

Impact of FIIs on the Price-Earnings of Indian Stocks – A Study on Nifty Fifty

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Abstract: *The capital account liberalisation has enhanced trading in equity markets throughout the world. The impact of global financial integration led to the increase in foreign capital inflows and had an impact on the stock market. A stock market boom generally leads to a wealth effect on the investors in the stock market resulting in a rise in the aggregate demand through consumption. The price-earnings ratio is the ratio which helps to measure the value of a company in terms of its share price in the market relative to its earnings per share. FIIs have proved to be very prominent investors in the Indian stock market and their participation has created an impact very clearly on the returns earned and liquidity of the stock market. The present study analysed the impact created by FIIs on the price-earnings of the Nifty fifty companies covering a period of sixteen years using day wise data and it was found that price-earnings are causing an effect on the flow of foreign capital in India but FIIs are not the cause for the price earnings of Indian companies.*

Key Words: *FIIs, NSE, Nifty Fifty, Price-Earnings*

I. Introduction

India had opened its economy for the foreign portfolio investments after liberalisation, which was responded well by the foreign investors. The evolution of various policy reforms on FIIs undertaken by the Indian Government made the presence of FIIs felt in the stock market of India. There was a gradual shift towards current account convertibility during the process of economic reforms in India. FIIs and overseas corporate bodies were allowed to invest in internal financial instruments in India. Foreign portfolio investments flow from the non-residents of that country in the form of investments in shares, securities, government and non-government/corporate bonds of another country. Foreign Portfolio Investors may be in the form of group of investors constituting Institutional Investors from foreign countries, Qualified Foreign Investors (QFIs) and Foreign Institutional Investors (FIIs) and their sub-accounts except NRIs. The presence of the portfolio investors could be felt in the Indian stock market very evidently since the year 2000 where there was a surge in the benchmark indices of BSE and NSE and there was a tremendous change in the performance and growth of the stock markets in India.

Every segment of Indian Capital Market whether is it primary, secondary, derivatives, institutional investment, market intermediation etc has undergone a metamorphosis which has resulted in the improvement of transparency, efficiency and integration of Indian market with the global markets. Due to this, the foreign portfolio investors have shown keen interest in investing in India. A significant part of these portfolio flows to India comes in the form of FII's and mostly in the form of equities.

Institutional investors are a permanent feature in the growth of an economy and their growth in a faster pace will lead to a transition in the development and will have an impact on the financial landscape of an economy. The behavioural characteristics of the institutional investors will be a very important determinant of domestic and international financial market conditions. It will have a great impact and implication for the stability in the financial market and hence to be monitored by any country to keep a check on the negative growth of the economy as such. FIIs not only provide the needed flow of capital into a country, but it also helps the financial market and the economy in a great way. This may be attributed to strong corporate fundamentals, positive economic factors and good quality of IPO's.

FIIs have emerged as a major and dominant force rather than mere participating in the market. This can be proved from their increasing turnover and market capitalisation to the total turnover and market capitalisation of the Indian Stock Markets. The main factor motivating FIIs investment in India is the healthy performance of Indian Economy and good corporate governance of Indian Companies.

II. Literature Review

Sunil Kumar (2014) found that there is a variance of FIIs which is influenced by foreign exchange reserves and market capitalisation. This was analysed with the help of trend analysis of foreign investments in India before and after the financial crisis. It was found that FIIs had a significant impact on market capitalisation in the

longer run. **Krishnan Dandapani and Edward R. Lawrence (2013)** studied the effect of FII on the stock market in India and found that FII has a direct significant effect on the returns of the Indian stock. The study also covered the factors influencing the FII investment in India. **Thiripalraju and Rajesh Acharya (2013)**, investigated the interaction between institutional investment and market return in the Bombay Stock Exchange using daily net investment of FIIs and Mutual Funds from January 2000 to December 2009. Bi-directional causality was found between FII returns and market returns and uni-directional causality between Mutual funds and Market returns was found. Vector auto regression model and Granger causality tests were applied to find the empirical results. **Vinod K. Bhatnagar, (2011)** analysed the trends of monthly inflows of FIIs investment in India during 2004-2010, and found that, FIIs investment behaviours are determined by the stock market returns and risk in economic factors of India. Higher Sensex indices and high PE ratios are the country level factors attracting FIIs in India and there is a growth trend in FIIs investment in India. **Gaurav Agarwal, (2010)** has undertaken an empirical study between Nifty index and the FII investments in order to find if there is any interdependency and causation between the two. It was found that both Nifty and FIIs are not normally distributed. Nifty was non-stationary and FII was stationary at level itself. The correlation between both as per the time series analysis was higher in bear phase as compared to the bull phase. **Shailendra Kumar and Narendra Singh Bohra (2010)** analysed the flow of FIIs after liberalisation and their relationship between the economic cycle and the behaviour of FII. It has been found that FIIs have become major drivers of the Indian equity markets and domestic investors have also followed FIIs for their investment decisions. **Nidhi Dhamija (2008)** carried out an exploratory analysis of the investment of FIIs patterns across firms to examine the influence of different factors affecting the individual firm level characteristics and macro level conditions influencing FII investments. It was found that the FII investments to a great extent were influenced by the regulatory environment of the host country. **Subarna Dey and Bishnupriya Mishra (2004)** attempted to investigate the cause and effect relationship between FII investment patterns and the Indian stock market represented by BSE and NSE market capitalisation during 1998-2003. They have found that there is an evidence of causality from BSE and NSE market capitalisation to net FII investment. The study infers that when market capitalisation is high, FII are more attracted and they buy heavily and sell heavily when market capitalisation is low.

Objectives Of The Study

1. To study the growth of NSE and its constituent companies since the year 2000.
2. To analyse the impact of FIIs on the price-earnings ratio of Nifty 50 companies.

III. Methodology

The present study is conducted by collecting the day wise secondary data from the bulletins of RBI and SEBI and also from the websites of SEBI, NSE, RBI and CMIE from the year April 2000 to March 2016. For the purpose of assessing the impact of FIIs on the price earnings of Nifty fifty companies, day wise data for a period of sixteen years from April 2000 to March 2016 was utilized. The collected data was analyzed with the help of various techniques like Augmented Dickey Fuller Test, Vector Auto Regression Model and Granger Causality Test.

Scope Of The Study

This study is an attempt to find the impact of FIIs on the price earnings of the Nifty fifty companies. This study does not cover the derivatives trading in NSE and the investments by foreign investors through Participatory Notes.

Capital flows and Price Earnings

The price-earnings ratio is the ratio which helps to measure the value of a company in terms of its share price in the market relative to its earnings per share. Price-earnings ratio helps the investor to calculate the amount of investment required to earn a future amount on a future date. A higher Price Earnings ratio indicates the higher expectations of the investors about the company in terms of earnings in future. However a low Price Earnings ratio may be interpreted as either the company's performance is poor and is undervalued or that the company is picking up in its performance when compared to the past. But there can never be a negative Price Earnings ratio and if the company is not able to make money, it is understood that there is no Price Earnings ratio for the company. Since the calculation of the Price Earnings ratio depends upon the market price of the shares prevailing, it will be a bit difficult to assess the exact earnings. This is because the market determines the value of shares whereas the earnings of the company are determined by the company itself which can be manipulated by the company. Generally, stock valuation is done on the basis of price-earnings ratio which is a reliable measure due to the predictions that can be made in the future. The stock valuation can be made on

historic ratios available on the Price Earnings and will help to assign the value of stock in the long run. This is one of the most trusted and time tested method of stock valuation of a company. Stock can also be valued based on the demand and supply of a particular stock, but it can be done for the short run and the prediction is not possible in this method. International Institutional investors look for the performance of companies in which they invest in and they do have the edge of a good financial research done by their fund managers. Price-Earnings would undoubtedly be the criterion for FIIs for their investment in a particular sector or a company. As the price earnings is calculated on the basis of the market price of the shares of a company, the demand for the share would increase the price and this also leads to the frequent trading of shares of that company which is nothing but the liquidity of the shares.

National Stock Exchange (NSE)

National Stock Exchange is the third largest stock exchanges in the world in terms of number of trades done and the trading volume. It is the eleventh largest stock exchanges in the world in terms of market capitalisation and stands next to the oldest stock exchange in Asia i.e. the Bombay Stock Exchange. NSE is a pioneer in implementing the trading mechanisation of the stock exchange in tune to the world stock markets. The following charts depict the growth of NSE over the years in terms of the listed companies.

Table: 1 Number of Listed and Traded Companies in NSE

Year	No.of listed co.s	Co.s available for trading
2000-01	785	1029
2001-02	793	890
2002-03	818	788
2003-04	909	787
2004-05	970	839
2005-06	1069	929
2006-07	1228	1084
2007-08	1381	1236
2008-09	1432	1291
2009-10	1470	1359
2010-11	1574	1484
2011-12	1646	1563
2012-13	1666	1582
2013-14	1688	1586
2014-15	1733	1544
2015-16	1808	1613

Source: NSE website

The above table shows the details about the number of listed companies in NSE and the number of companies’ available for trading since the year April 2000 to March 2016.

- There is a growth of 130% in the number of companies’ listed in NSE from 785 companies in 1/4/2000 to 1808 companies in 31/3/2016.
- The increase in the number of companies’ available for trading doesn’t match up with that of the increase in listed companies. There is an increase of 56.75% in the number of companies available for trading in NSE from 1029 companies in 1/4/2000 to 1613 companies in 31/3/2016.

Initially, though the number of companies’ available for trading was comparatively higher than the listed companies’, over the years, there is a change in this scenario where the listed companies have superseded the number of companies’ available for trading. It means that not all the listed companies’ shares are traded regularly because, the number of listed companies is 1808 and the number of companies traded in NSE in 2015-16 is 1613.

Impact of FIIs on the Price-Earnings Ratio of Nifty 50 companies

The impact of FIIs on the Price-Earnings Ratio of Nifty 50 companies is studied by employing tools like ADF for checking the stationarity of the data, VAR for the purpose of forecasting the influence of FIIs and Granger Causality test to find the cause and effect of FIIs with P/E ratio. The results are given below.
Augmented dickey Fuller Test Results

Table -2 FII Ratio has a unit root.

		t-Statistic	Prob.*
ADF test statistic		-8.0954	0.0000
Test critical	1% level	-3.4319	
	5% level	-2.8621	

values:	10% level	-2.5671	
*MacKinnon (1996) one-sided p-values.			

Source: Computed from Compiled data

H_0 = FII Ratio is not stationary H_1 = FII Ratio is stationary
 Result: 'P' < 0.05. Therefore, H_0 is rejected and H_1 accepted.
 FII Ratio is stationary at level form. I (O)

Table -3 P.E Ratio has a unit root

		t-Statistic	Prob.*
ADF test statistic		-3.297848	0.0151
Test critical values:	1% level	-3.43185	
	5% level	-2.86209	
	10% level	-2.56710	

*MacKinnon (1996) one-sided p-values.

Source: Computed from Compiled data

H_0 = PE Ratio is not stationary H_1 = PE Ratio is stationary
 Result: 'P' < 0.05. Therefore, H_0 is rejected and H_1 accepted.
 PE Ratio is stationary at level form. I (O)

Vector Auto Regression Model - (VAR) Analysis on FII Ratio and P/E Ratio

The Vector Auto Regression (VAR) model is a generalized version of uni variate auto regression model which allows for more than one variable in the model. The purpose of the VAR model is to capture the linear interdependencies among more than one economic variable. The fundamental advantage of VAR model is that it provides compactness in the presentation of the multiple regression models. The following equation describes the VAR model.

$$Y_{1t} = \beta_0 + \beta_1 Y_{1t-1} + \beta_2 Y_{2t-1} + \varepsilon_{1t}$$

Where Y_{1t} indicates the dependent variable and Y_{1t-1} is one period lagged value of variable Y_{1t} and β_1 is its coefficient; Y_{2t-1} is the lagged value of Y_{2t} and β_2 is its coefficient; β_0 is the constant and ε_{1t} is the error term.

Order of integration of variables

Vector Auto Regression Model can be employed only when all the variables under the study have the same order of integration. That is, all the variables should be stationary at the level form. If the variables become stationary at the differenced form, then the Vector Error Correction model has to be used which is a restricted VAR. VAR can be used for forecasting. To proceed with the Vector Auto Regression model, the lags at which the model can be fitted should first be found with the help of one of the selection criteria like Akaike .Schwarz or Hannan-Quinn. Eight lag lengths were considered and the below table shows that as per the Schwarz criterion at lag length 3, the regression model can be fitted.

Vector Auto Regression Lag Order Selection

VAR Lag Order Selection Criteria
 Endogenous variables: P E RATIO, FII RATIO
 Exogenous variables: C CRISIS DUMMY
 Included observations: 3864

Table -4 Lag Order Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-13984.2	NA	4.780309	7.240259	7.246739	7.242560
1	-5083.2	17783.54	0.047808	2.635195	2.648155	2.639797
2	-4999.77	166.5896	0.045883	2.594085	2.613525	2.600988
3	-4971.71	56.01516	0.045315*	2.581629*	2.607548*	2.590833*
4	-4968.26	6.880450	0.045328	2.581914	2.614313	2.593419
5	-4966.95	2.606637	0.045391	2.583308	2.622187	2.597114
6	-4962.67	8.535319	0.045384	2.583161	2.628520	2.599268
7	-4957.5	10.29635*	0.045357	2.582556	2.634394	2.600964
8	-4953.88	7.211009	0.045366	2.582751	2.641069	2.603460

Source: Computed from Compiled data

In this study, the price-earnings ratio and the FII ratio are regressed separately, where the impact is found by considering P/E ratio as the dependent variable on its lag itself and on FII ratio at three lags. Similarly, FII ratio is considered as the dependent variable on its lag itself and on the P/E ratio at three lags. Since the data taken in this study is day wise data, each lag represents one day. The data covered a period of sixteen years and there are 3864 observations. The results of the VAR Estimates are presented in the table below.

Table - 5 Vector Auto Regression Estimates

Variables	Parameters	Price Earnings Ratio	FII ratio
P. E RATIO(-1)	Coefficient	1.055215	0.402338
	Standard Error	(0.01610)	(0.03390)
	t-Statistic	[65.5544]	[11.8692]
P. E RATIO(-2)	Coefficient	-0.068463	-0.227989
	Standard Error	(0.02349)	(0.04946)
	t-Statistic	[-2.91515]	[-4.60987]
P. E RATIO(-3)	Coefficient	0.007287	-0.179126
	Standard Error	(0.01634)	(0.03440)
	t-Statistic	[0.44609]	[-5.20682]
FII RATIO(-1)	Coefficient	0.006753	0.190188
	Standard Error	(0.00759)	(0.01598)
	t-Statistic	[0.88991]	[11.9022]
FII RATIO(-2)	Coefficient	0.004476	0.034890
	Standard Error	(0.00761)	(0.01602)
	t-Statistic	[0.58839]	[2.17785]
FII RATIO(-3)	Coefficient	0.001466	0.084670
	Standard Error	(0.00744)	(0.01567)
	t-Statistic	[0.19688]	[5.40163]
Constant	Coefficient	0.086343	0.965394
	Standard Error	(0.03306)	(0.06962)
	t-Statistic	[2.61187]	[13.8676]
Crisis Dummy	Coefficient	0.018496	-0.092117
	Standard Error	(0.01102)	(0.02321)
	t-Statistic	[1.67853]	[-3.96966]
R-squared		0.990662	0.113556
Adj. R-squared		0.990645	0.111949
S.E. equation		0.318407	0.670521
F-statistic		58515.29	70.65795
Log likelihood		-1058.091	-3939.431
Critical value of 't' at 5% level of significance is 2.862312			

Source: Computed from Compiled data

The above table shows the results of the Vector Auto Regression Model.

When the $t' > 2.862$, then it means there is a significant impact.

When the $t' < 2.862$, then there is no significant impact.

Depending upon the coefficient being positive or negative, the significance will be interpreted as positive or negative impact.

- Price Earnings ratio is positively affected by its lagged values in both the first and the third lag, whereas in the second lag, it has a negative impact. As far as the statistical significance is concerned, the first and second lags have statistical significance of the impact whereas the third lag has an insignificant impact.
- FII ratio in all the three lags has a positive impact on Price Earnings ratio but the impact is not statistically significant in all the three lags.
- Crisis has an insignificant positive impact on the Price earnings ratio of NSE.
- One day lagged Price Earnings ratio is positively affecting the FII ratio and the impact is statistically significant too. The second and the third day lagged values of P.E ratios have a negative significant impact on FII ratio.
- FII ratio in all the three lags has positive impact on itself. This impact is statistically significant in the first and the third lags and has insignificant impact in the second lag.
- Crisis has a negative significant impact on FII ratio.
- 'R' squared value of the regression with P.E ratio as dependent variable and lagged values of P.E ratio and FII ratio as independent variables is 0.99. It indicates that 99% of the variations in P.E ratio can be explained by this regression model.
- 'R' squared value of the regression is 0.11, with FII ratio as dependent variable and lagged values of FII ratio and P/E ratio as independent variables. This indicates that only 11% of the variations in FII ratio can be explained by the regression model and hence the predictability is quite weak.

Examining the Causal Relationship between FII Ratio and Price Earnings Ratio

As the results of Vector Auto Regression Model disclose the presence of long run relationship between the FII ratio and the Price Earnings ratio, there might be a causal relationship between the two variables either in both the directions or at least in one direction. In order to test the causal relationship between FII ratio and the liquidity ratio, Granger Causality Test has been used on the first differenced values of both the variables and results are presented in the table below.

Table -6: Direction of Causality between FII Ratio and the Price Earnings Ratio in different Lags

Null Hypothesis	Lag Length	N	F-statistic	Prob.
FII RATIO does not Granger Cause P. E RATIO	1	3871	0.79945	0.3713
P. E RATIO does not Granger Cause FII RATIO			4.62782	0.0315
FII RATIO does not Granger Cause P. E RATIO	2	3870	0.52033	0.5944
P. E RATIO does not Granger Cause FII RATIO			76.4246	3.E-33
FII RATIO does not Granger Cause P. E RATIO	3	3869	0.37893	0.7682
P. E RATIO does not Granger Cause FII RATIO			60.4770	3.E-38

Source: Computed from Compiled data

Results at 5% Level of significance

- Analysis of causality from P/E Ratio to FII ratio shows the F-statistic as 4.62782, 76.4246, 60.4770 with the ‘P’ value of 0.0315 and subsequently less than 0.01 in all the three lags respectively. It indicates the significant causality from P/E ratio to FII ratio.
- Analysis of causality from FII ratio to P/E ratio shows the F-statistics as 0.799, 0.520 and 0.379 with the ‘P’ value of 0.315, 0.59 and 0.76 respectively. This indicates that there is no causality from FII ratio to P/E ratio in all the three lags.
- In all the three lags, there is a unidirectional relationship from Price Earnings Ratio to FII ratio at 5% level of significance. i.e. The P.E Ratio is causing an impact on the FII investments in all the three months. FII ratio does not Granger cause P.E ratio in all the three lags, which means that the flow of FIIs do not cause any change in the Price earnings in the Nifty stocks.

It is understood that, the Price Earnings Ratio of Nifty 50 companies is a major cause for attracting the FII investments in NSE, whereas, FII flows do not affect the Price Earnings ratio of the Indian Companies listed in the Indian Stock Market.

IV. Conclusion

Price-earnings is one of the important factors for the international investors because they look for the future growth of their investments if it is a long term investment. Since the FIIs have the advantage of the financial research done by their fund managers, the price-earnings ratio will be a dominating factor which will help to make a decision on the type of company or the sector in which the FIIs would prefer to invest. The present study is a pursuit to analyse the impact of Foreign Institutional Investors on the Price- Earnings of the Nifty fifty companies and it was found that the FIIs do not create any impact on the Price Earnings, but, the Price Earnings of the Nifty fifty companies are a major attraction for the FIIs to choose India as their investment destination. Crisis period had a significant negative impact on the FII flows and insignificant positive impact on the price earnings of Indian companies.

References

- [1]. Sunil Kumar (2014). “Trends of Foreign Institutional Investments during and Beyond Economic Crisis”. *Indian Accounting Review*.Vol.18.No.1 Pp 15-30.
- [2]. Krishnan Dandapani and Edward Lawrence (2013). “Foreign Institutional Investment in India”. *Finance India*. Vol. XXVII.No.2 Pp 409-419.
- [3]. Thiripalraju and Rajesh Acharya (2013), “Dynamic Interaction between Institutional Investment and Stock Returns: A Case Study of FIIs and Mutual Funds”. *Finance India*. Vol. XXVII. No.4.December.2013, pp. 1173- 1191.
- [4]. Vinod Bhatnagar (2011), “FIIs Investment in India: A Trend Analysis of Monthly Flows during January 2004- August 2010”. *Vishwakarma Business Review*.Vol.1 No.2.Pp.25-34. Weekly, 22, Dec. 9, pp. 4421-27.
- [5]. Gaurav Agarwal,(2010), “Investigation of Causality between FIIs Investment and Stock Market Returns”.*International Research Journal Of Finance And Economics*, Issue 40.
- [6]. Shailendra Kumar and Narendra Singh Bohra(2010), “FII and Capital Market Development in India: A Study after Liberalisation”.*International Journal of Business Management, Economics and Information Technology*. Vol.2.No.1. Pp-107-113.
- [7]. Nidhi Dhamija(2008). “Foreign Institutional Investment in India- An Exploratory Analysis of Pattern across Firms”. *Marginal Journal of Applied Economic Research*.Vol.2.No.3 Pp 287-320.
- [8]. Subarna Dey and Bishnupriya Mishra(2004), “Causal Relationship between Foreign Institutional Investment and Indian Stock Market”,*JCAFI Journal Of Applied Finance*.Vol.10No.12.Pp.61-80.

BOOKS

- [9]. Agarwal, A.N., **Indian Economy: Nature, Problems, and Progress**, Vikas Publishing House, 1976.
- [10]. Apte, P.G., **International Financial Management**, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2006.
- [11]. Bhalla, V.K., **Managing International Investment and Finance**, Anmol Publications Pvt. Ltd., New Delhi, 1997.
- [12]. Bhasin Niti., **Foreign Investment in India**, New Century Publications, New Delhi, 2008.
- [13]. Kothari, C.R., **Research Methodology: Methods and Techniques**, New Age Publishers, New Delhi, 2005.
- [14]. Kulwant Singh Phull., **Foreign Institutional Investors and Capital Market in India**, New Century Publications, New Delhi. 2014

WEBSITES

- [15]. www.rbi.org.in
- [16]. www.sebi.gov.in
- [17]. www.worldbank.org
- [18]. www.bseindia.com
- [19]. www.economywatch.com