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Impact of Foreign Institutional Investors on Indian Stock Market

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Abstract
The companies and the government can raise long term funds from the capital market. The capital market includes stock market and the bond market. The capital includes two types of markets, first one - primary market where new issues are distributed to investors and the second one - secondary market where existing securities are traded. The intension of presenting this paper is to show what is capital, who can provide these capital, whose contribution is large, How they support to our capital market by providing their capital. The laws must be prepared favourable for capital market. If laws are not favourable than FII and FPI can divert their capital to another countries like Singapore, Hong Kong, Brazil, Africa etc. In India FII sold Bond 6910 Million Dollar during 2017-18 due to demonetarisation, rising prise in crude oil and 10% income tax on capital gain unstable government etc. But as soon as market will become stable, FII invest their fund.

Keywords: *Foreign Institutional Investors, Capital Market.*

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I. Introduction:

As blood is necessary to alive and development for human being, in the same way capital (money) is necessary for alive and development for business units. The capital means according to the trader's view, Capital means all the money invested in business. In other words, capital is the total money value of all assets of a business unit. Of course, there are differences of opinion. Some traders would like to deduct liabilities from these assets and regard the surplus of assets as capital. From the view point of commerce, capital includes owner's money invested in business as also the money borrowed from external sources. This capital can arise through various ways i.e. by issuing equity shares, different types of preference shares, various kinds of debentures, borrowing from banks and financial institutions, advance from debtors, delayed payment to creditors.

Capital is spinal cord of every economy. India is a Developing country who needs huge capital for the development of industrial as well as agricultural sector. FII is a most important source for the growth of Indian economy. We can get Foreign capital through two channels – 1) Foreign Direct investment and 2) Foreign Institutional investment. Here FDI is more stable than FII for Capital Market, but FII's contributions has changed the development of Indian Capital market. During last 20 years FII played an important role in the attribute of Indian Capital Market. FII's investment is depend upon the performance of the market. From last 10 years, FII has invested giant amount in our capital market which made a positive effect on the capital market, business transparency and governance norms.

II. Literature Review:

Guntupalli Lakshmi Vishali (2017), The main purpose of this paper is to show the major contributions and part of FII investment in current scenario. The purpose of this research work is to focus and study the nature and pattern of FII investment in to Indian Capital Market. It was found that Indian economy was not only determined and explained by its investment sources. Single parameter like GDP is not only represent and forecast the economic growth rate of emerging economics like India.

SabaAbid, Neelam Jhawar (2017), The purpose of the research work was to find out the important relation between the Indian stock market and FII. For analysis purpose, statistical tools were also used. The result showed that FIIs influence the Indian stock market. It has been also observed that Indian markets extend a broad variety in term of companies. They will invest, if they seen profit.

Jasnik Arora and Sanhosh kumar(2015), In this paper observed that FII investment does not only affect the return in NSE. For this purpose, he tested the stationery of FII investment. The author said that FII is not the prime decisive factor of return in share market, but it can describe 13% of the reason behind stock market repay.

Hemkant kulshrestha (2012), The purpose of this research work was to detect the impact of FII on Indian capital market. Regression and correlation techniques were used for analysis purpose. The data were collected from January 2000 to December 2011. The result showed that daily BSE Sensex and CNX Nifty had very low degree of positive correlation with daily FII investment.

Shrikanth, Maram and Kishore B. (2012), The main objective of this paper was to detect the intention of FII getting tremendous profit and reduction in risk of investment. They found a cause and effect relationship between FII and Indian Capital Market. They concluded that net FII inflows had a positive impact and outflows had a adverse effect on the Indian Stock Market and foreign exchange reserves.

III. Research Methodology:

Objectives:

- To study the growth trend of Foreign Institutional Investment (FII) with Indian Stock Market (Nifty 50)
- To measure association between foreign institutional investment (FII) with Indian stock market returns

Data Collection:

In this research work, secondary data is selected. Data have been collected from various websites.

Period of the data:

The research paper covers the span of ten years from 2011 to 2020. This period is long enough to desire meaning full conclusion.

Scope of the study:

The scope of the research is confined to study how FIIs affects Indian Stock Market. The data of 10 years from 2011 to 2020 is analysed.

Tools and techniques:

For research work statistical tools like ANOVA test, regression model have been used.

IV. Data Analysis and Interpretation:

Table 1 represent FIIs Flows in India with respect to Indian stock market we compare Nifty 50 return on year on year basis. FII gross purchase and gross sale is taking into consideration for analysis. From the table we can say that Gross purchase and Gross sale is increase year by year till 2020 while Net value is higher in the year of 2012. While in year of 2015 to 2018 Net value is negative which indicate Gross purchase is higher than sale. Nifty 50 returns is higher 27.70, 31.39 and 28.65 in the year of 2012, 2014 and 2017 respectively which indicate Net value influence nifty return.

Table 1: FII Flows in India with respect to Nifty50 return

Year	Gross Purchase(Equity) in Cr	Gross Sales (Equity) in Cr	Net Purchase/Sales in Cr	Nifty 50 return %
2011	5,95,677.50	6,22,275.76	26,598.26	-24.62%
2012	6,33,960.34	5,32,794.23	1,01,166.11	27.70%
2013	7,62,325.86	6,75,220.80	87,105.06	6.76%
2014	9,70,816.03	9,03,393.33	67,422.70	31.39%
2015	11,13,733.08	11,34,106.76	-20,373.68	-4.06%
2016	10,71,631.40	10,82,213.66	-10,582.26	3.01%
2017	12,69,662.97	13,13,738.82	-44,075.85	28.65%
2018	12,84,646.28	13,57,861.44	-73,215.16	3.15%
2019	13,57,775.98	13,17,895.34	39,880.64	12.02%
2020	17,62,552.49	16,97,306.23	65,246.26	14.17%

Figure 1 represent Trend of FIIs with Nifty 50 return during 2011 to 2020 . In the year of 2012, 2014 and 2017 we can see peak level in Nifty 50 return. FIIs gross purchase and gross sales is increase year on year gradually. We can interpret that trend of FIIs with Nifty 50 is not follow any pattern.

Figure 1 : Trend of FIIs with Nifty 50

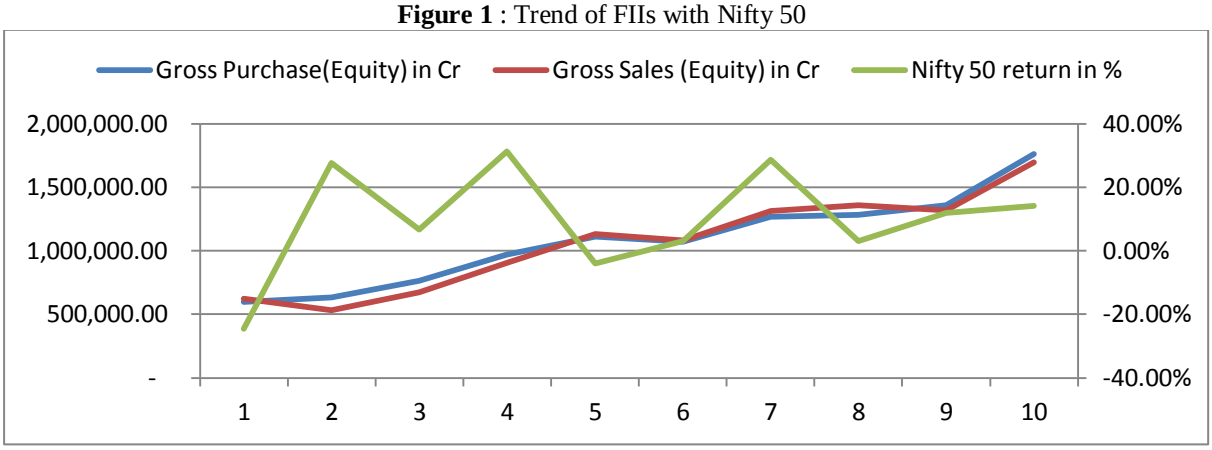

Table 2 Descriptive Statistics

	GrossPurchase	GrossSales	Net Value	Nifty Return
N	120	120	120	120
Mean	90189.5802	88640.0281	1.5496E3	.8456
Median	91999.0850	87674.2700	1.4840E3	.9350
Variance	1.164E9	1.151E9	2.099E8	26.924

Table 2 represent descriptive statistics of the FIIs gross purchase, FIIs gross sales , Net Purchase and Sale and Nifty return on monthly basis. We can take January 2011 to December 2020 (120 months) time duration for data analysis. The Mean value gross purchase is 90189.58 Cr and gross sales is 88640.03 Cr which indicate every month purchase is higher than sales. The average monthly Nifty return is 0.84% and variance is 26.92 which indicate indian stock market is more volatile.

Ho: The sample data are not significantly different than a normal population.
Ha: The sample data are significantly different than a normal population.

Table 3 Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Gross Purchase	.073	120	.179	.922	120	.000
Gross Sales	.080	120	.057	.950	120	.000
Net Value	.098	120	.006	.910	120	.000
Nifty Return	.069	120	.200*	.964	120	.002

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

The above table presents the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk. Table 3 represent probability value is more than .05 it means we accept Null hypothesis. The data of gross purchase, gross sales and Nifty Return is normal while Net Purchase/Sales is not normal. So we can perform regression analysis on Gross Purchase and Net Purchase of FIIs with Nifty50 Return.

Net Purchase Value of FIIs with Nifty 50 Return

We want to measure impact of Net purchase values of FIIS with Nifty50 return we perform linear Regression line. In Linear regression line we interpret R and R square , residual and find impact with help of regression model. The table 4 is the Model Summary table, as shown below:

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.628[a]	.394	.389	4.05661

a. Predictors: (Constant), Net Value

This Table 4 provides the R and R2 values. The R value represents the simple correlation and is 0.628 (the "R" Column), which indicates a moderate degree of correlation. The R2 value (the "R Square" column) indicates how much of the total variation in the dependent variable, In this case, Net Purchase value FIIs are explained 39.4% to nifty 50 return which is moderate.
H0: there is no association of Net Purchase value of FIIs with Nifty 50 Return
Ha: there is an association of Net Purchase value of FIIs with Nifty 50 Return

Table 5 ANOVAb

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1262.087	1	1262.087	76.694	.000a
	Residual	1941.814	118	16.456		
	Total	3203.901	119			

a. Predictors: (Constant), Net Value

b. Dependent Variable: Nifty Return

This table indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable. Net Purchase value FIIs with Nifty50 return the residual value is higher than regression value.

Table 6 represent Coefficients table provides us with the necessary information to predict price from Net Purchase value, as well as determine whether Net Purchase value of FIIs contributes statistically significantly to Nifty 50 return. We can find there is no association of Net Purchase value of FIIs with Nifty 50 Return. Furthermore, we can use the values in the "B" column under the "Unstandardized Coefficients" column, as shown below

Table 6 -Co-efficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.497	.372		1.335	.184
	Net Value	.000	.000	.628	8.758	.000

a. Dependent Variable: Nifty Return

To present the regression equation as:

Nifty 50 return = .497 + 0.000(Net Purchase Value of FIIs)

Gross Purchase of FIIs with Nifty 50 Return

Table 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.168[a]	.028	.020	5.13706

a. Predictors: (Constant), Gross Purchase

This table 7 provides the R and R2 values. The R value represents the simple correlation and is 0.168 (the "R" Column), which indicates a moderate degree of correlation. The R2 value (the "R Square" column) indicates how much of the total variation in the dependent variable. In this case, Gross Purchase value FIIs are explained .028% to Nifty 50 return which is very low.
H0: there is no association of Gross Purchase value of FIIs with Nifty 50 Return
Ha: there is an association of Gross Purchase value of FIIs with Nifty 50 Return

Table 8 ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.957	1	89.957	3.409	.067[a]
	Residual	3113.944	118	26.389		
	Total	3203.901	119			

a. Predictors: (Constant), Gross Purchase

b. Dependent Variable: Nifty Return

Table 8 indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable. Gross Purchase value FIIs with Nifty50 return the residual value is higher than regression value so there is no association between Gross Purchase value FIIs with Nifty50 return.

Table 9 represent Coefficients table provides us with the necessary information to predict price from Gross Purchase value, as well as determine whether Gross Purchase value of FIIs contributes statistically significantly to Nifty 50 return. We can find there is no association of Gross Purchase value of FIIs with Nifty 50 Return. Furthermore, we can use the values in the "B" column under the "Unstandardized Coefficients" column, as shown below:

Table 9 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.453	1.330		-1.092	.277
	Gross Purchase	2.549E-5	.000	.168	1.846	.067

a. Dependent Variable: Nifty Return

To present the regression equation as:

Nifty 50 return = .-1.453+ 0.000(Gross Purchase Value of FIIs), here the constant value is negative which indicate that if gross purchase didn't effect nifty50 return still the nifty 50 give negative return. Now we are going to check Gross sale, Gross Purchase of FIIs affect Nifty50 Return or not. To check this we perform multiple regression line

Multiple Regression line: Gross sale, Gross Purchase of FIIs with Nifty50 Return.

Table 10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.628[a]	.395	.384	4.07148

a. Predictors: (Constant), Gross Sales, Gross Purchase

This table 10 provides the R and R2 values. The R value represents the simple correlation and is 0.628 (the "R" Column), which indicates a moderate degree of correlation. The R2 value (the "R Square" column) indicates how much of the total variation in the dependent variable, Return, can be explained by the independent variable,. In this case, Gross Sale and Gross Purchase value FIIs are explained 39.5%, which is moderate

H0: there is no association of Gross Purchase value of FIIs, Gross sales value of FIIs with Nifty 50 Return

Ha: there is an association of Gross Purchase value of FIIs, Gross sales value of FIIs with Nifty 50 Return

Table 11 ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1264.397	2	632.198	38.137	.000[a]
	Residual	1939.504	117	16.577		
	Total	3203.901	119			

a. Predictors: (Constant), Gross Sales, Gross Purchase

b. Dependent Variable: Nifty Return

We take Gross Sales and Gross Purchase FIIs as independent variable and Nifty 50 return as depend variable. Table 11 indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable. Gross Sale and Gross Purchase value FIIs with Nifty50 return the residual value is higher than regression value so there is no association between Gross Purchase value FIIs with Nifty50 return.

Table 12 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.123	1.071		.115	.909
	Gross Purchase	.000	.000	1.491	8.623	.000
	Gross Sales	.000	.000	-1.455	-8.417	.000

a. Dependent Variable: Nifty Return

To present the regression equation as:

Nifty 50 return = .123+ 0.000(Gross Purchase Value of FIIs) + 0.000(Gross Sales Value of FIIs)

V. Conclusion:

FIIs contribution to the Indian stock market has some influence on the market base on literature. But their investment is fluctuating from time to time from 2011 - 2020. There has been a correlation between FIIs investment in equity and NSE Capital market segment but the relationship is at moderate. 39.5% Nifty 50 Return can be explained by the independent variable Gross Sale and Gross Purchase value FIIs. Our results prove that FIIs did have a moderate significant impact on the Indian capital market. If we try to capture the result we didn't find any statistically association between FIIs with Nifty 50 Return. Regression line and multiple regression line indicate Gross purchase have negative impact on nifty 50 return while Net Purchase value of FII's have positive impact on Nifty50 return.

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