

Impact of FIIs on National Stock Exchange of India

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Introduction

Capital is considered to be the back bone of any economy. Developing countries like India, domestic capital is not sufficient to fulfil the requirement of economy. Foreign capital plays a very important role. Foreign Capital flow in India through two channels. They are Foreign Direct Investment and Foreign Institutional Investment. FDI is considered as a more stable form of foreign capital as compared to FII. But, FIIs inflows and outflows have a direct impact on the stock market. The Foreign Institutional Investors (FIIs) contributions have brought tremendous changes in the development of stock markets in India. One of the most important features of the development of stock market in India in the last 20 years has been the growing participation of FIIs. Until the 1980s debts and other development funds were used to settle the financial deficit. Foreign investment and private commercial inflows were not much encouraged. From the beginning of the reform process in the early 1990s, India's policy has changed substantially, aiming the growing global foreign direct investment (FDI) and portfolio flows. Since 1992-93, when FIIs were allowed to invest in Indian financial markets, foreign institutional investment has increased over the years except in 2008-09. Investments by FIIs into India depends on market performance and it was quite high quite high in last few years, particularly since 2003-04. FIIs made a record investment in the Indian equity market in 2009, surpassing the 2007 inflows. In India, FIIs have a positive impact on the stock market, business transparency and governance norms.

Developing countries have strengthened their stock market to attract foreign capital flows. FII is a short term investment by foreign institutions, in the financial markets of other countries. These institutions are generally mutual funds, investment companies, pension funds and insurance houses. FIIs strengthen and sustain the stock exchanges and provide a better price for the scripts but at the same time, heavy withdrawal of FIIs will create an adverse effect in the share price and in the Indian rupee. In this paper FIIs flow to India and the relationship between FIIs and National Stock Exchange of India and the impact of FIIs on NSE are examined.

Objectives of Study

- a) To study the growth trend of FIIs.
- b) To analyse the relation and impact of Foreign Institutional Investment (FII) on Indian stock market

Review of Literature

Choe et. al., 1998 examined the influence of FIIs on equity returns in Korea before and during the 1997 Asian crisis and they found that stock price was not affected because of a withdrawal of foreign equity investment. Also, it is not necessary that inviting FIIs to the stock market would increase its volatility as argued by (Rene and Stultz, 1997).

Douma, Kabir and Rejie 2006 investigated the impact of foreign institutional investment on the performance of emerging market firms and found that there is a positive effect of foreign ownership on firm performance. They also found the impact of foreign investment on the business group affiliation of firms.

Mukherjee (2002) examined the various probable determinants of FII and concluded that (1) Foreign investment flows to the Indian markets tend to be caused by return in the domestic equity market; (2) Indian equity market return has an impact on FII flows; (3) performance of the Indian equity market are influenced by the FIIs sale and FIIs purchase, (4) FII investors do not consider Indian equity market for the purpose of diversification of their investment; (5) returns from the exchange rate variation and the fundamentals of the economy may have an impact on FII decisions, but such influence do not prove to be strong enough.

Gordon and Gupta, (2003) confirmed causal effect from FII inflows to return in BSE. They observed that FIIs act as market makers and book profits by investing when prices are low and selling when they are high. Hence, there are contradictory findings by various researchers regarding the causal relationship between FII net inflows and stock market capitalization and returns of BSE/ NSE. Therefore, there is a need to investigate whether FIIs are the cause or effect of stock market fluctuations in India.

Pal, P. (2004) found that FIIs are the major players in the Indian stock market and their impact on the domestic market is increasing. Trading activities of FIIs and the domestic stock market turnover indicate that FII's are becoming more important at the margin as an increasingly higher share of stock market turnover is accounted for by FII trading in India.

Data and Period of study

This study is based on secondary data. FIIs data have been collected from various sources i.e. SEBI Handbook of Statistics, Govt. of India. NSE data is downloaded from the websites of NSE. Daily closing index values are taken for return and volatility. The current study considers 15 years data starting from 2000- 2001- to 2014 – 2015. The study takes 15 years data into consideration.

Research Methodology

Cross-correlation, regression and trend analysis is used to analyse the data. The regression analysis is a statistical technique used to evaluate the effects of independent variables on a single dependent variable. In the current paper attempt is made to study the impact of FII on NSE. It is estimated by ordinary least squares under the following formula:

$$X_t = \beta_1 + \delta Y_t + \mu_t$$

X = NSE variable

Y= FIIs Investment

The specific hypotheses are :

$$H_0 : \delta = 0$$

$$H_1 : \delta \neq 0$$

Null hypothesis is that there is no significant impact of FII on NSE. Variables namely Market Capitalisation, demat trading, trading value, average daily turnover and internet trading are used.

Cross Correlation

In the current study to study the linear relationship between variables such as FII and NSE cross- correlation is applied. The cross - correlation between the time series are tested by using the following formula:

$$\sum_{t=1}^{T-k} (x_t - \bar{x})(y_{t+k} - \bar{y})$$

$$\gamma_{x, y}(k) = \frac{\sum_{t=1}^{T-k} (x_t - \bar{x})(y_{t+k} - \bar{y})}{\left[\sum_{t=1}^T (x_t - \bar{x})^2 \sum_{t=1}^T (y_t - \bar{y})^2 \right]^{1/2}}$$

Where k is greater than, equal to, or less than zero. The significance of estimated cross – correlation is assessed by using approximate standard error, $T^{-1/2}$, (Bartlett, 1966), of the sample of cross – correlation. This helps to identify the causality patterns associated with, $\gamma_{x, y}(k)$.

Empirical Results

Table 1 presents the data about the business growth of the capital market segment of NSE. Table 2 gives the details of Internet trading; Demat trading and FIIs investment in equity. Market capitalization from 2002 -2003 to 2007 – 2008 experienced increasing trend in the market. Again 2011 onwards it was steadily increasing. In the year 2008 – 2009 it was very low due to global financial crisis. Trading value, the Average trading value was very low in 2008-2009 because of global financial crisis and it was high in the year 2014- 2015.

Table 1: Business growth of Capital Market segment of NSE (2000 - 2015)

| Year | Market Capitalization (in cr) | Traded Quantity (in cr) | Trading value (in cr) | Average Daily Trading Value (in cr) |
|-------------|----------------------------------|----------------------------|--------------------------|--|
| 2000 - 2001 | 657,847 | 329,536 | 1,339,510 | 5,337 |
| 2001-2002 | 636,861 | 278,408 | 513,167 | 2,078 |
| 2002-2003 | 537,133 | 364,066 | 617,989 | 2,462 |
| 2003-2004 | 1,120,976 | 713,301 | 1,099,534 | 4,329 |
| 2004-2005 | 1,585,585 | 797,685 | 1,140,072 | 4,506 |
| 2005-2006 | 2,813,201 | 844,486 | 1,569,558 | 6,253 |
| 2006-2007 | 3,367,350 | 855,456 | 1,945,287 | 7,812 |
| 2007-2008 | 4,858,122 | 1,498,469 | 3,551,038 | 14,148 |
| 2008-2009 | 2,896,194 | 1,426,355 | 2,752,023 | 11,325 |
| 2009-2010 | 6,009,173 | 2,215,530 | 4,138,023 | 16,959 |
| 2010 -2011 | 6,702,616 | 1,824,515 | 3,577,410 | 14,029 |

| | | | | |
|-----------|-----------|-----------|-----------|--------|
| 2011-2012 | 6,096,518 | 1,616,978 | 2,810,893 | 11,289 |
| 2012-2013 | 6,239,035 | 1,659,160 | 2,708,279 | 10,833 |
| 2013-2014 | 7,277,720 | 1,533,716 | 2,808,488 | 11,189 |
| 2014-2015 | 9,930,122 | 2,361,779 | 4,329,655 | 17,818 |

Source : NSE Factbook.2015

Table 2: Year wise Internet and Demat Trading of NSE, and FIIs investment (2000 – 2015)

| Year | Internet Trading (in cr) | Demat Trading Value (in cr) | FIIs investment in Equity (in cr) | FIIs Registered with SEBI (in cr) |
|-------------|--------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| 2000 - 2001 | 7,287.81 | 1,264,337 | 10,207 | 527.00 |
| 2001-2002 | 8,138.81 | 512,866 | 8072 | 490.00 |
| 2002-2003 | 15,360.76 | 617,984 | 2527.00 | 502.00 |
| 2003-2004 | 37,945.08 | 1,099,534 | 39960.00 | 540.00 |
| 2004-2005 | 81,033.81 | 1,140,072 | 44123.00 | 685.00 |
| 2005-2006 | 1,83,428.52 | 1,569,558 | 48801.00 | 882.00 |
| 2006-2007 | 337,524.00 | 1,945,287 | 25236.00 | 997.00 |
| 2007-2008 | 668,399.00 | 3,551,038 | 53404.00 | 1319.00 |
| 2008-2009 | 692,789.00 | 2,752,023 | -47706.00 | 1635.00 |
| 2009-2010 | 921,380.00 | 4,138,023 | 110221.00 | 1713.00 |
| 2010 -2011 | 765,271.00 | 3,577,410 | 110121.00 | 1722.00 |
| 2011-2012 | 597,430.00 | 2,810,893 | 43738.00 | 1765.00 |
| 2012 -2013 | 583,073.00 | 2,708,279 | 140033.00 | 1757.00 |
| 2013 -2014 | 627,478.00 | 2,808,488 | 79709.00 | 1710.00 |
| 2014 -2015 | 1,005,984.00 | 4,329,655 | 111333.00 | 1444.00 |

Source : NSE Factbook.2015

Internet trading was steadily increased from 2000 to 2010. FIIs withdrawal was very high in the year 2008-2009. This has affected market capitalisation, trading value, demat trading adversely.

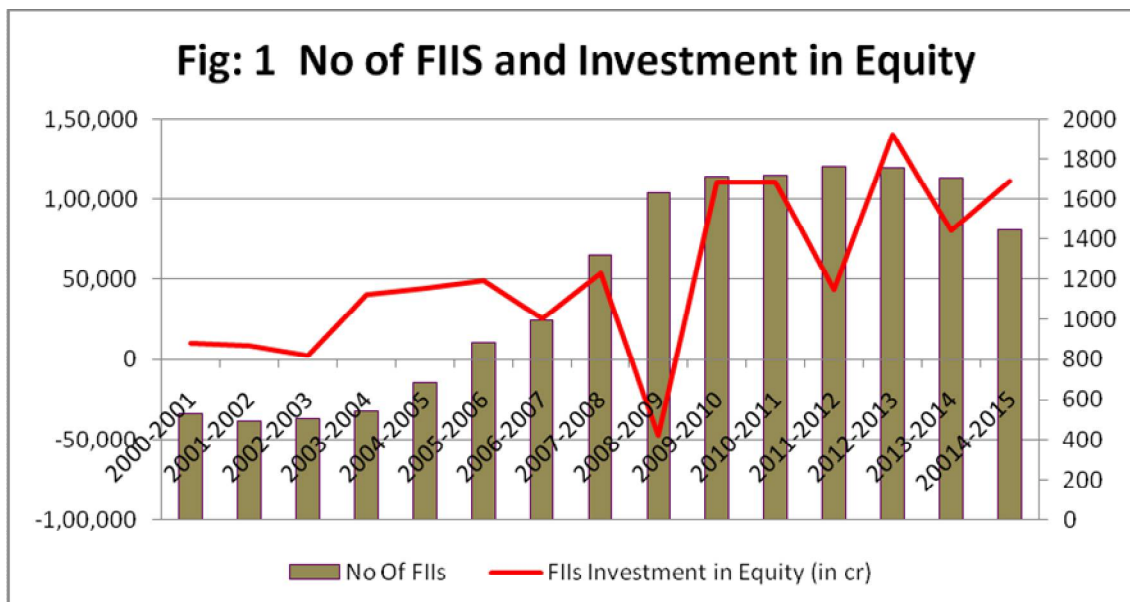


Table - 3 Cross-correlations on FII and NSE (2000 - 2015)

| Lags | FII-Market Captn | FII-Trading Value | FII-Average Daily Value | FII-Internet Trading | FII-Demat Trading |
|------|------------------|-------------------|-------------------------|----------------------|-------------------|
| -5 | .321 | .440 | .346 | .198 | .439 |
| -4 | .381 | .475 | .384 | .233 | .474 |
| -3 | .504 | .612* | .523 | .364 | .612* |
| -2 | .569* | .525 | .471 | .531 | .531 |
| -1 | .654* | .619* | .615* | .660* | .623* |
| 0 | .904* | .843* | .885* | .877* | .846* |
| 1 | .708* | .618* | .653* | .677* | .619* |
| 2 | .649* | .595* | .644* | .617* | .596* |
| 3 | .408 | .377 | .411 | .392 | .377 |
| 4 | .347 | .334 | .373 | .311 | .334 |
| 5 | .184 | .152 | .173 | .147 | .152 |

* Significant at 1% level.

Cross-correlation results show that there is a significant relationship between FII and NSE variables. The entire variables selected for the study has correlated with FII investment in equity.

**Table 4
Regression analysis between FII and NSE**

| Dependant Variable | β_1 | δ (FII) | R ² |
|-----------------------------|------------------------|--------------------|----------------|
| Internet Trading | 230583.735 (2.00) | 3.942 (2.44)* | 0.314 |
| Demat Trading | 1532517.31 (3.940) | 15.181 (2.785)* | 0.374 |
| Market Capitalization | 1815632.467 (2.391) | 42.953 (4.037)* | 0.556 |
| Trading Value | 1542119.731 (3.973) | 15.093 (2.775)* | 0.372 |
| Average Daily Trading Value | 6212.863 (3.890) | .060 (2.70)* | 0.360 |

Relationship between FII and NSE has been analysed by simple regression. R-square value is more than 35%. P value is less than 0.05 which means the null hypothesis that there is no significant impact of FII on NSE is rejected and concluded that there is significant impact of FII on NSE.

Table 5: Growth Trend in FII Investment in Equity

| Particulars | Growth function | α | β_1 | R ² |
|----------------|-----------------|----------------------|---------------------|----------------|
| FII investment | Linear | -7678.676 (-.358) | 7457.993 (3.158) | .434 |

t values are significant at 5% level. Figures in the parenthesis are t value.
FII investment has experienced linear growth trend during the study period.

Conclusion

FII's contribution to the Indian stock market has great influence on the market. But their investment is fluctuating from time to time from 2000 - 2015. FII's withdrawal has plummeted down the share price. Apart from FII's investment there are other major factors that influence the bourses in the stock market, but FII is definitely one of the factors. There has been a correlation between FII's investment in equity and NSE Capital market segment. But the relationship is significant at 1% level. Our results prove that FII's did have a moderate significant impact on the Indian capital market. Therefore, the alternate hypothesis is accepted. FII'S have a positive impact on NSE.

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