

A COMPARATIVE STUDY OF INVESTMENT BEHAVIOR OF FOREIGN INSTITUTIONAL INVESTORS AND DOMESTIC INSTITUTIONAL INVESTORS IN INDIAN SECURITY MARKET

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In the past one and a half a decade, FIIs have gained so much importance that study of stock market; its movement etc. is incomplete without reference to the big player: 'THE FIIs' as FIIs being a dominant player are believed to be the sole driver of the stock market. It is also believed that even the local players be it the domestic institutional investors (DIIs) or retail investors also follow the FIIs. This study is an attempt to find out the level of association (if any) between three groups of variables: FIIs-stock market returns, FIIs-DIIs and DIIs -stock market returns along with trying to find out the variables that precede the other variables using Granger Causality Tests. Weekly data has been used for the study period from the period Jan 2000-Dec 2008. All the tests have been done for three sub periods apart from the total period to see if there is any impact on the relationship because of different situation. Results revealed high and positive level of correlation between FIIs net investment and BSE Sensex returns in all the 9 years with negative relation between FIIs and DIIs (proxied by mutual funds) and no set pattern between DIIs and stock market returns.

Introduction

Cross country capital flows have become prominent after globalization that marked the advent of policy liberalization and financial sector reforms in various countries in 1990's.

The period has been a significant period in the story of Indian liberalization with a gradual shift towards capital account convertibility. Financial sector reforms of 1990s have brought rapid changes in India in the last decade. Opening up of the domestic stock market to Foreign Institutional Investors since September 1992 provided the much-needed liquidity to the Indian markets. After liberalization, FII investment forms the dominant part of total capital flows in the country. Foreign investors provide two important elements-capital and international linkages. As FIIs have access to large funds they can have dominant influence on the developing countries' capital markets specially if there is absence of large domestic investors. The main logic behind opening up of

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capital market to FIIs was that it could provide a higher degree of liquidity at stock markets thereby increasing Price earning (P/E) ratios and reducing cost of capital for investment. But there is also an associated cost with it and that is the volatility that these FIIs bring to the stock markets because of which they are often viewed as culprits behind bouts of market instability and thus for destabilizing the whole economy. As FIIs are mostly active in secondary market and that too in the equity segment rather than debt, so our study has concentrated on the investment pattern in equities and secondary market. The increase in FII net inflow in addition to increasing the stock market activity has also brought about a surge in the secondary stock market which resulted in the beginning of Sensex boom since 2003. In recent years capital inflows have been so magnanimous that the finance minister Mr. P.Chidambaram in his budget speech of 2008-09 has shown concern over the same by putting it as a "Challenge to Monetary Management". The article is an addition to the existing literature as the time period has been divided into bear and bull phases to see their impact on the investment behavior.

Table 1: Shareholding pattern of FIIs & DIIs in Sensex Companies

| Name | Normal Share (Percentage) Adjustment | | Free Float Float Shares Factor (as on 31.12.08) | | Share in Free | |
|---|--------------------------------------|-------|---|------|---------------|-------|
| | FII | DII | FII | DII | FII | DII |
| ACC Ltd. | 9.41 | 23.22 | 0.55 | 0.55 | 17.11 | 42.22 |
| Bharat Heavy Electricals Ltd. | 16.02 | 9.52 | 0.35 | 0.35 | 45.77 | 27.20 |
| Bharti Airtel Ltd. | 21.99 | 6.47 | 0.35 | 0.35 | 62.83 | 18.49 |
| DLF Ltd. | 6.85 | 0.44 | 0.15 | 0.15 | 45.67 | 2.93 |
| Grasim Industries Ltd. | 20.62 | 22.33 | 0.75 | 0.75 | 27.49 | 29.77 |
| HDFC Bank Ltd. | 27.44 | 10.59 | 0.85 | 0.85 | 32.28 | 12.46 |
| Hindalco Industries Ltd. | 10.36 | 14.2 | 0.70 | 0.70 | 14.8 | 20.29 |
| Hindustan Unilever Ltd. | 14.85 | 15.1 | 0.5 | 0.5 | 29.70 | 30.20 |
| Housing Development Finance Corpn. Ltd. | 58.85 | 28.17 | 0.85 | 0.85 | 69.24 | 33.14 |
| ICICI Bank Ltd. | 36.6 | 22.38 | 1 | 1 | 36.60 | 22.38 |
| ITC Ltd. | 13.89 | 37.93 | 0.7 | 0.7 | 19.84 | 54.19 |

| | | | | | | |
|----------------------------------|-------|-------|------|------|-------|-------|
| Infosys Technologies Ltd. | 32.99 | 8.63 | 0.85 | 0.85 | 38.81 | 10.15 |
| Jaiprakash Associates Ltd. | 22.3 | 12.69 | 0.60 | 0.60 | 37.17 | 21.15 |
| Larsen & Toubro Ltd. | 13.69 | 37.37 | 0.9 | 0.9 | 15.21 | 41.52 |
| Mahindra & Mahindra Ltd. | 24.18 | 26.8 | 0.75 | 0.75 | 32.24 | 35.73 |
| Maruti Suzuki India Ltd. | 14.39 | 25.04 | 0.5 | 0.5 | 28.78 | 50.08 |
| NTPC Ltd. | 4.07 | 2.99 | 0.15 | 0.15 | 27.13 | 19.93 |
| Oil & Natural Gas Corpn. Ltd. | 5.61 | 6.43 | 0.2 | 0.2 | 28.05 | 32.15 |
| Ranbaxy Laboratories Ltd. | 4.16 | 11.58 | 0.4 | 0.4 | 10.40 | 28.95 |
| Reliance Communications Ltd. | 7.96 | 9.48 | 0.35 | 0.35 | 22.74 | 27.09 |
| Reliance Industries Ltd. | 15.52 | 9.02 | 0.5 | 0.5 | 31.04 | 18.04 |
| Reliance Infrastructure Ltd. | 17.78 | 25.56 | 0.65 | 0.65 | 27.35 | 39.32 |
| State Bank of India | 10.42 | 14.74 | 0.45 | 0.45 | 23.16 | 32.76 |
| Sterlite Industries (India) Ltd. | 6.81 | 7.86 | 0.4 | 0.4 | 17.03 | 19.65 |
| Sun Pharmaceutical Inds. Ltd. | 18.84 | 5.94 | 0.4 | 0.4 | 47.10 | 14.85 |
| Tata Consultancy Services Ltd. | 10.49 | 7.16 | 0.25 | 0.25 | 41.96 | 28.64 |
| Tata Motors Ltd. | 9.18 | 16.6 | 0.65 | 0.65 | 14.12 | 25.54 |
| Tata Power Co. Ltd. | 19.1 | 28.58 | 0.7 | 0.7 | 27.29 | 40.83 |
| Tata Steel Ltd. | 12.98 | 25.17 | 0.7 | 0.7 | 18.54 | 35.96 |
| Wipro Ltd. | 5.81 | 1.83 | 0.2 | 0.2 | 29.05 | 9.15 |

Source: Prowess and BSE

| Range | No. of Companies | |
|--------|------------------|-------|
| | FII's | DII's |
| <10% | 0 | 2 |
| 10-20% | 8 | 7 |
| 20-30% | 10 | 9 |
| 30-40% | 6 | 7 |
| 40-50% | 4 | 3 |
| >50% | 2 | 2 |

*DII here includes Mutual funds/ UTI, banks, FIs, Insurance companies, other institutions.

In the Indian market, we have mutual funds' making investment in the Indian stock market but their investment is quite low as compared to FII's which is evident from the following data:

Table 2: Trends in FII and Mutual Fund Yearly Net investment since 2000

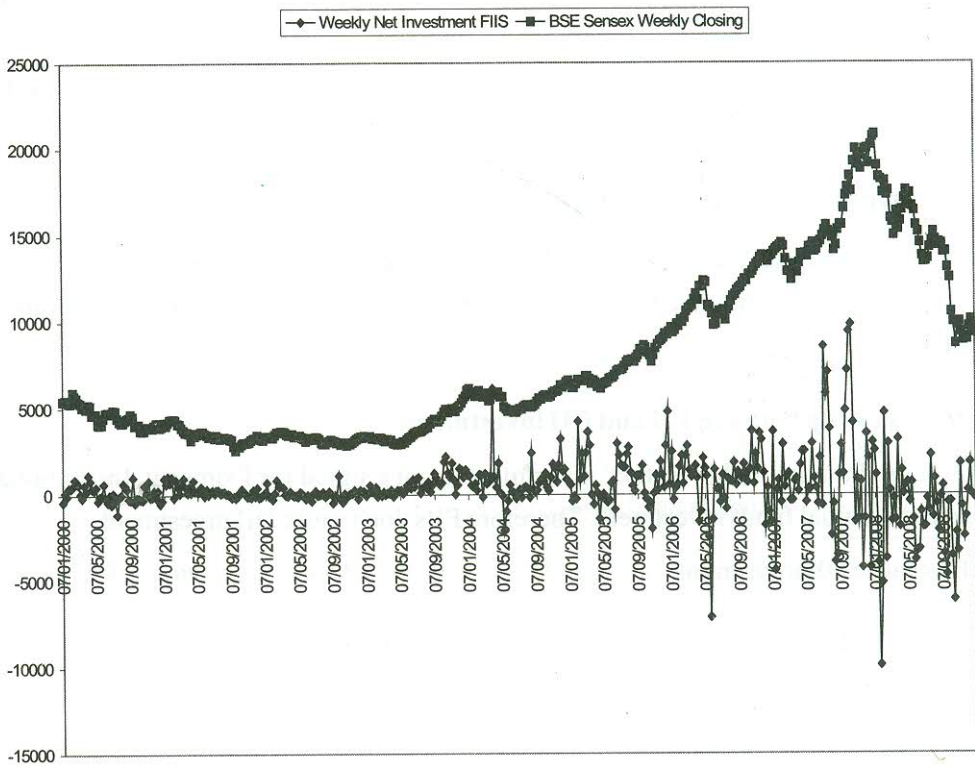
| Year | FII Net Investment | Mutual Fund Net Investment |
|-----------------------------|--------------------|----------------------------|
| Net Investment for the year | ₹ crores | ₹ crores |
| 2000 | 6370.5 | -784.4 |
| 2001 | 13081.7 | -4980.4 |
| 2002 | 3655.8 | -3109.4 |
| 2003 | 29706.4 | 289.4 |
| 2004 | 39739.9 | -916.3 |
| 2005 | 47181.9 | 13383.2 |
| 2006 | 37191.5 | 15384.2 |
| 2007 | 71942.24 | 6833.9 |
| 2008 | -52769.5 | 13933.4 |

Source: SEBI

This study has made an attempt to find out the impact of these two categories of institutional investors (one being foreign and the other one domestic) on the Indian stock market and also on each other. Karl Pearson's coefficient of correlation has been used to find out the association of the BSE Sensex, net investment by FIIs and mutual funds. But because of the limitation of coefficient of correlation that it tells about the co movement but does not tell as to which variable is causing the other variable, cause and effect relationship cannot be established and so Granger Causality tests have been applied to test the causal relationship between BSE Sensex returns, FII net investment, Mutual funds' net investment.

Chart 1: Movement of FII net investment and BSE Sensex: Year 2000-08

As can be seen from the chart below, since 2003 FII net investment has increased tremendously showing the intensified purchases as compared to sales of the Indian equity. This increase in FII net inflow has also brought about a surge in the secondary stock market as shown by BSE Sensex boom since 2003. So the total time period has been divided into two sub samples where 2003 marks the dividing year.



DATA DESCRIPTION:

The data set consists of weekly net investment (Gross purchases minus gross sales) made by FIIs and mutual funds in the Indian stock market that is obtained by cumulating the daily net investment values obtained from SEBI. Further weekly closing values of the Sensex are taken from the database maintained by CMIE i.e. PROWESS. The time period for the study is of 9 years starting from January 2000 and ending on December 2008, which is, further sub divided into three time periods i.e.

1st Phase: January 2000 to December 2003

2nd Phase: January 2004 to December 2007

3rd Phase: January 2008 to December 2008

Time period has been divided on the basis of movements in the stock exchange that was a result of elimination of long term capital gain on stock market transactions in 2003-2004.

Pearson correlation has been applied only on the series that are stationary.

The weekly closing values of the Sensex are converted to percentage returns using natural logarithms as:

$\text{Log}_e(P_t / P_{t-1}) * 100\%$, where P_{t} is the closing value of the stock index on date t and P_{t-1} is the value on the previous date.

HYPOTHESES OF THE STUDY:

The hypotheses have been framed on the basis of theoretical assumption that different groups of investors formulate their strategies by taking into account the behavior of their counterparts.

1) Relationship between FII and DII investment

H_0 : Foreign Institutional Investors' investment is not a signal for Domestic Institutional Investors' (mutual fund) investment. Therefore FIIs don't cause DII investment.

H_a : FIIs cause DII investment.

2) Relationship between BSE Sensex returns and FII investment

H_0 : Returns do not cause FII investment

H_a : Returns cause FII investment.

3) Relationship between BSE Sensex returns and DII (mutual Funds) investment

H_0 : Returns do not cause DII investment

H_a : Returns cause DII investment.

As time series data is being dealt with in the study, so the first step is to check for stationarity of the variables.

The Unit Root Test:

Three forms of Augmented Dickey fuller test that is without constant, with constant and with constant and intercept have been checked and on the basis of Schwarz criterion the equation with intercept had least value and it showed that all the three series are stationary in all the four phases.

FII's:

| | | | |
|--|-----------|--------------------|---------|
| Jan 2000 to Dec 2008 ADF Test Statistic | -10.50452 | 1% Critical Value* | -3.4466 |
| | | 5% Critical Value | -2.8680 |
| | | 10% Critical Value | -2.5702 |
| Jan 2000 to Dec 2003 ADF Test Statistic | -5.516910 | 1% Critical Value* | -3.4634 |
| | | 5% Critical Value | -2.8756 |
| | | 10% Critical Value | -2.5742 |
| Jan 2004 to Dec 2007 ADF Test Statistic | -7.233483 | 1% Critical Value* | -3.4633 |
| | | 5% Critical Value | -2.8755 |
| | | 10% Critical Value | -2.5742 |
| Jan 2008 to Dec 2008 ADF Test Statistic | -4.958536 | 1% Critical Value* | -3.5625 |
| | | 5% Critical Value | -2.9190 |
| | | 10% Critical Value | -2.5970 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Mutual Funds:

| | | | |
|--|-----------|---|-------------------------------|
| Jan 2000 to Dec 2008 ADF Test Statistic | -13.14683 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.4466 -2.8680 -2.5702 |
| Jan 2000 to Dec 2003 ADF Test Statistic | -9.269670 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.4634 -2.8756 -2.5742 |
| Jan 2004 to Dec 2007 ADF Test Statistic | -7.741900 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.4633 -2.8755 -2.5742 |
| Jan 2008 to Dec 2008 ADF Test Statistic | -5.546441 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.5625 -2.9190 -2.5970 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

BSE Sensex weekly Returns

| | | | |
|--|-----------|---|-------------------------------|
| Jan 2000 to Dec 2008 ADF Test Statistic | -13.48738 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.4466 -2.8680 -2.5702 |
| Jan 2000 to Dec 2003 ADF Test Statistic | -9.654829 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.4634 -2.8756 -2.5742 |
| Jan 2004 to Dec 2007 ADF Test Statistic | -9.755857 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.4633 -2.8755 -2.5742 |
| Jan 2008 to Dec 2008 ADF Test Statistic | -4.035760 | 1% Critical Value* 5% Critical Value 10% Critical Value | -3.5625 -2.9190 -2.5970 |

*MacKinnon critical values for rejection of hypothesis of a unit root

The results revealed that net FII investment and net mutual funds investment do not have any unit root at the conventional level and thus they are found to be stationary whereas BSE sensx price index has a unit root at the conventional level but is found to be stationary in the first difference and so BSE sensx stock returns have been used for further analysis.

FII's being a dominant player in the Indian stock market move the markets when they enter or exit the market and thus FII's and BSE Sensx tend to move together which is further strengthened from the coefficient of correlation that has been shown below. A positive and quite high correlation is found to exist between the FII's net investment and BSE sensx returns and thus some domestic shock absorber is required that can provide some sort of stability to the markets. It has been observed that at the time of financial crisis, government comes up with directives to LIC and other public sponsored mutual funds to invest in the stock market to provide it some support. The correlation between mutual funds net investment and BSE sensx returns is found to be negative in six out of nine years' period covered in the study. FII's weekly net investment and mutual funds weekly net investment are found to be negatively correlated in all the 9 years and it ranges between -2% to -53%.

Unexpected but true that domestic fund managers and FII's seem to have diametrically opposing views on the markets. Since the Bull Run that began in early 2003, FII's have been net buyers in Indian stocks in 53 out of 63 months whereas domestic mutual funds have been altering their portfolios and taking more profit booking opportunities than FII's as they have been net sellers in 28 out of 63 months. But because of their relatively small share, there has not been much impact on market direction inspite of their selling.

- a) FII's weekly net investment and weekly returns on BSE Sensx are positively related in all the 9 years, the maximum correlation being as high as 55% in 2004 and lowest being 26% in 2001.
- b) Mutual funds weekly net investment and weekly returns on BSE Sensx are negatively related in 6 out of 9 years.

Table 3: Correlation between FIIs weekly net investment, mutual funds weekly net investment and BSE Sensex weekly returns for the year 2000-2008

| Year | FIIs & Manual funds weekly net investment | FIIs weekly net investment and weekly Sensex returns | Mutual funds weekly investment and weekly Sensex returns |
|------|---|--|--|
| 2000 | -2% | 31% | -9% |
| 2001 | -37% | 26% | -14% |
| 2002 | -43% | 27% | -13% |
| 2003 | -16% | 39% | 44% |
| 2004 | -28% | 55% | -33% |
| 2005 | -49% | 23% | -6% |
| 2006 | -47% | 36% | -14% |
| 2007 | -48% | 33% | 17% |
| 2008 | -51% | 34% | 17% |

Coefficient of correlation between these three variables for the total period and the three sub periods provided the following results:

Table 4: Correlation Coefficient between Weekly Net investment of Foreign Institutional Investors, Mutual Funds and BSE Sensex weekly returns for the Period Jan 2000 to December 2008

| | Foreign Institutional Weekly Net investment | Mutual Funds Weekly Net investment | BSE Sensex Weekly returns |
|---|---|------------------------------------|---------------------------|
| Foreign Investment Institutional Weekly | 1 | -0.408 | 0.316 |
| Mutual Investment Funds Weekly Net | | 1 | 0.040 |
| BSE Sensex weekly returns | | | 1 |

Table 5: Correlation Coefficient between Weekly Net investment of Foreign Institutional Investors, Mutual Funds and BSE Sensex weekly returns for the Period Jan 2000 to December 2003

| | Foreign Institutional Weekly Net investment | Mutual Funds Weekly Net investment | BSE Sensex Weekly returns |
|---|---|------------------------------------|---------------------------|
| Foreign Investment Institutional Weekly | 1 | -0.1101 | 0.3139 |
| Mutual Investment Funds Weekly Net | | 1 | 0.0204 |
| BSE Sensex weekly returns | | | 1 |

Table 6: Correlation Coefficient between Weekly Net investment of Foreign Institutional Investors, Mutual Funds and BSE Sensex weekly returns for the Period Jan 2004 to December 2007

| | Foreign Institutional Weekly Net investment | Mutual Funds Weekly Net investment | BSE Sensex Weekly returns |
|---|---|------------------------------------|---------------------------|
| Foreign Investment Institutional Weekly | 1 | -0.43316 | 0.3324 |
| Mutual Investment Funds Weekly Net | | 1 | 0.0206 |
| BSE Sensex weekly returns | | | 1 |

Table 7: Correlation Coefficient between Weekly Net investment of Foreign Institutional Investors, Mutual Funds and BSE Sensex weekly returns for the Period Jan 2008 to December 2008

| | Foreign Institutional Weekly Net investment | Mutual Funds Weekly Net investment | BSE Sensex Weekly returns |
|---|---|------------------------------------|---------------------------|
| Foreign Investment Institutional Weekly | 1 | -0.5106 | 0.34 |
| Mutual Investment Funds Weekly Net | | 1 | 0.17 |
| BSE Sensex weekly returns | | | 1 |

But because of the limitation of correlation as discussed above, not being able to determine the precedence of the variable in the cause – effect relationship, Granger Causality tests have been applied to test the above stated hypotheses. Causality test developed by Granger (1969), could be summarized as follows

$$R_t = a + \sum_{i=1}^m b_i R_{t-i} + \sum_{i=1}^m \alpha_i F_{t-i} + e_{Rt}$$

$$F_t = m + \sum_{i=1}^m d_i R_{t-i} + \sum_{i=1}^m \beta_i F_{t-i} + e_{Ft}$$

The null hypothesis of FII flows do not Granger cause stock returns can be tested by $H_0: \lambda_i = 0$ for all i 's. Similarly, the null of stock returns do not Granger cause FII flows can be tested by $H_0: \delta_i = 0$ for all i 's. Similarly other variables are incorporated to test the various hypotheses.

1) Relationship between FII and DII investment

H_0 : FIIs investment is not a signal for DIIs (mutual fund) investment. Therefore FIIs don't cause DII investment.

H_a : FIIs cause DII investment.

| PERIOD | LAGS | CASUALTY ACCEPTED |
|-------------------|------|-------------------|
| Jan 2000-Dec 2008 | 1 | FII ↔ MF |
| Jan 2000-Dec 2008 | 2 | FII ↔ MF |
| Jan 2000-Dec 2008 | 3 | FII ↔ MF |
| Jan 2000-Dec 2003 | 1 | FII ↔ MF |
| Jan 2000-Dec 2003 | 2 | FII ↔ MF |
| Jan 2000-Dec 2003 | 3 | FII ↔ MF |
| Jan 2004-Dec 2007 | 1 | FII ↔ MF |
| Jan 2004-Dec 2007 | 2 | FII ↔ MF |
| Jan 2004-Dec 2007 | 3 | FII ↔ MF |
| Jan 2008-Dec 2008 | 1 | FII ↔ MF |
| Jan 2008-Dec 2008 | 2 | FII ↔ MF |
| Jan 2008-Dec 2008 | 3 | FII ↔ MF |

At 10% significance level

The above test reveals that for the total period it is the bi causal relationship between FIIs weekly net investment and mutual funds weekly net investment that is both are taking signals from the other for portfolio formation. But sub-period analysis shows that in the Bear Phase (Jan 2000-Dec 2003) the relationship is found to be Bi-causal for all the three lags. Information content of the market is difficult to decide, so no relationship is established in a bear market and we have a bi-causal relationship that is there is no clear relationship. While in the third period (Bull Phase: Jan 2004-Dec 2007) it is FIIs weekly net investment that seems to be causing mutual funds investment at all the three lags. In the year 2008 which experienced a whole lot of volatility it is the FII net investment that seems to cause mutual fund's investment up to 2 lags but with a lag of three weeks it's difficult to get any signal from FII net investment for mutual funds' net investment.

2) Relationship between BSE Sensex returns and FII investment

H_0 : Returns do not cause FII investment

H_a : Returns cause FII investment

| PERIOD | LAGS | CASUALTY ACCEPTED |
|-------------------|------|-------------------|
| Jan 2000-Dec 2008 | 1 | R ↔ FII |
| Jan 2000-Dec 2008 | 2 | R ↔ FII |
| Jan 2000-Dec 2008 | 3 | R ↔ FII |
| Jan 2000-Dec 2003 | 1 | No Causality |
| Jan 2000-Dec 2003 | 2 | R ↔ FII |
| Jan 2000-Dec 2003 | 3 | No Causality |
| Jan 2004-Dec 2007 | 1 | R ↔ FII |
| Jan 2004-Dec 2007 | 2 | R ↔ FII |
| Jan 2004-Dec 2007 | 3 | R ↔ FII |
| Jan 2008-Dec 2008 | 1 | R ↔ FII |
| Jan 2008-Dec 2008 | 2 | R ↔ FII |
| Jan 2008-Dec 2008 | 3 | R ↔ FII |

On the basis of above, it can be seen that for the total period there is found to be a bi-causal relationship between FIIs and sensdex returns upto a week while with a lag of more than 1 week signals can be drawn for FIIs weekly net investment from Sensdex returns .In case of bear period different results are obtained at different lags as there is no causality at lag 1 and lag 3 while there is found to be bi-causal relationship between returns and FII net investment at a lag of 2 weeks. For the bull period there is a causal relationship from returns to FIIs. In year 2008, inspite of huge volatility, returns drive FII net investment. The results above provide evidence of positive feedback trading where the increase in stock returns leads to an inflow of FII investment

3) Relationship between BSE Sensex returns and Mutual funds weekly net investment

H_0 : Returns do not cause DII investment

H_a : Returns cause DII investment

| PERIOD | LAGS | CASUALTY ACCEPTED |
|-------------------|------|-------------------|
| Jan 2000-Dec 2008 | 1 | R ↔ MF |
| Jan 2000-Dec 2008 | 2 | R ↔ MF |
| Jan 2000-Dec 2008 | 3 | RI ↔ MF |
| Jan 2000-Dec 2003 | 1 | RI ↔ MF |
| Jan 2000-Dec 2003 | 2 | RI ↔ MF |
| Jan 2000-Dec 2003 | 3 | RI ↔ MF |
| Jan 2004-Dec 2007 | 1 | RI ↔ MF |
| Jan 2004-Dec 2007 | 2 | RI ↔ MF |
| Jan 2004-Dec 2007 | 3 | RI ↔ MF |
| Jan 2008-Dec 2008 | 1 | RI ↔ MF |
| Jan 2008-Dec 2008 | 2 | RI ↔ MF |
| Jan 2008-Dec 2008 | 3 | RI ↔ MF |

Above results reveal that returns cause mutual funds in both the total period as well as the bull period while in case of bear period at lag 1 and lag 2 there is found to be causation from returns to mutual funds while at lag 3 there is found to be a bi-causal relationship. In year 2008 also it's the returns that precede Mutual funds' net investment.

CONCLUSION

A number of studies have been conducted to find out the relation between FIIs net investment and stock returns and most of them found that there is a significant and positive impact of returns on FIIs investment (Agarwal 1997, Chakrabarti, Kulwant Rai and N.R Bhanumurthy 2003). But FIIs because of such a huge investment can create a vicious circle where returns attract FIIs but then FIIs investment act as a trigger to further accelerate the stock market returns as can be seen that in Bear phase there is a bi-directional causality at a lag of 2 weeks and similarly for the total period at a lag of 1 week. However for the bull period and in year 2008 which observed wide fluctuations, FIIs investment seems to be the effect rather than the cause of the stock returns. As far as relationship between MFs investment and stock returns is concerned, it is the returns that cause MFs to invest; it might be because of the small stake of mutual funds in the equity holding of listed companies as compared to other dominant players. The study reports that FIIs net investment and MFs net investment shows a negative correlation in all the

nine years period covered in the study. However the cause and effect relationship differs in the bull and bear period, as in the bull period it is the FIIs net investment while in the bear period, both reinforce each other. FII outflows have been tremendous since mid-January 2008 which has been supplemented by a decrease in the stock prices strengthening the impact of FIIs on the Indian stock market. Hence authorities are required to pay attention to the FIIs flows, some lock in period can be set for FIIs or some minimum and maximum range can be determined in monetary terms, within which the investment can be made by FIIs at a particular time. What is required hence is an equally powerful domestic institutional investor base in the form of domestic mutual funds, insurance companies, and pension funds etc. that have a long term investment mindset and are not leveraged. This would help FIIs too as they would be able to sell their holdings without a large impact unlike now when they face redemption pressures due to global factors.

The article provides further ground for exploiting the relation between FIIs and other domestic institutional investors to get a clearer picture.

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