

Impact of Foreign Institutional Investments on S&P CNX Nifty

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Abstract

Foreign Institutional Investors (FIIs) have been gaining importance in the Indian stock market in the last few years. As the Indian stock market is integrating with the world's stock markets FIIs have become one of the major players in the Indian stock market. FIIs flows will continue to be a major influence on the Indian stock market. The study has attempted to test the impact of FIIs monthly net flows on Nifty index. This study is descriptive one based on the secondary data is used for conducting this research. The data is analyzed using statistical tools like, Correlation and Regression. The dependent variable is Nifty index, and the independent variable is FIIs monthly net flows.

The broad conclusions are drawn. The Correlation techniques have revealed that FIIs monthly net flows and Nifty index are highly positively correlated except in one period. Regression results infer that FIIs monthly have a significant impact on both the Nifty index. The study provides suggestions to the investors, FIIs brokers and the regulators. The study thus corroborates the views that FIIs are going to be the major players in the Indian stock market in the future.

Keywords: Foreign Institutional Investors, Stock Market, Nifty, Correlation, Regression

1. Introduction

India is one of the top five economies in the world in terms of market potential and is placed above countries like France, Italy, Russia and the United Kingdom. India is also ranked as the third biggest economy in Asia in terms of gross domestic product. All these make investment in India a lucrative option for the investors across the world. The investment market in India offers lots of possibilities for the investors as the level of purchasing power is improving over time. The investors stand to gain in each and every areas of business in India.

The S&P CNX Nifty is the headline index on the National Stock Exchange of India Ltd. (NSE). The S&P CNX Nifty tracks the behavior of a portfolio of blue chip companies, the largest and most liquid Indian securities. It includes 50 of the approximately 1430 companies listed on the NSE, captures approximately 65% of its float-adjusted market capitalization and is a true reflection of the Indian stock market.

The S&P CNX Nifty covers 22 sectors of the Indian economy and offers investment managers exposure to the Indian market in one efficient portfolio. The index has been trading since April 1996 and is well suited for benchmarking, index funds and index based derivatives. The S&P CNX Nifty is owned and managed

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by India Index Services and Products Ltd. (IISL), which is a joint venture between the NSE and CRISIL. IISL is India's first specialized company focused on the index as a core product. IISL has a licensing and marketing agreement with Standard & Poor's, who are world leaders in index services.

A Foreign Institutional Investor (FII) is an institution established or incorporated outside India which proposes to make investment in securities of companies incorporated in India ("Indian Companies"). FIIs seeking to invest in Indian Companies are required to be registered with the Securities and Exchange Board of India (SEBI). FII investment is frequently referred to as hot money for the reason that it can leave the country at the same speed at which it comes in. In countries like India, statutory agencies like SEBI have prescribed norms to register FIIs and also to regulate such investments flowing in through FIIs.

2. Determinants of Foreign Institutional Investment

After the initiation of economic reforms in the early 1990s, the movement of foreign capital flow increased very substantially. There are a lot of factors that determine the nature and cause of foreign institutional investment in a country a few of them being inflation exchange rate equity returns, government policies, price earning ratio and risk. Now if we try to analyze the relation of each of these factors with the level of foreign inflow in the country, we might have a better understanding. Let us broadly classify the factors into inflation, risk and stock market returns and understand the basic principle behind the inflows.

2.1 Equity Returns- An increase in the return in the foreign market will induce investors to withdraw from the Indian (domestic) stock market to invest in the foreign market. Investors are believed to follow a higher return, hence when the return in the domestic market increases, FII flows to the domestic market. While the flows are highly correlated with equity returns in India, they are more likely to be the effect than the cause of these returns. It is assumed that the equity returns have a positive impact on the FII inflow but foreign investors can also get involved in profit booking. They can buy financial assets when the prices are declining, thereby jacking-up the asset prices and sell when the asset prices are increasing and hence be the cause of such returns so making it more of a bi-directional relationship.

2.2 Risk- Investors are considered to be risk averse, hence when risk in the domestic market increases they will withdraw from the domestic market, when risk in the foreign market increases, investors will withdraw from the foreign market and invest in the Indian (domestic) market. Investments, either domestic or foreign, depend heavily on risk factors. Hence, while studying the behavior of FII, it is important to consider the risk variable. Risk can be divided into ex-ante and unexpected risk. While the ex-ante risk certainly has an inverse relation with the foreign investment nothing can be clearly said about the unexpected risk.

2.3 Inflation- The inflation no doubt has an inverse relation with the foreign investment inflow as the investor would keep in mind the purchasing power of the funds invested and as inflation increase i.e. the purchasing power declines the investor is most likely to withdraw his money. When inflation in the domestic country increases, the purchasing power of the funds invested declines, hence investors will withdraw from the

domestic market. Similarly, when inflation in the foreign country increases, the purchasing power of funds invested in the foreign country declines, causing institutional investors to withdraw from the foreign market and make investment in the domestic (Indian) market.

2.4 Exchange Rate - When the value of the home currency is stronger the FII investments will also increase as the percentage of returns the FII get automatically increases and visa versa So it can be said that the inflation and risk in the domestic country and return in the foreign country adversely affect the FII flowing to the domestic country, whereas inflation and risk in the foreign country and return in the domestic country have a favorable effect on the flow of FII.

3. Literature Support

Classens & Rhoe (1993), in their study investigated the stock performance in emerging markets in relation to increase in their accessibility by foreign investors. Kishor (1997) studied the effect of the movements of FIIs flows on the Indian stock market. The main emerging feature of India's equity market was its gradual integration with the global market and its consequent problems due to the hot money movement by Foreign Institutional Investors (FIIs). Therefore, policy measures to 'develop' equity market should aim to encourage small domestic investors to participate in it and counter the tendency of the FIIs to destabilize the emerging equity market. J.S. Pasricha and Umesh.C.Singh in 2001, tried to analyze the impact of FIIs investment on Indian capital market. Their study revealed that FII are here to stay and have become the integral part of Indian capital market. Their entry has led to greater institutionalization of the market. They have brought transparency in the market operations. Kumar (2001) did an excellent investigation on the effects of FIIs on the Indian stock market. The main objective of the study was to examine the casual relationship between the net FII investments and Indian stock market represented by Sensex. For the FII investments, the author had taken only equity investments and not the debt market investments. Suresh Babu and Prabheesh (2008) examined the dynamic interaction between FII flows and stock market returns in Indian stock market. Using daily data from January 2003 to February 2007, VAR framework and Granger causality test, they found the existence of bidirectional causality between FII flows and stock returns. Further analysis through impulse response function indicated that FII flows are more stock return driven.

4. Statement of the Problem

The goal of international investment in a country like India is to expand the availability of capital in the form of equity and debt. Theoretically it is argued that the primary motive of international investors is to diversify the risk and to seek better returns on their investments at the available opportunity that need prevail in a developing country than in a developed nation. The reforms that were introduced in developing countries made them financially integrated internationally and attractive to Foreign Institutional Investors (FIIs). Another related issue is the volatility of host country's stock markets. That is, to what extent FIIs buying & selling of securities determine the volatility of S&P CNX NIFTY. To find an answer to these the trend has to be captured by identifying and examining the relevant variables. In

essence, that has to be understood in a proper prospective is the real impact of FIIs net flows on the S&P CNX NIFTY Index and India's Volatility Index (VIX).

5. Need for the Study

The Indian Stock Markets in the last three years have witnessed both upward and downward trends and one of the major reasons for both of it were FIIs net flows. The maximum number of retail investors burned their fingers very badly in the downward trend. It has become very important for the retail investors to know the relationship between the FIIs and the main stock exchange of India(S&P CNX NIFTY) and the latest instituted Volatility index(VIX). The study enables them to take appropriate investment decisions .Further it will motivate them to contribute their small savings and surplus towards the capital market thus making the market more liquid, effective and transparent. These activities may increase the number of participants in the capital market and securities listed in the capital market may actively trade. Ultimately it will help the economic development of the country.

6. Research Questions

- 6.1 Is there a relationship between FIIs monthly net flows in equity market and S&P CNX NIFTY index movements?
- 6.2 Is there an impact of monthly net flows of FIIs in equity market on S&P CNX NIFTY index?

7. Objectives of the Study

The overall objective of the study is to analyze the impact of FII investment on S&P CNX NIFTY movements. The specific objectives of the study are as follows:

- 7.1 To examine the relationship between FIIs monthly net flows in equity market and S&P CNX NIFTY monthly movements.
- 7.2 To test the impact of monthly net flows of FIIs in equity market on S&P CNX NIFTY monthly movements.

8. Methodology of the Study

8.1 Sources of Data

The study is purely based on secondary data collected from journals books and websites. The data relating to monthly movements in Nifty have been collected from NSE website. Foreign Institutional Investors (FIIs) monthly net flows data were collected from websites of SEBI, Money Control and Yahoo Finance (India) and various issues of SEBI bulletin.

8.2 Period of Study

The period is between from October 2006 to September 2009 and is used to examine the relationship between FIIs net fund flows and S&P CNX NIFTY. It also studies the impact of FIIs net fund flows on S&P CNX NIFTY.

9. Tools used for the Analysis

The impact of FIIs net flows on S&P CNX NIFTY was determined with the help of the following tools.

1. Pearson's Correlation
2. Linear Regression

10. Analysis and Discussion

The analysis for the relationship between FIIs monthly net flows and Nifty monthly movements and the impact of FIIs monthly net flows on Nifty monthly movements has been done for a period of three years(October 2006—September 2009). These three years have been further segregated into six periods of six months each. The respective periods have been named according to the market conditions prevailing in that period. The phases are as follows:

- A. Period 1—October 2006- March 2007--- Stability Phase
- B. Period 2—April 2007- September 2007--- Bull Phase
- C. Period 3—October 2007- March 2008--- Swinging Phase
- D. Period 4—April 2008- September 2008--- Bear Phase
- E. Period 5—October 2008- March 2009--- Recession Phase
- F. Period 6—April 2009- September 2009--- Recovery Phase

10.1 Analysis of Impact of FIIs Monthly Net Flows on Nifty Monthly Movements (6 Phases)

A. Period 1—October 2006 – March 2007- Stability Phase

Table 1: Relationship between FIIs Monthly Net Flows and Nifty Monthly Movements

		Correlations	
		FII0107	NIFTY0107
FII0107	Pearson Correlation	1	-.122
	Sig. (2-tailed)		.817
	N	6	6
NIFTY0107	Pearson Correlation	-.122	1
	Sig. (2-tailed)	.817	
	N	6	6

From the above table 1 it is inferred that there is a very low degree of correlation between FIIs monthly net flows and Nifty monthly movements during the Stability Phase. The calculated r value (-.122) shows that Nifty monthly movements are negatively correlated with FIIs monthly net flows. With the increase in FIIs monthly net flows there is a slight chance of a decrease in Nifty index and vice versa. So we reject the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 2: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements-Regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.122 ^a	.015	-.231	217.87518

a. Predictors: (Constant), FII0107

**Table 3
ANOVA^b**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2892.568	1	2892.568	.061	.817 ^a
	Residual	189878.4	4	47469.596		
	Total	192771.0	5			

a. Predictors: (Constant), FII0107

b. Dependent Variable: NIFTY0107

Table 4
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	54.643	109.546		.499	.644
	FII0107	-.006	.025	-.122	-.247	.817

a. Dependent Variable: NIFTY0107

The above table portrays that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is not meaningful since it has an insignificant F value of .061 (Table 3). The r^2 value is found to be .015 in table 2, which means there is a negligible (1.5) percentage chance of the Nifty variable being explained by the FIIs variable. Moreover the significance value of .817 in table 4 is also more than 5% (.05) level of significance which shows that FIIs net flows does not have a positive impact on the Nifty monthly movements. So we reject the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

B. Period 2—April 2007- September 2007- Bull Phase

Table 5 : Relationship between FIIs Monthly Net Flows and Nifty Monthly Movements

Correlations

		FII0207	NIFTY0207
FII0207	Pearson Correlation	1	.743
	Sig. (2-tailed)		.091
	N	6	6
NIFTY0207	Pearson Correlation	.743	1
	Sig. (2-tailed)	.091	
	N	6	6

Table shows that there is a high degree of correlation between FIIs monthly net flows and Nifty monthly movements during the Stability Phase. The calculated r value (.743) shows that Nifty monthly movements are positively correlated with FIIs monthly net flows in this phase. Nifty movements move in the same direction of the FIIs monthly net flows. With the increase in FIIs monthly net flows there is a good chance of an increase in Nifty index and vice versa. So we accept the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 6: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements - Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.743 ^a	.552	.440	173.90579

a. Predictors: (Constant), FII0207

Table 7
ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148864.9	1	148864.949	4.922	.091 ^a
	Residual	120972.9	4	30243.225		
	Total	269837.9	5			

a. Predictors: (Constant), FII0207

b. Dependent Variable: NIFTY0207

Table 8
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	68.759	94.730		.726	.508
	FII0207	.018	.008	.743	2.219	.091

a. Dependent Variable: NIFTY0207

From the above table it is clear that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is not meaningful since it has an insignificant F value of 4.922 in table 7. The r^2 value is found to be .552 (Table 6), which means that 55.3% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the significance value of .091 (Table 8) is also more than 5% (.05) level of significance which shows that FIIs net flows does not have a positive impact on the Nifty monthly movements. So we reject the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

C. Period 3—October 2007- March 2008--- Swinging Phase

Table 9: Relationships between FIIs Monthly Net Flows and Nifty Monthly Movements

Correlations

		NIFTY0108	FII0108
NIFTY0108	Pearson Correlation	1	.934**
	Sig. (2-tailed)		.006
	N	6	6
FII0108	Pearson Correlation	.934**	1
	Sig. (2-tailed)	.006	
	N	6	6

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

The above table express that there is a very high correlation between FIIs monthly net flows and Nifty monthly movements during the Swinging Phase. The calculated r value (.934) shows that Nifty monthly movements are highly positively correlated with FIIs monthly net flows. Both the variables move in the same direction. So we accept the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 10: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements - Regression**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.934 ^a	.872	.840	257.81984

a. Predictors: (Constant), FII0108

Table 11
ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1816304	1	1816304.362	27.325	.006 ^a
	Residual	265884.3	4	66471.071		
	Total	2082189	5			

a. Predictors: (Constant), FII0108

b. Dependent Variable: NIFTY0108

Table 12
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-92.844	105.494		-.880	.429
	FII0108	.054	.010	.934	5.227	.006

a. Dependent Variable: NIFTY0108

From the above tables it is found that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is meaningful since it has a significant F value of 27.325 in table 11. The r² value is found to be .872 (Table 10), which shows that 87.2% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the significance value of .006 (Table 12) is also less than 5% (.05) level of significance which shows that FIIs net flows does have a positive impact on the Nifty monthly movements. So we accept the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

The Regression equation is as follows: $\hat{Y} = a + b_x$

Where \hat{Y} = estimated value of Y (Nifty monthly movements)

a = constant value; b = coefficient of X; X = FIIs monthly net flows

\hat{Y} (Estimated value of Nifty monthly changes) = -92.844 + .054*FIIs monthly net flows

D. Period 4 —April 2008- September 2008--- Bear Phase

Table 13: Relationship between FIIs Monthly Net Flows and Nifty Monthly Movements**Correlations**

		NIFTY0208	FII0208
NIFTY0208	Pearson Correlation	1	.987**
	Sig. (2-tailed)		.000
	N	6	6
FII0208	Pearson Correlation	.987**	1
	Sig. (2-tailed)	.000	
	N	6	6

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

The above table 4.7 indicates that there is a very high degree of correlation between FIIs monthly net flows and Nifty monthly movements during the Bear Phase. The calculated r value (.987) shows that Nifty monthly movements are very highly positively correlated with FIIs monthly net flows. So we accept the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 14: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements - Regression**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.987 ^a	.975	.969	84.06762

a. Predictors: (Constant), FII0208

Table 15**ANOVA^b**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1102019	1	1102019.434	155.931	.000 ^a
	Residual	28269.456	4	7067.364		
	Total	1130289	5			

a. Predictors: (Constant), FII0208

b. Dependent Variable: NIFTY0208

Table 16**Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	318.784	50.017		6.374	.003
	FII0208	.107	.009	.987	12.487	.000

a. Dependent Variable: NIFTY0208

From the above tables it is understood that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is meaningful since it has a significant F value of 155.931 in table 15. The r2 value is found to be .975 (Table 14) which shows that 97.5% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the significance value of .000 (Table 16) is also less than 5% (.05) level of significance which shows that FIIs net flows does have a high positive impact on the Nifty monthly movements. So we accept the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

The Regression equation is as follows: $Y = a + bX$

Where \hat{Y} = estimated value of Y (Nifty monthly movements)
 a = constant value; b = coefficient of X; X = FIIs monthly net flows

\hat{Y} (Estimated value of Nifty monthly changes) = $318.74 + .107 * \text{FIIs monthly net flows}$

E. Period 5—October 2008- March 2009--- Recession Phase

Table 17: Relationship between FIIs Monthly Net Flows and Nifty Monthly Movements

Correlations

		FII0109	NIFTY0109
FII0109	Pearson Correlation	1	.994**
	Sig. (2-tailed)		.000
	N	6	6
NIFTY0109	Pearson Correlation	.994**	1
	Sig. (2-tailed)	.000	
	N	6	6

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

The above table concluded that there is a very high degree of positive correlation exists between FIIs monthly net flows and Nifty monthly movements during the Recession Phase. The calculated r value (.994) shows that Nifty monthly movements are very highly positively correlated with FIIs monthly net flows. So we accept the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 18: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements - Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.994 ^a	.987	.984	58.99418

a. Predictors: (Constant), FII0109

Table 19

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1067810	1	1067810.284	306.814	.000 ^a
	Residual	13921.253	4	3480.313		
	Total	1081732	5			

a. Predictors: (Constant), FII0109

b. Dependent Variable: NIFTY0109

Table 20

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	143.340	29.336		4.886	.008
	FII0109	.083	.005	.994	17.516	.000

a. Dependent Variable: NIFTY0109

It is understood from the above table that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is meaningful since it has a significant F value of 306.814 in table 19. The r2 value is found to be .987 (Table 18) which shows that 98.7% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the significance value of .000 in table 20 is also less than at 5% level of significance which shows that FIIs net flows does have a high positive impact on the Nifty monthly movements. So we accept the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

The Regression equation is as follows: $\hat{Y} = a + bX$

Where \hat{Y} = estimated value of Y (Nifty monthly movements)
 a = constant value; b = coefficient of X; X = FIIs monthly net flows

\hat{Y} (Estimated value of Nifty monthly changes) = $143.340 + .083 * \text{FIIs monthly net flows}$.

F. Period 6—April 2009- September 2009--- Recovery Phase

Table-21: Relationship between FIIs Monthly Net Flows and Nifty Monthly Movements

Correlations

		NIFTY0209	FII0209
NIFTY0209	Pearson Correlation	1	.829*
	Sig. (2-tailed)		.041
	N	6	6
FII0209	Pearson Correlation	.829*	1
	Sig. (2-tailed)	.041	
	N	6	6

*Correlation is significant at the 0.05 level (2-tailed).

The above table it is inferred that there is a high correlation between FIIs monthly net flows and Nifty monthly movements during the Recovery Phase. The calculated r value (.829) shows that Nifty monthly movements are highly positively correlated with FIIs monthly net flows. So we accept the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 22: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements - Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829 ^a	.688	.610	245.04740

a. Predictors: (Constant), FII0209

Table 23

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	529032.3	1	529032.297	8.810	.041 ^a
	Residual	240192.9	4	60048.227		
	Total	769225.2	5			

a. Predictors: (Constant), FII0209

b. Dependent Variable: NIFTY0209

Table 24

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-128.014	187.827		-.682	.533
	FII0209	.042	.014	.829	2.968	.041

a. Dependent Variable: NIFTY0209

The above table reveals that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is meaningful since it has a significant F value of 8.810 in table 23. The r2 value is found to be .688 in table 22 which shows that 68.8% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the significance value of .041 (Table 24) is also significant at 5% level of significance (.05) which shows that FIIs net flows does have a positive impact on the Nifty monthly movements. So we accept the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

The Regression equation is as follows: $\hat{Y} = a + b_x$

Where \hat{Y} = estimated value of Y (Nifty monthly movements)

a = constant value; b = coefficient of X; X = FIIs monthly net flows

\hat{Y} (Estimated value of Nifty monthly changes) = -128.014 + .042*FIIs monthly net flows.

Overall Analysis of Impact of FIIs Monthly Net Flows on Nifty Monthly Movements

Period from October 2006 to September 2009

Table 25: Relationship between FIIs Monthly Net Flows and Nifty Monthly Movements

Correlations

		fiinetinv	niftychanges
fiinetinv	Pearson Correlation	1	.819**
	Sig. (2-tailed)		.000
	N	36	36
niftychanges	Pearson Correlation	.819**	1
	Sig. (2-tailed)	.000	
	N	36	36

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

It is inferred from the above table that there is a high degree of correlation exist between FIIs monthly net flows and Nifty monthly movements during these three years. The calculated r value (.819) shows that Nifty monthly movements are highly positively correlated with FIIs monthly net flows. So we accept the alternative hypothesis that there is a positive relationship between FIIs monthly net flows and Nifty monthly movements.

Table 26: Impact of FIIs Monthly Net Flows on Nifty Monthly Movements - Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819 ^a	.671	.661	254.71180

a. Predictors: (Constant), fiinetinv

Table 27

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4499741	1	4499740.935	69.357	.000 ^a
	Residual	2205856	34	64878.103		
	Total	6705596	35			

a. Predictors: (Constant), fiinetinv

b. Dependent Variable: niftychanges

Table 28

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-54.449	43.989		-1.238	.224
	fiinetinv	.040	.005	.819	8.328	.000

a. Dependent Variable: niftychanges

From the above tables it is inferred that the Regression analysis was performed keeping Nifty monthly movements as the dependent variable and FIIs monthly net flows as the independent variable. The Regression model is meaningful since it has a significant F value of 69.357 in table 27. The r2 value is found to be .671 in table 26 which shows that 67.1% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the significance value of .000 (Table 28) is also less than 5% level of significance (.05) which shows that FIIs net flows does have a high positive impact on the Nifty monthly movements. So we accept the alternate hypothesis that there is a positive impact of FIIs monthly net flows on Nifty monthly changes.

The Regression equation is as follows: $\hat{Y} = a + b_x$

Where \hat{Y} = estimated value of Y (Nifty monthly movements)
 a = constant value; b = coefficient of X; X = FIIs monthly net flows

\hat{Y} (Estimated value of Nifty monthly changes) = -54.449 + .040 * FIIs monthly net flows

11. Major Findings

A. Period 1—October 2006- March 2007--- Stability Phase

There is a very low degree of negative correlation (-.122) between FIIs monthly net flows and Nifty monthly movements during the Stability Phase. The Regression model is not meaningful since it has an insignificant F value of .061 (Table 3). Moreover the T value of -.246 (Table 4) is also insignificant at 5% level of significance (.817) which shows that FIIs net flows does have a negative impact on the Nifty monthly movements.

B. Period 2—April 2007- September 2007--- Bull Phase

There is a positive correlation (.743) between FIIs monthly net flows and Nifty monthly movements during the Bull Phase. The Regression model is not meaningful since it has an insignificant F value of 4.922 (Table 7). The T value of 2.219 (Table 8) is also insignificant at 5% level of significance (.091) which shows that FIIs net flows does have a negative impact on the Nifty monthly movements.

C. Period 3—October 2007- March 2008--- Swinging Phase

There is a very high positive correlation (.934) between FIIs monthly net flows and Nifty monthly movements during the Swinging Phase. The Regression model is meaningful since it has a significant F value of 27.325 (Table 11). The r2 value is found to be .872 (Table 10), which shows that 87.2% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the T value of 5.227 (Table 12) is also significant at 5% level of significance (.006) which shows that FIIs net flows does have a positive impact on the Nifty monthly movements.

D. Period 4—April 2008- September 2008--- Bear Phase 1

There is a very high positive correlation (.987) between FIIs monthly net flows and Nifty monthly movements during the Bear Phase. The Regression model is meaningful since it has a significant F value of 155.931 (Table 15). The r2 value is found to be .975 (Table 14) which shows that 97.5% of monthly variations in the Nifty index are explained by the FIIs monthly net flows.

Moreover the T value of 12.487 (Table 16) is also significant at 5% level of significance (.000) which shows that FIIs net flows does have a high positive impact on the Nifty monthly movements.

E. Period 5—October 2008- March 2009--- Recession Phase

There is a very high positive correlation (.994) between FIIs monthly net flows and Nifty monthly movements during the Recession Phase. The Regression model is meaningful since it has a significant F value of 306.814 (Table 19). The r2 value is found to be .987 (Table 18) which shows that 98.7% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the T value of 17.516 (Table 20) is also significant at 5% level of significance (.000) which shows that FIIs net flows does have a high positive impact on the Nifty monthly movements.

F. Period 6—April 2009- September 2009--- Recovery Phase

There is a high positive correlation (.829) between FIIs monthly net flows and Nifty monthly movements during the Recovery Phase. The Regression model is meaningful since it has a significant F value of 8.810 (Table 23). The r2 value is found to be .688 (Table 22) which shows that 68.8% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the T value of 2.968 (Table 24) is also significant at 5% level of significance (.041) which shows that FIIs net flows does have a positive impact on the Nifty monthly movements.

G. October 2006 ---- September 2009 (Overall Analysis)

There is a high positive correlation (.819) between FIIs monthly net flows and Nifty monthly movements during these three years. The Regression model is meaningful since it has a significant F value of 69.357 (Table 27). The r2 value is found to be .671 (Table 26) which shows that 67.1% of monthly variations in the Nifty index are explained by the FIIs monthly net flows. Moreover the T value of 8.328 (Table 28) is also significant at 5% level of significance (.000) which shows that FIIs net flows does have a high positive impact on the Nifty monthly movements.

12. Conclusion

The present study is significant in several respects. The study shows the impact of FIIs investments in Indian equity market on Nifty during the last three years and FIIs. This was the period when the world went through both economic ups and the world's biggest economic recession ever. During this period the world's stock markets including India's went for swinging both ways. The results show that FIIs have become an important part of India's stock market. Their investments have a huge impact on the Nifty movements and a lesser impact on the stock market volatility. In the coming years the FIIs will be the biggest player in the Indian stock markets, therefore the regulators have to extra cautious regarding their inflows and outflows. The results of the study will be beneficial to finance professionals, analyst, investors, and regulatory agencies because the importance of FIIs in the stock market has been indicated by the results.

13. References

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