DOES THE STOCK MARKET RISE OR FALL DUE TO FIIS IN INDIA?

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ABSTRACT

The growing participation of FIIs in Indian stock market has raised eyebrows of many Indians. Their influence on stock markets in India has been widely debated and remained a hot topic in media. This paper examines the relationship between Indian stock market and FIIs investment in India and finds that both, Indian stock market and FIIs influence each other; however, their timing of influence is different.

Keywords: FIIs, stock markets, investments, cause-effect, India, etc.

INTRODUCTION:

Some of the market pundits believe that FIIs are responsible for rise or fall in the Indian stock market. Consequently, we see the headlines like, 'FIIs drive Sensex to 2-month high' or 'FII selling drives down stock prices for 3rd day-Volatility may continue, say market players' etc which use to appear in business newspapers, most frequently. This raises a question as to whether FIIs are really a cause or effect of the rise or fall in the Indian stock market.

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. Since September, 1992 when FIIs were allowed to invest in India, the no. of FIIs has grown over a period of time. At end-march 2009, there were 1626 FIIs registered with SEBI. (Table 1)

TABLE 1
FIIs REGISTERED WITH SEBI

YEAR	FIIs AT END OF MARCH	NET ADDITIONS IN FIIs DURING THE YEAR
1993-94	3	3
1994-95	156	153
1995-96	353	197
1996-97	439	86
1997-98	496	57
1998-99	450	-46
1999-00	506	56
2000-01	527	21
2001-02	490	-37
2002-03	502	12
2003-04	540	38
2004-05	685	145
2005-06	882	197
2006-07	997	115
2007-08	1,319	322
2008-09	1,626	307

Source: SEBI

This is not unusual as most of the developing economies might be experiencing the same patterns. The increasing role of FIIs has brought in the development of our stock markets as well such as expansion of the business in securities, increased depth and breadth of the market, etc.

FIIs contribute to almost 13% of the entire market capitalization at National Stock Exchange in India. If we talk of FIIs investment, this has been continuously grown over years except 1998-99 and 2008-09 when FIIs sold more than they purchased in Indian stock market. (Table 2)

TABLE 2

FIIs INVESTMENTS IN INDIA

YEAR	Gross Purchase (Rs.crore)	Gross Sales (Rs.crore)	Net Investment (Rs.crore)	Net Investment (USD mn)	Cumulative Net Investment ((USD mn.)
1	2	3	4	5	6
1992-93	18	4	13	4	4
1993-94	5,593	467	5,127	1,634	1,638
1994-95	7,631	2,835	4,796	1,528	3,167
1995-96	9,694	2,752	6,942	2,036	5,202
1996-97	15,554	6,980	8,575	2,432	7,635
1997-98	18,695	12,737	5,958	1,650	9,285
1998-99	16.116	17,699	-1,584	-386	8,899
1999-00	56.857	46.735	10,122	2,474	11,373
2000-01	74,051	64,118	9,933	2,160	13,532
2001-02	50,071	41,308	8,763	1,839	15,372
2002-03	47,062	44,372	2,689	566	15,937
2003-04	1,44,855	99,091	45,764	10,005	25,943
2004-05	2,16,951	1,71,071	45,880	10,352	36,294
2005-06	3.46,976	3,05,509	41,467	9,363	45,657
2006-07	5,20,506	4,89,665	30,841	6,821	52,478
2007-08	9,448,018	8,81,839	66,179	16,442	68,919
2008-09	6.14,576	6,60,386	-45,811	-9,837	59,082
2009-10	8,46,438	7.03.780	1,42,658	30,253	89,335

Source: SEBI

The net cumulative investments by FIIs stood at USD 89.3 billion at the end of March, 2010. Because of their war chests of money, the role of FIIs can't be ignored. FIIs have dynamic portfolios across countries which they use to restructure and rebalance depending on the market conditions, definitely, with a motive to increase their gains. Because of their size of investment in any market, they have the ability to make or break the fortunes of any market. The present study deliberates on the issue whether FIIs set direction to the market.

RESEARCH OBJECTIVE:

To know whether FIIs are the cause or effect of the rise or fall in the Indian stock market.

LITERATURE REVIEW:

The waves of liberalization results in appreciation of stock price which is followed by inflows from foreign investors [Bekaert and Harvey (1998a, b), Henry 1997)]. The stock market shows more reaction to foreign investment as the economy liberalizes. A concern with the entry of FIIs is that they are positive feedback traders—traders who buy when the market increases and sell when the market falls. This acts as destabilizing because the sales by FIIs lead the stock market to fall further and their

buys increase the stock market [Dornbusch and Park (1995), Radelet and Sachs (1998), Richards (2002)]. Not only this, these trades push the stock-prices away from the fundamentals as revealed by studies on contemporaneous relation between FIIs investments and equity returns based on monthly data [Bohn and Tesar (1996), Clark and Berko (1996)]. Choe et. al., (1998) examined the influence of FIIs on equity returns in Korea before and during the 1997 Asian crisis and they found no evidence of stock prices falling because of a withdrawal of foreign equity investment. Also, it is not necessary that inviting FIIs to the stock market would increase its volatility [Stultz (1997), Bekaert and Harvey (1998b)].

Most of the existing literature on FIIs in India found that the equity return has a significant and positive impact on the FIIs (Agarwal, 1997; Chakrabarti, 2001; and Trivedi and Nair, 2003). But, given the huge volume of investments, foreign investors could play a role of market makers and book their profits, i.e. they can buy financial assets when the prices are declining, thereby jacking-up the asset prices and sell when the asset prices are increasing (Gordon and Gupta, 2003).

The possibility of bi-directional relationship between FII and the equity returns was explored by Rai and Bhanumurthy (2003). They studied the determinants of foreign institutional investment in India during the period 1994-2002. They found, using monthly data that the equity returns is the main driving force for FII investment and is significant at all levels. They further studied the impact of news on FII flows and found that the FIIs react more (sell heavily) to bad news than to good news.

Prasuna (1999) also studied the determinants of FI investments in India using monthly data from January 1993 to March 1998. He found that lagged FII investment is significant at 1% level. Also, percentage change in BSE Sensex is also significant at 1%. Exchange rate, interest rates, forward premium and foreign exchange reserves have been found to be insignificant.

Using monthly data between May 1993 and Dec. 1999, Chakrabarti (2001) found that FII flows and stock returns are strongly correlated in India. The entire sample period was sub-divided into Pre-Asian Crisis and Post-Asian Crisis period to capture the impact of the Asian crisis on the net FII inflows. Following analysis, he suggested that FII inflows are more likely to be the effect than the cause of the stock returns. It was also found that FIIs do not have any informational disadvantage in comparison with domestic investors in India, since the US and world return are not significant in explaining FII flows. Besides, changes in country risk ratings for India do not appear to affect the FII flows. The beta of the Indian market with respect to S&P 500 index seems to affect the FII flows inversely, but the effect disappeared in the post-Asian crisis period. There appear to be significant differences in the nature of FII flows before and after the Asian crisis. In the post-Asian crisis period i.e. from 1998 onwards, returns on the BSE National Index became the sole driving force behind the FII flows.

Kumar (2001) investigated the effects of FII inflows on the Indian stock market represented by the Sensex using monthly data from January 1993 to December 1997. Kumar (2001) inferred that FII investments are more driven by Fundamentals and they do not respond to short-term changes or technical position of the market. In testing whether Net FII Investment (NFI) has any impact on Sensex, a regression of NFI was estimated on lagged values of the first difference of NFI, first difference of Sensex and one lagged value of the error correction term (the residual obtained by estimating the regression between NFI and Sensex). The study concluded that Sensex causes NFI. Similarly, regression with Sensex as dependent variable showed that one month lag of NFI is significant, meaning that there is causality from FII to Sensex. This finding is in contradiction with the findings of Rai and Bhanumurthy (2003) who did not find any causation from FII to return in BSE using similar data between 1994 and 2002. However, Rai and Bhanumurthy have also found significant impact of return in BSE on NFI.

Gordon and Gupta (2003) found causation running 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.

HYPOTHESIS:

The following hypotheses have been selected for the study:

H_{01}=FIIs don't cause rise or fall in stock prices.

H_{02}=Stock prices don't cause rise or fall in FIIs.

DATA, VARIABLES AND METHODOLOGY:

The study covered the period from Ist April, 2006 to 28th February, 2011. The primary source of data is the website of National Stock Exchange wherein we got data regarding:

(a) Daily data on FIIs purchases and sales on NSE
(b) Daily Advances and Decline Data of NSE

The following variables have been calculated for study:

- ***FIIs Purchase to Sales Ratio (PSR)*** - This ratio was calculated based on the daily purchases and sales data of FIIs.

  When,

  >1 (more than 1) =FIIs have pumped in money, i.e. FIIs are net purchasers.
  <1(less than 1) =FIIs have withdrawn the money, i.e. FIIs are net sellers.

- ***An Advance to Decline Ratio (ADR)*** – This ratio was calculated based on daily advance and decline data of NSE. This indicates the breadth of the whole market.

  When,

  >1 (more than 1) =Stock market rise
  <1(less than 1) =Stock market fall

This paper uses linear regression as well Granger Causality tests to examine the cause or effect of FIIs on Indian stock market.

RESULTS AND DISCUSSIONS:

Prior to performing regression analysis, it is important to be confirmed whether the data is stationery or not. Therefore, Augmented Dickey Fuller test (Hamilton, J., 1994) was conducted to check the data. The unit root test results obtained through ADF test are as follows:

VARIABLE	TEST STATISTIC	P VALUE
ADR (NSE)	-23.577	0.0000*
PSR (FII)	-11.6001	0.0000*

*Significant at 1% level of significance.

The result of the test confirms that the data is stationery. Now, the standard OLS regression test was applied by first, taking ADR as dependent variable and PSR as independent variable. The following results were obtained from the linear regression:

VARIABLE	COEFFICIENT	STD.ERROR	T-STATISTIC	P VALUE
PSR (FII)	4.589788	0.280947	16.33682	0.0000*

*Significant at 1% level of significance.

The result of the regression above shows that FIIs influence the stock market. On the other side, the OLS regression test was also applied by talking PSR as dependent variable and ADR as independent variable. The result of the linear regression is as follows:

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	P VALUE
ADR (NSE)	.039	.002	16.337	0.000*

*Significant at 1% level of significance.

The above results also show an influence of stock markets on FIIs. In order to know whether FIIs cause stock markets to rise or fall or stock markets cause FIIs to purchase or sell, Granger Causality Test (1969) was conducted, first, by talking a lag of 1 period (i.e. 1 day). The following results were obtained:

NULL HYPOTHESIS	F-STATISTIC	P VALUE
PSR (FII) does not Granger Cause ADR(NSE)	1.97515	0.16016
ADR(NSE) does not Granger Cause PSR (FII)	12.3539	0.00046*

*Significant at 1% level of Significance

The p-value indicates that the null hypothesis that PSR (FII) does not granger cause ADR(NSE) can't be rejected and the null hypothesis that ADR (NSE) does not granger cause PSR (FII) can be rejected. In other words, there is statistical evidence that FIIs purchase or sell by taking leads through the movement of stock markets. That is to say that FIIs are feedback traders.

The Granger Causality Test (1969) was also conducted by taking two period lag (i.e. 2 days). The following results were obtained:

NULL HYPOTHESIS	F STATISTIC	P VALUE
PSR (FII) does not Granger Cause ADR(NSE)	2.49440	0.08297 *
ADR(NSE) does not Granger Cause PSR (FII)	13.2378	2.1E-06

*Significant at 10% level of significance

The p-value indicates that the null hypothesis that PSR (FII) does not granger cause ADR (NSE) can be rejected, however, the null hypothesis that ADR (NSE) does not granger cause PSR (FII) can't be rejected. This proves the statistical evidence that when FIIs purchase/sell, there is an influence on the stock market. Consequently, either the stock market rise or fall on account of FIIs activities.

CONCLUSION:

There has been growing presence of FIIs in Indian stock market evidenced by increase in their nut cumulative investments. This shows that Indian stock markets have become vibrant in terms of their composition of various constituents of the market. On the other side, the increasing presence of this class of investors leads to reform of securities market in terms of trading and transaction systems, making local markets at par with the international markets.

The increase in FIIs investments brings inflow of capital; however, there are limits in India (maximum 22%) for FII investment in a single firm. On the flip side, foreign capital is free and unpredictable and is always on the look out of profit, the reason being, the portfolio managers of these FIIs are always on their toes for booking profits for their dynamic portfolios across countries. Therefore, increased volatily associated with FIIs investments resulting in severe price fluctuations can't be ignored.

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