

A study on impact of foreign institutional investor on Indian stock market

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Abstract

Since Indian capital market is vast and attract investors as their investment destination. The Indian market is steadily growing and had allured domestic investor's community and foreign investors group in the past. The major part of investment in Indian capital market is attributed to institutional investors among whom foreign institutional investors (FIIs) are of primary importance. One eminent concern in the matter is whether these foreign institutional investors (FIIs) regulate the Indian capital market. This project examines whether market movement can be explained by these investors and their impact on the capital markets. FIIs, because of their short-term nature, can have bidirectional causation with the returns of other domestic financial markets such as money markets, stock markets, and foreign exchange markets. Hence, the understanding of determinants of FII is very important for any emerging economy as FII exerts a larger impact on the domestic financial markets in the short run and a real impact in the long run. So, it attempt to find out determinants of foreign institutional investment in India, a country that opened its economy to foreign capital due to their foreign exchange crisis. The objective of the study is to find out whether there exist relationship between FII and Indian capital market.

Keywords: foreign institutional investors, stock market, automobile, consumer durables

Introduction the Study

The liberalization guiding principle initiate in India in the early 1990s bring about thorough change in the behavior of stock market. Rising globalization, deregulation and foreign portfolio investments made the Indian Stock Exchanges aggressive and proficient in their implementation. With the rise of equity culture across the globe, even India which has a long history of stock exchanges, has witness a detectable shift in the proportion of investor's sharing of equity market. The role of investors is the key to success of market direct money-making structure and since it is they who thrust their reserves into the marketplace; their reserves need to be canalized to the most gratifying sectors of the economy.

One of the most overriding investors groups that has emerged to play a decisive role in the overall concert of the capital market are Foreign Institutional Investors (FIIs). Foreign Investment refers to investments made by populace of a country in financial resources and production process of another country. After the opening up of the borders for wealth lobby group these investments have grown in leaps and bounds. But it has varied effects across the countries. It can affect the factor productivity of the beneficiary country and can also affect the balance of payments.

FII Effect of Indian Economy

The various restructuring introduced by Indian government to hearten FIIs to endow in Indian market have been effectual to such an scope that in November 2010 FIIs stood at 5426 whereas it stood at 1713 in early 1990s. The changes have led to increase in liquidity, reduce risk, improve disclosure and thus FIIs have become the corner stone in the unusual rise of the Indian stock market. From the table below it becomes apparent that from just Rs 4 crores of net investment in 1992-

93, the investment rose to Rs 5127 the next financial year when the economic changes were introduced and further today in 2016-17 it stands at Rs 8568.

Review of Literature

Suddhasanta De and Tanupa Chakrabarty (2016), this paper attempts to explain the association between Foreign Institutional Investor (FII) flows to Indian equity markets and option implied Volatility Index (VIX). Prior studies involving the relationship between FII flows and realized volatility provide contradictory findings and are largely inconclusive. Little empirical work is found to explain the relationship between FII flow and expected volatility as measured by the option implied VIX. We find evidence that India VIX does not have any influence on FII flows to Indian equity markets. Instead, there is evidence of significant reverse causality. The results indicate that the collective perception in the minds of investors about future volatility is fueled by FII flows. Murugappa Krishnan and Srinivasan Rangan (2016), their study evidence that Foreign Institutional Investor (FII) trades are negatively related to future stock returns. For our sample period, portfolios of stocks that are formed based on positive, zero, and negative FII quarterly net buying yield average quarterly returns of 1.6%, 3.8%, and 2.4%, respectively. This suggests that investing in stocks in which FIIs do not trade yields superior returns to those in which they trade. Further, their sells perform better than their buys.

Objectives

- To determine the behavior and trend of FII's on Indian stock market.
- To examine whether FIIs have any influence on BSE SENSEX and CNX NIFTY

Research Problem

A research problem says a problem well defined is half solved. The study deals with the Impact of Foreign Institutional Investors on Indian Stock Market. This research studies the relationship between FII’s investment and stock market. For this purpose India’s two major indices i.e. BSE Sensex and S&P CNX Nifty are selected. These two indices, in a way, represent the picture of India’s Stock Markets. Five sectors in FII i.e. Automobile, Consumer Durables, are also selected so as to further observe the effect of FII in particular industry with BSE Sensex. So this project reveals the impact of FII on the Indian Stock Market.

Research Design

H1: Null Hypothesis (Ho): There is no significant relationship between FII and BSE Sensex.

Alternate Hypothesis (Ha): There is a significant relationship between FII and BSE Sensex.

H2: Null Hypothesis (Ho): There is no significant relationship between FII and CNX Nifty.

Alternate Hypothesis (Ha): There is a significant relationship between FII and CNX Nifty.

H3: Null Hypothesis (Ho): There is no significant relationship between BSE Sensex and Automobiles.

Alternate Hypothesis (Ha): There is a significant relationship between BSE Sensex and Automobiles.

H4: Null Hypothesis (Ho): There is no significant relationship between BSE Sensex and Consumer Durables.

Alternate Hypothesis (Ha): There is a significant relationship between BSE Sensex and Consumer Durables.

Sampling Design

- **Universe:** In this study the universe is finite and will take into the consideration related news and events that have happened in last few years.
- **Sampling Unit:** As this study revolves around the Foreign Institutional Investment and Indian Stock Market. So for the sampling unit is confined to only the Indian Stock Market.

Sampling Technique

Convenient Sampling: This study conducted on the basis of availability of the data and requirement of the study. It requires the events that have impact on the Indian Stock Market.

Data Collection Method

Secondary data: For the secondary data various literatures, books, journals, magazines, web links are used. As there are not possibilities of collecting data personally so no questionnaire is made.

Data Analysis and Interpretations

Table 1: FII Investments

FII Investments – Financial Year			
Financial Year	INR crores		
	Equity	Debt	Total
1992-93	13	0	13
1993-94	5127	0	5127
1994-95	4796	0	4796
1995-96	6942	0	6942
1996-97	8546	29	8575
1997-98	5267	691	5958
1998-99	-717	-867	-1584
1999-00	9670	453	10122
2000-01	10207	-273	9933
2001-02	8072	690	8763
2002-03	2527	162	2689
2003-04	39960	5805	45765
2004-05	44123	1759	45881
2005-06	48801	-7334	41467
2006-07	25236	5605	30840
2007-08	53404	12775	66179
2008-09	-47706	1895	-45811
2009-10	110221	32438	142658
2010-11	110121	36317	146438
2011-12	43738	49988	93726
2012-13	140033	28334	168367
2013-14	79709	-28060	51649
2014-15	111333	166127	277461
2015-16	-14172	-4004	-18176
2016-17 **	4020	4548	8568
Total	809271	307078	1116346

Reference: Calculated through historical datas from BSE AND NSE website

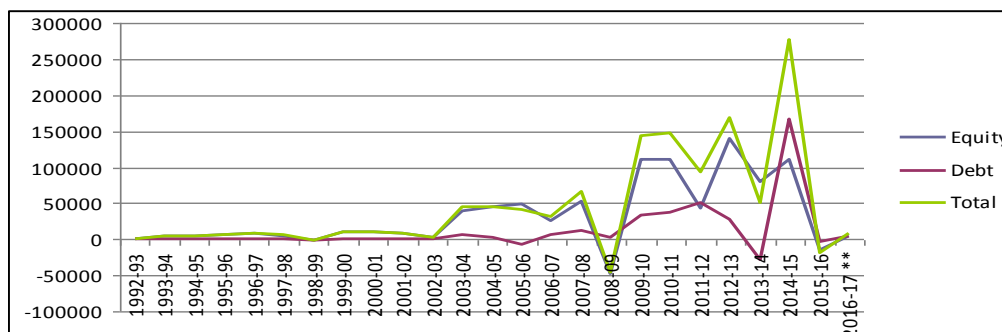


Fig 1: FII Investments

Correlation Analysis

Table 2: Correlation between FII and BSE Sensex

Correlation value between FII and BSE Sensex (from April 2011 to October 2016)	0.814942519
<i>Reference : calculated through historical datas from BSE AND NSE website</i>	

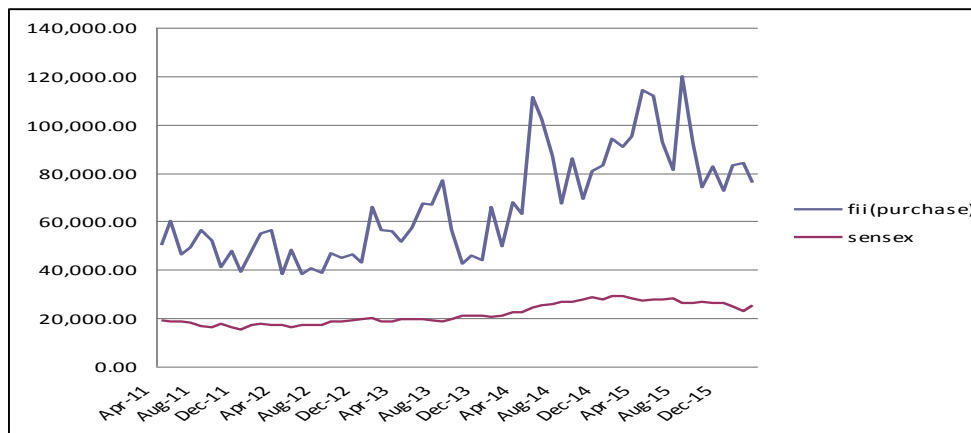


Fig 2: Trend of FII and BSE Sensex from April 2011 to October 2016

It is revealed from historical data (from April 2011 to March 2016), that performances of BSE Sensex index are positively correlated with FII and the strength of correlation is very

strong. Degree of correlation between FII purchase and BSE Sensex is 0.815. Hence alternate hypothesis is accepted.

Table 3: Correlation between FII and CNX Nifty

Correlation value between FII and CNX NIFTY (from April 2011 to October 2016)	0.81550162
<i>Reference : calculated through historical datas from BSE AND NSE website</i>	

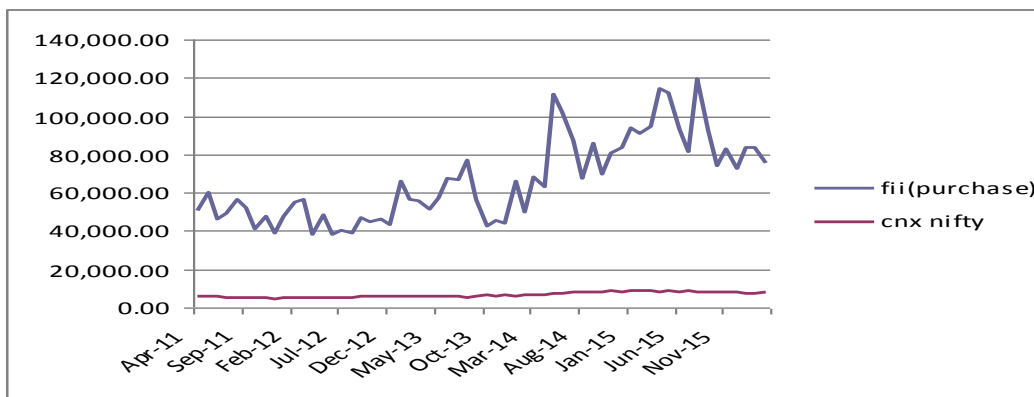


Fig 3: Trend of FII and CNX Nifty from April 2011 to October 2016

It indicates that performances of CNX Nifty index are positively correlated with FII and the strength of correlation is

very strong. Degree of correlation between FII purchase and CNX Nifty is 0.815. Hence alternate hypothesis is accepted.

Table 4: Correlation between BSE Sensex and Automobile

Correlation value between BSE Sensex And Automobile (from April 2011 to March 2016)	0.111368813
<i>Reference : calculated through historical datas from BSE AND NSE website</i>	

It was also found that performances of BSE Sensex index are positively correlated with FII investment in Automobile and the strength of correlation is strong. The degree of correlation

between BSE Sensex and Automobile is 0.111. Hence alternate hypothesis is accepted.

Table 5: Correlation between BSE Sensex and Consumer Durables

Correlation value between BSE Sensex And Consumer Durables (from April 2011 to October 2016)	-0.596270218
<i>Reference : calculated through historical datas from BSE AND NSE website</i>	

It is exhibited from Table 4 that performance of BSE Sensex index is negatively correlated with FII investment in Consumer Durables and the strength of correlation is weak. The degree of

correlation between BSE Sensex and Consumer Durables is - 0.596. Hence null hypothesis is accepted.

Regression Analysis

Table 6: Regression between FII and BSE Sensex

<i>Regression Statistics</i>	
Multiple R	0.814942519
R Square	0.66413131
Adjusted R Square	0.65834047
Standard Error	12726.3796
Observations	60

ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	18574715628	18574715628	114.6865339	2.30438E-15			
Residual	58	9393722783	161960737.6					
Total	59	27968438411						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-25249.87741	8695.557352	-2.903767567	0.005208001	-42655.92646	-7843.828368	-42655.92646	-7843.828368
X Variable 1	4.191707932	0.391412599	10.70917989	2.30438E-15	3.408210496	4.975205368	3.408210496	4.975205368

Referece : calculated through historical datas from BSE AND NSE website

Interpretation

R Square and Adjusted R Square

R square equals 0.66 which is a good fit. 66% of the variation in dependent variable (BSE Sensex) is explained by the independent variable (FII).

Adjusted R square equals 65% of variation explained by only the independent variable that exactly affects the dependent variable.

Significance F and P value

The value of F (114.6) is greater than the $F_{0.05}$ (2.304). Hence null hypothesis is rejected. That is there is a significant

relationship between FII and BSE Sensex.

The value of P (0.005) is less than the $P_{0.05}$. Hence null hypothesis is accepted

Table 7: Regression between FII and Nifty

<i>Regression Statistics</i>	
Multiple R	0.81550162
R Square	0.665042893
Adjusted R Square	0.65926777
Standard Error	12709.09749
Observations	60

ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	18600211191	18600211191	115.1564991	2.12834E-15			
Residual	58	9368227221	161521159					
Total	59	27968438411						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-24742.69196	8631.602029	-2.86652372	0.005774369	-42020.72051	-7464.6634	-42020.72051	-7464.663396
X Variable 1	13.83761623	1.289487259	10.73109962	2.12834E-15	11.25642706	16.4188054	11.25642706	16.4188054

Referece : calculated through historical datas from BSE AND NSE website

Interpretation

R Square and Adjusted R Square

R square equals 0.66 which is a good fit. 66% of the variation in dependent variable (CNX Nifty) is explained by the independent variable (FII).

Adjusted R square equals 65% of variation explained by only the independent variable that exactly affects the dependent variable.

Significance F and P value

The value of F (115.1) is greater than the $F_{0.05}$ (2.128). Hence null hypothesis is rejected. That is there is a significant relationship between FII and CNX Nifty.

The value of P (0.005) is less than the $P_{0.05}$. Hence null hypothesis is accepted

Table 8: Regression between BSE Sensex and Automobile

<i>Regression Statistics</i>	
Multiple R	0.111368813
R Square	0.012403012
Adjusted R Square	-0.009543587
Standard Error	4061.701572
Observations	47

ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	9323435.276	9323435.276	0.565145063	0.456108671			
Residual	45	742383884.5	16497419.66					
Total	46	751707319.8						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	22624.35308	666.7648606	33.93153182	1.06259E-33	21281.41974	23967.28643	21281.41974	23967.28643
X Variable 1	0.515295845	0.685451406	0.751761307	0.456108671	-0.865274134	1.895865824	-0.865274134	1.895865824

Reference : calculated through historical datas from BSE AND NSE website

Interpretation

R Square and Adjusted R Square

R square equals 0.01 which is a bad fit. 1% of the variation in dependent variable (BSE Sensex) is explained by the independent variable (Automobile).

Adjusted R square equals 0% of variation explained by only the independent variable that exactly affects the dependent variable.

Significance F and P value

The value of F (0.565) is greater than the $F_{0.05}$ (0.456). Hence null hypothesis is rejected. That is there is a significant

relationship between BSE Sensex and Automobile.

The value of P (1.062) is greater than the $P_{0.05}$. Hence alternate hypothesis is accepted.

Table 9: Regression between BSE Sensex and Consumer Durables

<i>Regression Statistics</i>	
Multiple R	0.596270218
R Square	0.355538173
Adjusted R Square	0.341216799
Standard Error	3281.079336
Observations	47

ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	267260647.2	267260647.2	24.82570282	9.74956E-06			
Residual	45	484446672.6	10765481.61					
Total	46	751707319.8						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	23837.45802	517.6753031	46.04712236	1.67974E-39	22794.80646	24880.10959	22794.80646	24880.10959
X Variable 1	-23.06945439	4.630059234	-4.982539796	9.74956E-06	-32.39487225	-13.74403654	-32.39487225	-13.74403654

Reference : calculated through historical datas from BSE AND NSE website

Interpretation

R Square and Adjusted R Square

R square equals 0.35 which is a good fit. 35% of the variation in dependent variable (BSE Sensex) is explained by the independent variable (Consumer Durables).

Adjusted R square equals 34% of variation explained by only the independent variable that exactly affects the dependent variable.

Significance F and P value

The value of F (24.8) is greater than the $F_{0.05}$ (9.749). Hence null hypothesis is rejected. That is there is a significant relationship between BSE Sensex and Consumer Durables.

The value of P (1.679) is greater than the $P_{0.05}$. Hence null hypothesis is rejected

- We have to modernize and also have to save our culture. Similarly the laws should be such that it would protect domestic investors and also promote trade in country through FIIs.
- Encourage industries to grow to make FIIs an attractive junction to invest

Conclusion

The main objective of this study was to determine impact of Foreign Institutional Investments on Indian stock market. To test this we have used methodology of Karl Pearson’s Co-efficient of Correlation and regression analysis. Correlation was used to know there was positive effect or negative effect. Regression was used to find the extent of impact of FII over the stock market.

According to Data analysis and findings, it can be concluded that FII do have any significant impact on the Indian Stock Market but there are other factors like government policies, budgets, bullion market, inflation, economic and political condition, etc. do also have an impact on the Indian stock market. There is a positive correlation between stock indices and FIIs but FIIs didn’t have high significant impact on Indian Stock Market. The null hypothesis is rejected. BSE Sensex and CNX NIFTY showed positive correlation with FII from 2011 and 2016. Also the coefficient of determination is less in all the case. It shows the absence of linear relation between FII and stock index. This does not mean that there is no relation between them.

Suggestions

In this study, following suggestions can be made

- Simplifying procedures and relaxing entry barriers for business activities and providing investor friendly laws and tax system for foreign investors.
- Allowing foreign investment in more areas. In different industries indices the FIIs should be encouraged through different patterns like futures, options, etc.
- Somewhere, a restriction related to the track record of Sub-Accounts is also to be made on the investors who withdraw money out of the Indian stock market who have invested with the help of participatory notes.

One of the reasons for absence of any linear relation can also be due to the sample data. The data was taken on monthly basis. The data on daily basis can give more positive results (maybe). Also FII is not the only factor affecting the stock indices. There are other major factors that influence the stock market.

But Foreign Institutional Investment in developing countries like India would help in increasing the productivity of labor and to build up foreign exchange reserves to meet the current account deficit. Foreign Investment provides a channel through which country can have access to foreign capital.

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