSE Sensex, S&P CNX Nifty with reference to FII investment for December 2009 is significant at 1% level.

To test the normality, Kolmogrov – Smirnov Goodness of Fit Test was applied.

To test whether the difference is statistically significant and t test is performed and t calculated value is 18.867 for Nifty and 70.875 for Sensex whereas t critical value is 2.831 at 1 percent level of significance. The volatility of Indian stock market before and after the arrival of FIIs is computed as per the methodology described by Hull (1996a) where volatility is estimated from daily returns. The details of the model is shown below:

Let n = number of observations
S_i = stock index at the end of ith interval (i=0,1…..n)
T = length of time interval in days and

$$U_1 = L_n\left(\frac{S_i}{S_{i-1}}\right) \text{ for i-l… í   n}$$

Since $S_i = S_{i-1}e^{ut}$ ut is the continuously compounded return in the ith interval. The estimate, S of the standard deviation of the ut is given by

$$S = \sqrt{\frac{1}{n-1}\sum_{i-1}^{n}(Ut - \overline{U})^2} \quad \text{or}$$

$$S = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}U^2t - \frac{1}{n(n-1)}\left[\sum_{i=1}^{n}Ut\right]^2}$$

Where $\overline{U}$ is the mean of uts.

Hull (1996b) shows that stock prices follows log normal property therefore the standard deviation of the above u_iø's is $\sigma\sqrt{T}$. The variable, s is therefore an estimate of $\sigma\sqrt{T}$. It follows that σ, can be estimated as S*, where $S* = \dfrac{S}{\sqrt{T}}$ the standard error of this estimate is approximately $\dfrac{S*}{\sqrt{2n}}$. This method is used to estimate volatility of Indian stock market.

	S&P CNX Nifty	BSE Sensex
Calculated T value	334.16	331.80
Table Value at 1% level	2.831	

	Volatility in percent	Standard Error in percent
Nifty	0.000769	18.94
Sensex	0.000786	51.50

CONCLUSION

It could be inferred from the analysis that volatility in Indian stock market due to the arrival of FIIs is also unavoidable. By applying Kolmogrow Simirnov one sample test for normality it was found that the Nifty and Sesex are not normal. There is some assignable cause present in the volatility of Nifty and Sensex.

Volatility of Nifty for the flow of FIIs is consistent as compared to the volatility of Sensex for the flow of FIIs in the month of December 2005. The assignable causes are more in Sensex than in Nifty since the Standard Error of the volatility of Nifty if less than the Standard Error of the volatility of Sensex.

REFERENCES

Abigyan ó Vol No. 3- December, 2009
Business Line óDecember, 2009
Causal relationship between foreign institutional investment and Indian stock market-
        Research paper by SubarnaDey.
Economic Times ó December, 2009
Foreign Institutional Investments: Stabilizing or Destabilizing? S.S.S. Kumar ó Abhigyan
        Vol. XX No. 3 ó Dec 2002.
Stock market volatility in India ó Harvinder Kaur