

# FOREIGN INSTITUTIONAL INVESTMENT BEHAVIOUR AND INDIAN CAPITAL MARKET: A CAUSALITY ANALYSIS

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## Abstract :

Since the 1990s one of the major forces changing the face and structure of international capital markets has been the flow of cross-border portfolio investments, especially by Foreign Institutional Investors (FIIs) from developed countries to the developing economies. This study analyses the impact of Foreign Institutional Investors (FIIs) investment behaviour in the Indian capital market for the period of 1995 to 2017. This study also analyses the impact of FIIs on the capital market development in India like market liquidity, market capitalization and P.E Ratio of the market. Granger Causality Test can be analysed bidirectional causality of FIIs investment and capital market return in India. On the basis of correlation analysis there is a high degree of positive relationship between FIIs investment and capital market development in India. The empirical result shows that stock market functioning is a major determinant of the FIIs investment.

**Key words:** FIIs, Nifty, Sensex, Garch, Volatility.

## Introduction

In 1992 India opened up its economy and allow Foreign Institution Investors (FIIs) in its domestic market. FIIs are registered with SEBI is treated as eligible investor to invest in Indian capital market. RBI has granted permission to SEBI registered FIIs invest in Indian capital market under portfolio investment scheme. FIIs means institutions or entity which invest in the financial market of a country different from the one where in the institution or the entity is originally incorporated .These can invest their own funds or invest funds on behave of their overseas client registered with SEBI. The client account is known as sub account. This contribute non debt creating capital for the development of an economy. These capital flows to equity market increases stock price, lower the cost of equity capital and encourage investment by Indian firms. FIIs buying pushes the stock market up and their selling shows the stock market downward.

Capital market is essentially a market used for buying and selling of long term debt or equity and other securities. It is one of the type of financial market and a part of the overall financial system of a country. Capital market plays an extremely important role in promoting and sustaining the growth of an economy. It is an important and essential conduit to channel

and mobilize funds to enterprise both private and government. It provide an effective source of investment in the economy. It plays a critical role in mobilizing saving for investment in productive assets with a view to enhancing a country's long term growth prospects and thus acts as a major catalyst in transforming the economy into more efficient, innovative and competitive market place with in the global arena. The existence of deep and broad capital market is absolutely crucial in spurring the growth of our economy. The reforms process was initiated with the establishment of SEBI.

An index is basically an indicator. It gives a general idea about whether most of the stocks have gone up or most of the stocks have gone down. The Sensex is an indicator of all the prices of the major companies of BSE .It is based on thirty stocks. They represent well established and financially sound companies. The Sensex is the benchmark index of the Indian capital market with wide acceptance among individual investors, institutional investors, foreign investors and fund managers. Sensex is widely used to despite the mood in the Indian capital market. Nifty is an indicator of all the major companies of NSE. Nifty index is a composite of the top fifty stocks listed in National Stock Exchange. At present every country to have its own foreign policy and regulation related to capital market. India also has a foreign policy right from the pre-independence period till now.

### Literature Review

Bohra and Dutt (2011) examined the behaviour of FIIs in Indian capital market. FIIs influence changed the face of Indian capital market. Screen based trading and depositories are realities because of foreign investment in capital market. They pointed out that FIIs have started playing a crucial role in the movement of BSE Sensex return. A positive contribution of FIIs has been their role in improving the stock market infrastructure. They also argue that the FIIs investment have some positive impact on market capitalization and liquidity of Indian capital market. Shukla et al, (2011) investigated the casual relationship between Foreign Institutional Investors on Indian stock market indices. They concluded that FIIs have significant impact on the return of large cap and mid cap companies.

Kaur and Dhillon(2010) examined the various macroeconomic indicators FIIs investment in India. Return in Indian capital market is an important factor of FIIs investment in India. Exchange rate volatility, Whole ale price index, Index of industrial production and economic growth rate are the various factors affecting the performance of FIIs in India. FIIs have great appetite for equity than debt in their asset structure. Sethi and Sucharita (2009) attempted to examine the foreign investment on Indian economy. FIIs inflows helps in financial innovation and development of hedging instruments. FIIs are treated as professional bodies of assets managers and financial analysts enhance competition and efficiency of financial market.

Prasanna (2008) discussed the role of FIIs in Indian Capital market and analysed the contribution of Foreign Institutional Investment on Indian economy. FIIs investment appreciate the Indian rupee. These investment bring dollars to Indian which get converted into rupee in interbank foreign exchange market. As the supply of dollar increases and high

demand for Indian rupee. This leads to rupee appreciation. The huge amount of FIIs investment create huge demand for Indian rupee. In this situation RBI print more money in the market. This situation could lead to excess liquidity that leads to inflation.

Loomba, J. (2012), attempted to examine the FIIs investment and capital market development in India. FIIs have significant impact on market liquidity, size of the market, reduction of transaction cost, improved corporate governance, and overall development of the market.

### Objective of the Study

- To analyse the volatility of Foreign Institutional Investment in India.
- To analyse the impact of Foreign Institutional Investment on Indian capital market.
- To examine the impact of Foreign Institutional Investment on capital market development in India.

### Research Methodology

#### Data Collection

This study is based on secondary data. The data related to FIIs investment, Sensex and Nifty return are gathered from various sources i.e. RBI Bulletin, Publications from Ministry of Commerce, SEBI Handbook, Handbook of statistic of Indian economy etc. The current study considers 10 years data starting from 2007 to 2017.

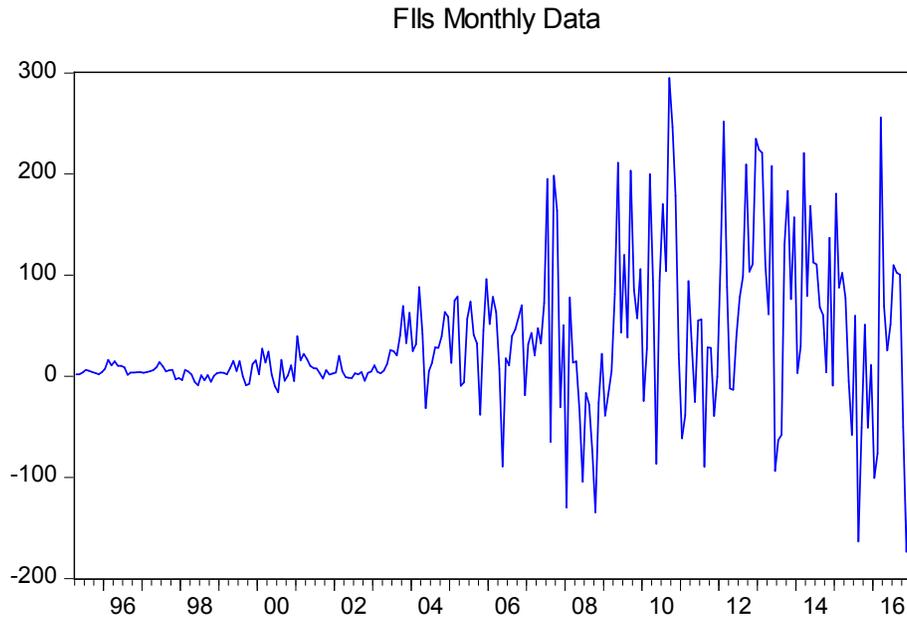
#### Data Analysis

The statistical tools such as correlation and regression analysis are used for capturing the relationship between FIIs investment and capital market in India. The volatility of FIIs investment is analysed through GARCH (1, 1) model. Granger Causality Test is mainly used for determining the impact of FIIs investment on Sensex and Nifty return. Correlation analysis can be used for analysing the impact of FIIs investment on stock market development in India.

#### Growth of Foreign Institutional Investment in India

Although the FIIs are increasingly investing in the Indian stock market since 1995, but since the concluding five years FIIs investment has recorded a historical increase in Indian stock markets. India's capital markets have caught the attention of Foreign Institutional Investors. The Figure 1 indicate that monthly average flow of FIIs investment in India during the entire period is Rs.32.64 billion.

**Figure 1: Growth of FIIs in India**



Source: Compiled from Handbook of statistics of Indian economy

**Volatility of FIIs Investment in India: GARCH (1, 1) Model**

The Generalized Autoregressive Conditional Heteroscedasticity (GARCH) Model is used to empirically investigate the volatility pattern of FIIs investment based on time series data which consists of monthly FIIs investment from 1995 to 2017. In this model, the conditional variance is represented as a linear function of its own lags. The simplest mode specification is the GARCH (1, 1) model.

**Table 1: GARCH Model of FIIs investment**

**Dependent Variable: FIIs investment**  
 $GARCH = C(1) + C(2)*RESID(-1)^2 + C(3)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Variance Equation				
C	2.743177	2.544120	1.078242	0.2809
RESID(-1)^2	0.328905	0.066638	4.935700	0.0000
GARCH(-1)	0.759262	0.038926	19.50529	0.0000
R-squared	-0.205700	Mean dependent var		32.64171
Adjusted R-squared	-0.201116	S.D. dependent var		72.10788
S.E. of regression	79.02694	Akaike info criterion		10.23958
Sum squared resid	1642503.	Schwarz criterion		10.28033
Log likelihood	-1343.505	Hannan-Quinn criter.		10.25595
Durbin-Watson stat	0.992991			

The Table 1 is to look into the behaviour of FIIs investment volatility patterns using the

GARCH model. The result presents that value of ARCH and GARCH is highly significant and sum of both is less than 1. So it is interpreted that model is valid. ARCH value shows that the recent news has a positive impact on the current market volatility. Historical volatility impact is represented by GARCH which is also positive and equal to recent news impact. ARCH and GARCH measures the degree of persistence of volatility shocks. It is also found from the analysis that the sum of ARCH and GARCH coefficients ( $\alpha + \beta$ ) is very close to one. The co-efficient of the GARCH term is larger than ARCH term, which indicates that effect of past volatility is higher than the recent past information. The total of ARCH and GARCH term is less than one, which presents that FIIs investment is volatile.

### Impact of FIIs Investment on Capital Market Return

The Indian Government allowed the entry of FIIs in order to encourage the performance of the capital market. Today, FIIs are permitted role in all securities traded on the primary and secondary markets, including equity shares and other securities listed or to be listed on the stock exchanges. The original guidelines were issued in September 1992. Subsequently, the Securities and Exchange Board of India (SEBI) notified the SEBI (Foreign Institutional Investors) Regulations, 1995 in November 1995.

**Table 2: Pairwise Granger Causality Tests of FIIs investment and average Nifty Return**

Null Hypothesis:	F-Statistic	Prob.
FIIs investment does not Granger Cause Nifty Return	5.23786	0.0059
Nifty Return does not Granger Cause FIIs investment	0.87926	0.4163

Granger Causality Test result are shown in the Table-2. This indicates that the FIIs investment cause nifty return because the probability value is less than 0.05. But nifty return does not cause FIIs investment.

**Table 3: Pairwise Granger Causality Tests of FIIs investment and Sensex Return**

Null Hypothesis:	F-Statistic	Prob.
FIIs investment does not Granger Cause Sensex Return	4.66736	0.0102
Sensex does not Granger Cause FIIs investment	0.73343	0.4813

The resultant Table 3 infer that the FIIs flows-cause Sensex Returns because the probability value is less than 0.05. This indicates that the FIIs activity of in Indian capital market causes movements in Sensex return. On the other hand the Sensex Returns do not cause FII flows.

### Foreign Institutional Investment and Capital Market Development

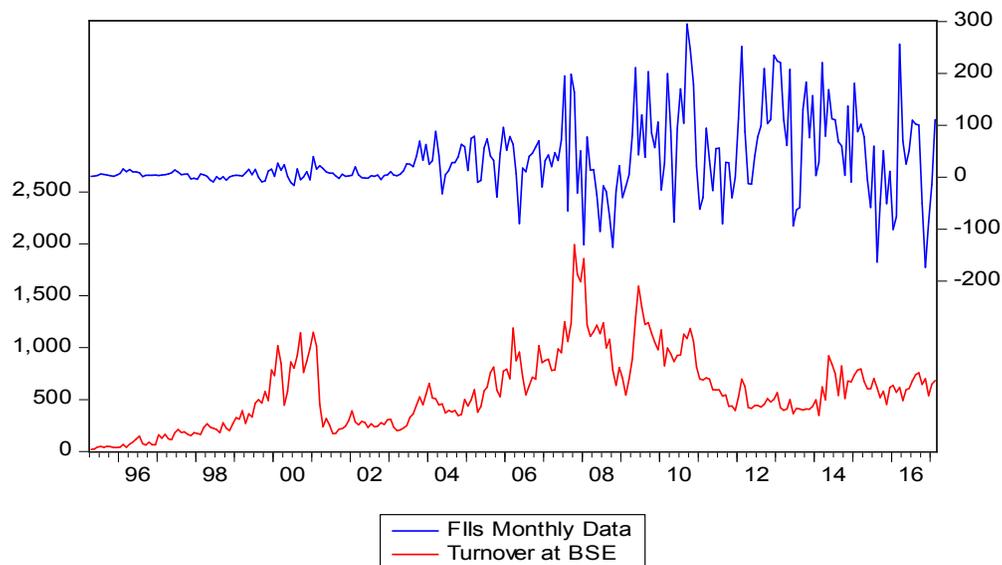
It is a well-known fact that, well-functioning stock markets can act as an important part in economic development processes and a sound economy can advance up the functioning of the stock market. A stock market can mobilize capital, enhance liquidity, diversify risk and

can effect saving decisions, on the other hand the economic prosperity of the country leads to boost up investor confidence and encourage them for further investments. It is hard, nevertheless, to construct accurate measures of these roles. Therefore, the study has used indicators that suit the purpose of the concept of stock market development, by including proxies for stock market development that are most commonly used by academics and practitioners Pagano, (1993) Levine and Zervos, (1998). These indicators are associated with the size, liquidity and volatility of the stock market. Brief and schematic descriptions of such indicators are as follows:

### Stock Market Liquidity

The stock market is said to be liquid if the shares can be rapidly sold and the act of selling has little impact on the stock's price. Liquidity is an important indicator of stock market development because theoretically more liquid stock markets improve the allocation of capital to their optimal use, influence long term investment decisions and facilitate technological innovation, thereby enhancing long term growth. Greater liquidity also has a direct impact on the stock market performance. First, with the increase in market activity, the information content for the share prices also increases and more investors show their attention towards the stock. Second, to control the corporate activities, the effective use of stock market requires that the market should be liquid. The must condition for takeovers is that it requires a liquid capital market where bidders access a huge amount of capital at short notice. Thus, it can be said that the stock market liquidity also works as a function of corporate control.

**Figure 2: Relationship between FIIs Investment and Market Liquidity**

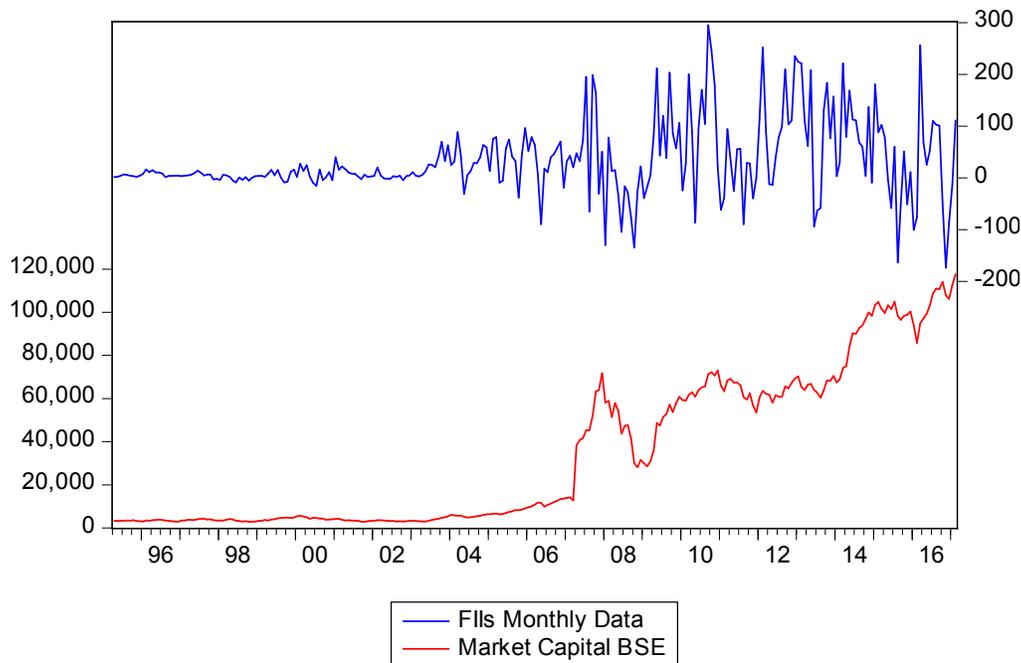


Therefore, stock market liquidity may be a good proxy for information acquisition as well as the control function of capital markets. The turnover ratio is equal to the value traded divided by market capitalization. It measures the size of equity transaction relative to the size of the stock market. The high turnover ratio is often used as an indicator of low transaction costs. A higher turnover ratio may represent greater liquidity and market efficiency. Figure 2 shows that there is a positive association between FIIs investment and liquidity of the Indian capital market.

### Size of the Indian Capital Market (Market Capitalization)

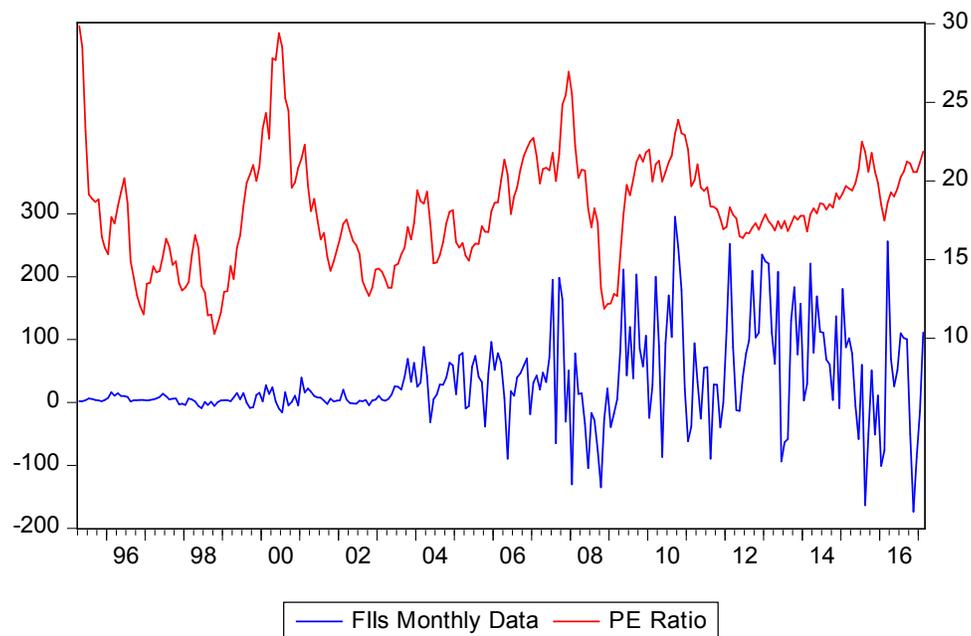
Market capitalization is the aggregate valuation of the company based on its current share price and the total number of outstanding stocks. It is calculated by multiplying the current market price of the company's share with the total outstanding shares of the company. It also helps the investors choose the stock that can meet their risk and diversification criterion. The Figure 3 shows that there is a high degree of positive correlation between FIIs and market capitalization of the market. If FIIs investment is increases the market capitalization also increases.

**Figure 3: Relationship between FIIs Investment and Size of the Market**



### Price – Earnings Ratio

The P/E ratio is a tool that can be used to estimate the fair value of the stock market. The Price to Earnings ratio is one of the most widely used financial ratio analysis among the investors for a very long time. A high P/E ratio generally shows that the investor is paying more for the share. As a thumb rule, a low P/E ratio is preferred while buying a stock, but the definition of 'low' varies from industries to industries. Price to Earnings Ratio= (Price per Share) / (Earnings per Share). P.E Ratio is one of the most basic and fundamental thing that is seen by investors while investing in equities. P.E ratio can tell you the valuation of the market (overvalued, undervalued or rightly valued). The Figure 4 shows that there is a positive correlation between FIIs investment and P.E ratio of the Indian capital market. If FIIs investment increases P.E ratio of the market also increases.

**Figure 4: Relationship between FIIs Investment and P. E Ratio**

## Conclusion

This study shows that the stock price movement in Indian capital market is determined by the buying and selling activities of FIIs. The huge investment by FIIs causes the bull run in stock indices and on the other side, large scale withdrawal causes slump in stock prices. Therefore, the policy makers and regulators in India should set up an investment environment which can be a focus for huge cross-border institutional capital inflows across the globe. This study also revealed that the existence of the causality between FIIs flows and capital market returns in Indian economy. The empirical result of the study indicate that FIIs investment contribute for the development of capital market in India. However, this causality may not be robust as there are a number of macro-economic like inflation, interest rate, foreign exchange rate, etc. which influence the stock returns. Hence, the outlook for further research is to include more variables in this causality study.

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