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Abstract:

After the introduction of New Economic Policy in India in 1991, foreign investment could face renewed vigour in terms of FII and FDI and hence, the study analyses the impact of FII on Indian stock market indices of BSE and NSE, particularly during the period between 1999 and 2009. It also critically examines the relationship among FII total purchase in Indian equity and debt market, market capitalization of BSE and NSE, and exchange rates of Indian rupee in terms of dollar.

International capital flows have changed dramatically over the recent decades and, as a result, the cross-border port-folio investment has been increasing to a remarkable extent among different countries. As such, Ms. Anne O. Krueger (IMF), underlines that “Capital flows play an important role in capturing the benefits of globalisation.” International capital flows are highly appreciated in emerging market economies if they are absorbed without causing reversal of capital flows. In this situation, Marc Faber (2004) opines “Asia will be the economic hotspot for the next fifty years” and the emerging big stock markets in Asian regions are Hong Kong, China, South Korea, Taiwan and India.

In recent decades, apart from FDI, FII’s investment, foreign edge funds, offshore funds, etc. are also pumped into Asian markets and have caused growth in investment of different nature. The trade deficit in US may attract funds from the developing countries and may cause volatility to both foreign exchange and stock exchange markets in Asian countries including India. According to US treasury data, released on June 15, 2010, China invested $900.2 billion in US treasury out of its foreign exchange reserves which amounted to $2.45 trillion. Regarding the Indian foreign currency assets, that was, 264.1 billion as on end of September 2009, were invested in multi-currency and multi-asset portfolios, of which, the investment in US securities was $US 148 billion and the investment in other central banks, BIS and IMF was $US 111 billion and the investment in deposits with foreign commercial banks and external asset management companies was US$5.1 billion. However, the interest in investing in US treasury by developing countries slowly tends to fluctuate a declining trend due the instability in the value of US dollar in the recent periods.
India is seen as promising investment destination for foreign countries and, as a result, foreign funds are being attracted by India for one reason or another. For instance, in Brazil, that is in November 2002, when Luiz Inacio Lula Da Silva took office as President, there was confusion in the stock market. But, in the subsequent short period, the government attracted foreign investors again by restructuring institutions and by creating favorable situation. In the similar way, in India, growing infrastructure, development of telecommunication, IT and IT enabled services, tourism, health care, pharmaceutical industries, mergers and acquisition, development in educational activities, upgradation of management education etc are attracting foreign funds in one way or another.

As regards FII, Kishor C Samal\(^2\) (1997) asserts that, in India, hot money movement by foreign institutional investors must be counteracted by the encouragement to small investors to participate in the emerging domestic equity market to withstand any kind of unexpected reversal of capital flows. Reena Aggarwal\(^3\), Leora Klapper and Peter D. Wysocki\(^4\) (2005) analysed the investment allocation choices of actively managed US mutual funds in equities in emerging markets after 1990s and found that US funds were invested in emerging market countries which had good accounting standards, legal frameworks, shareholders rights at the country level and transparency in the issue of ADR at the firm level.

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2-Kishor C Samal, Emerging Equity Market in India: Role of Foreign Institutional Investors, Economics and political Weekly, October 18, 1997, P-2729


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Magnus Dahiqist\(^4\) and Goran Robertson (2001) examined the relationship between foreign ownership and attributes of Swedish firms and concluded that foreigners preferred large firms with low dividends and large cash in the balance sheet and underweighted firms with a dominant owner. Stuart Gillan & Laura T. Starks\(^5\) (2005), analysed the relation between FII and Corporate governance and ownership structure and stated that FII.s became the dominant players in many countries. Hyuk Choe\(^6\), Bong-Chan Kho & Rene M. Stulz (1998) examined the impact of foreign investors on stock returns in Korea during the period between November 30, 1966 and December
1997 and found that there was no evidence of destabilization effects of foreign investors on Korean stock. Eric C. Chang, Joseph W. Cheng, and Ajay Khorana (2000) examined the investment behavior of market participants in investment markets in US, Hong Kong, Japan, South Korea, and Taiwan and opined that the evidence of herding was found in US and Hong Kong, partial herding was found in Japan and full-herding was found in South Korea and Taiwan. In the light of the above critical observations, the study aims to analyze the relationship among FII investment in debt and equity, exchange rate, market capitalization, indices of Nifty and Sensex with respect to India.


I Growth of FII and Foreign Investment in India

Global investment trends and macroeconomic fundamentals of India determined the level of foreign institutional investment in India. Though private capital flows to India have also been increased due to globalization, multilateral lending is sometimes resorted to adjust insufficient international capital flows. Again, the private equity investment attained a remarkable place in the total FDI inflows to India. With regard to FDI, as per RBI statistics, the FDI flow to India was $2.14 billion in 1995-96 increased to $22.8 billion in 2006-07 and $35.1 billion (Rs. 1,61,481 crore) in 2008-09, and it is expected to increase in the future years due to liberalization of
foreign investment in different sectors and related economic activities in India. But the portfolio investment which was 6 US $ million (Rs. 11 crore) in 1991 increased to 27.2 US $ billion (Rs 109,741 crore) in 2007-08.

As far as FII investment in India is concerned, transparency, predictability and accountability do matter. Therefore, SEBI has banned the issue of PNS to unregulated overseas entities by capping the extent of PNS that can be issued by Foreign Institutional Investors registered in India. Foreign institutional investors are mainly routing their investment to India through Mauritius, which is one of the low tax regime countries with favorable tax policies. Considerable level of FII inflows are also from the countries such as Singapore, US, etc apart from other tiny countries such as Cyprus, Caymen Island etc.


FII’s interest in investment in India can be better understood from the fact that during the three months period between February and March 2004, about 50 foreign institutional investors including the high profile California Public Employees Retirement System, Calpers, BNP Paribas, CDC, DBS Bank, AIG, ING Group, HSBC, Goldman, Sachs, Alliance, Allianz Dresdner, Lombard, Merrill Lynch and Oppenheimer registered with the Securities and Exchange Board of India. As compared to earlier period, it was the highest number in the short period. Foreign Institutional Investors registered with SEBI in India which was just 3 in 1994 increased to 540 in 2004 and considerable level of funds were also routed through sub accounts numbered 412 during the same year. It should be noted in this context (Table No 1), that about 1297 foreign institutional investors (FIIs) registered with SEBI till March 2008 and 1609 investors till March 2009 as against 731 till June 2005, 680 as on March 31, 2005, and 353 till March 1996.

II Growth of Indian stock markets and FII’s Investment
The Indian stock market was initiated in 1850 when the companies Act introducing limited
liability was passed\textsuperscript{10} However, there are evidences for transaction of loan securities by East
India Company at the close of the 18th century. In fact, brokers could


not organize themselves to meet at a common place till 1874 and thereafter they met at a
building in the Dalal street which was the office of the Advocates of India. Later on, the formal
stock market in India namely ‘Native Share and Stock Brokers Association’ was established in
Bombay on Feb 5 1887. ) As a result of subsequent developments, the total number of stock
exchanges which was 7 in 1961 increased to 22 in 1991 and 23 in 2003 and, at percent, a large
volume of stocks is traded in two stock exchanges and a very lesser stocks are traded in large
number of other stock exchanges. The total number of listed companies which was 1203 in
1961 increased to 6229 in 1991 and 9413 in 2003\textsuperscript{11} The number of companies listed in the BSE
which was 992 in 1980 increased to 3200 in 1994, 5276 in October 1995.\textsuperscript{11} and 7353 in March
2005 and the number declined to 4900 in July 2010. At present, the Indian security market is
subject to (a) The Company’s Act 1956 (b) The Securities Contacts (Regulation) Act 1956 (SCRA
ACT) and The Exchange Board of India Act 1992.

Though Indian capital market was opened up for FII in 1992, the FII investment actually
started in January 1993. Though, the Indian corporate are attracting foreign capital through
ADRS, GDRS, foreign currency convertible bonds, commercial borrowing, FII enjoy full capital
account convertibility in all types of securities including government securities. Particularly after
the involvement of FII in the Indian stock market in 1993, the investment in stock market gained
additional strength in the investment scenario. However, in India, BSE sensex registered
fluctuation in the following periods inspite of the increasing trend. BSE Sensex, which crossed
6100 mark in February 2000 and January 2004 and 6600 mark in February 2005, was believed to
be the result of reform and healthy fundamentals of the economy. However, it should be
weighed on the fact that sensex dropped 600 points in May 2004 and 380 points in June 2004.

11.CMIE: Center for Monitoring Indian Economy Pvt Ltd, Economic Intelligence Service: The
Secondary Capital Market, November 1995-p-1
The Indian equity market, after a sustained bull run, fell sharply in July 2004. It was much perceived on Black Monday, May 17th, 2004 and in that particular day, the market plunged 565 points and the trading was halted twice on that day bringing panic to the mutual funds and investors... However, it should be noted that the sensex which was 1007.97 level on July 25, 1990 reached 7000 mark in June 21, 2005, 7859.53 in August 17, 2005 and 8381 in September 16, 2005, 13000 in October 30, 2006 and 14000 in December 2006 and the year 2006 recorded 5000 points increase which is a remarkable one. In recent periods, investors particularly retail and HNI's show much interest in mastering the skill of trading and hence, there was growth in online trading which accounted for 17 percent of NSE total volume of sales in November 2006. Whatever may be the level of investment by FII during this period, strong macro economic fundamentals are the basic causes for such increase in stock prices during these periods.

As regards NSE, “The NSE was originally conceived and recommended by the Pherwan committee and incorporated in November 1992 with Industrial Development Bank of India with big Indian financial markets in line with international markets”\(^{12}\) The NSE, which has now become a dominant exchange, has 1810 listed companies and it is the second largest stock exchange in South Asia. According to SEBI’s Annual Report of 2002-03, “the BSE and NSE together account for more than 95 percent of the total business transacted on all stock exchanges of the country”\(^{13}\) Next to United States, India has the largest shareholders and Indian equity market is one of the best performing Asian markets though the rise in the crude oil has very often resulted in distortion in equity markets.


The Table No I reveals the trend of FII registration, FII total purchase in debt and equity market, BSE sensex and NSE Nifty, exchange rate during the period between 1999 and 2009.

Table No 1.
Trend of FII purchase in equity and debt market, Exchange Rates and Stock Indices of BSE and NSE-1998-2009. (Rs in crores) (End March of respective years)

<table>
<thead>
<tr>
<th>Year</th>
<th>no. of FII</th>
<th>BSE SENSEX</th>
<th>Exchange rate</th>
<th>FII Purchase of Equity and debt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X1</td>
<td>X2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yt</td>
</tr>
<tr>
<td>1998-99</td>
<td>450</td>
<td>3739.96</td>
<td>1078.05</td>
<td>16507.7</td>
</tr>
<tr>
<td>1999-20</td>
<td>506</td>
<td>5001.28</td>
<td>1528.45</td>
<td>57430.4</td>
</tr>
<tr>
<td>2000-01</td>
<td>527</td>
<td>3604.38</td>
<td>1148.2</td>
<td>73269.3</td>
</tr>
<tr>
<td>2001-02</td>
<td>490</td>
<td>3469.35</td>
<td>1129.55</td>
<td>50184.4</td>
</tr>
<tr>
<td>2002-03</td>
<td>502</td>
<td>3048.72</td>
<td>978.2</td>
<td>46772.1</td>
</tr>
<tr>
<td>2003-04</td>
<td>540</td>
<td>5590.6</td>
<td>1771.9</td>
<td>148514.3</td>
</tr>
<tr>
<td>2004-05</td>
<td>685</td>
<td>6492.82</td>
<td>2035.65</td>
<td>214524.1</td>
</tr>
<tr>
<td>2005-06</td>
<td>882</td>
<td>11279.96</td>
<td>3402.55</td>
<td>347850.6</td>
</tr>
<tr>
<td>2006-07</td>
<td>996</td>
<td>13072.1</td>
<td>3821.55</td>
<td>522417.8</td>
</tr>
<tr>
<td>2007-08</td>
<td>1297</td>
<td>15644.44</td>
<td>4734.5</td>
<td>947770.5</td>
</tr>
<tr>
<td>2008-09</td>
<td>1609</td>
<td>9708.5</td>
<td>3020.95</td>
<td>612406.5</td>
</tr>
</tbody>
</table>

Source: 1. FII purchase in equity and debt - Economic Intelligence Service-CMIE.

2 Capital market, May 2009 p-306 to 308, 282-285 and 253 to 256

3. Exchange rate Rs/$ data obtained from CMIE

4. No FII Registered obtained from SEBI
5. BSE Index-CMIE-prowess
NSE Index- Nifty-prowess

\[ Y_1 = f(X_1, X_2, X_3) \]
The regression analysis of these variables reveals the following.

Total purchase of equity and debt \( Y_t = 100709.8 - 275.147X_1 + 1142.647X_2 - 8197.483X_3 \)

\[ t = (1.36) \quad (2.165) \quad (-1.751) \quad (-1.154) \]

\( R^2 = .92 \). Critical value at 5 percent significance = 2.228. The calculated \( t \) values is lesser than the critical values, the coefficients are insignificant at 5 percent significant level.

Since the calculated \( F \) value = 29.75. is much larger than the critical \( F \) value (4.35) for a 5 percent significance level, the entire equation is significant.

TESTING UNIT ROOT has been applied whether there is any stability in the series of data involved in this regression model and the results are as follows.

\[ Y_t = 101736.3 + .826Y_{t-1}(\text{Total purchase}) \]
\[ X_1 = 2185.02 + .776X_{1-1}(\text{Sensex}) \]
\[ X_2 = 684.733 + .773X_{2-1}(\text{Nifty}) \]
\[ X_3 = 35.466 + .216X_{3-1}(\text{Exchange rate}) \]

Table No.2. Testing Spurious regression among the variables

<table>
<thead>
<tr>
<th>Year</th>
<th>( Y_t )</th>
<th>( Y_{t-1} )</th>
<th>( \Delta et )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>16507.1</td>
<td>41429.70</td>
<td>-24922.6</td>
</tr>
<tr>
<td>1999-20</td>
<td>57430.4</td>
<td>117978.29</td>
<td>-60547.89</td>
</tr>
<tr>
<td>2000-01</td>
<td>73269.3</td>
<td>47092.87</td>
<td>-60547.89</td>
</tr>
<tr>
<td>2001-02</td>
<td>50184.4</td>
<td>47031.67</td>
<td>3152.73</td>
</tr>
<tr>
<td>2002-03</td>
<td>46772.1</td>
<td>16322.85</td>
<td>30449.25</td>
</tr>
<tr>
<td>2003-04</td>
<td>148514.3</td>
<td>210727.65</td>
<td>-62213.35</td>
</tr>
</tbody>
</table>
Co-integration and Error Correction Mechanism (ECM):

The possibility of combining k regressors spurious, the unit root test on the residuals has been applied

\[ R^2 = 0.643, F = 5.646 \]

The critical F value is 5.32, which is lesser than the computed value, the equation is significant. Durbin = 1.213; DL = 0.879 and DU = 1.324. Since d lies between lower and upper limit, there is inconclusive evidence regarding presence or absence of positive first order serial correlation.

\[ \Delta U_t = 5849.694 - 0.729 u_{t-1} \]

\[ t = 0.272 - 2.376 \]

Since the critical value is 2.306 at 5 percent significance, the coefficient “a” is insignificant and the coefficient “b” is significant. Since the b = 0.729, the model shows stability in the error term which proves white noise.

When the variables of regression are cointegrated, there will be long and short run equilibrium and therefore the error term is treated as equilibrium error. The error correction mechanism which was first used by Sargan and later by Engle and Granger has been estimated as follows

Table No- 3. Co-integration and Error correction mechanism

<table>
<thead>
<tr>
<th>Year</th>
<th>ΔYt</th>
<th>ΔX1</th>
<th>ΔX2</th>
<th>ΔX3</th>
<th>Et-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
R^2=.936:  
F=18.132  
k-1=4; n-k=10-5=5 the critical value F is 5.19. The computed value is larger than the critical value ,the entire equation is significant.  
Dl=0.286 and du=2.030  
since the computed Durbin statistics is=1.320, the autocorrelation is inconclusive.  

\[ \Delta Y_t = \alpha_0 + \alpha_1 \Delta X_1 + \alpha_2 \Delta X_2 + \alpha_3 \Delta X_3 + \alpha_4 \epsilon_{t-1} + \epsilon_t \]  

\[ \Delta Y_t = 31261.979 - 222.432 \Delta X_1 + 775.404 \Delta X_2 - 45548.764 \Delta X_3 - 1.282 \epsilon_{t-1} + \epsilon_t \]  

\[ \begin{align*}  
t &= .979 & -1.577 & 1.571 & -2.797 & -2.735 \end{align*} \]  

The coefficients show the short term changes in sensex, nifty and exchange rates that quickly reflected in the changes in the total purchase. The critical t value at 5 percent significance is 2.571 which is more than the t values, the coefficients are not significant.

### III FII’S EQUITY AND DEBT MARKET

<table>
<thead>
<tr>
<th>Year</th>
<th>Sensex</th>
<th>Nifty</th>
<th>Exchange Rates</th>
<th>Total Purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-20</td>
<td>40923.3</td>
<td>1261.32</td>
<td>450.4</td>
<td>1.2</td>
</tr>
<tr>
<td>2000-01</td>
<td>15838.93</td>
<td>-1396.9</td>
<td>-380.25</td>
<td>2.53</td>
</tr>
<tr>
<td>2001-02</td>
<td>-23084.9</td>
<td>-135.03</td>
<td>-18.65</td>
<td>1.94</td>
</tr>
<tr>
<td>2002-03</td>
<td>-3412.3</td>
<td>-420.63</td>
<td>-151.35</td>
<td>0.75</td>
</tr>
<tr>
<td>2003-04</td>
<td>101742.2</td>
<td>2541.82</td>
<td>793.7</td>
<td>-2.38</td>
</tr>
<tr>
<td>2004-05</td>
<td>66009.8</td>
<td>902.22</td>
<td>263.75</td>
<td>-0.97</td>
</tr>
<tr>
<td>2005-06</td>
<td>133326.5</td>
<td>4787.14</td>
<td>1366.9</td>
<td>-0.67</td>
</tr>
<tr>
<td>2006-07</td>
<td>174567.2</td>
<td>1792.14</td>
<td>419.0</td>
<td>1.00</td>
</tr>
<tr>
<td>2007-08</td>
<td>425352.7</td>
<td>2572.34</td>
<td>912.95</td>
<td>-5.04</td>
</tr>
<tr>
<td>2008-09</td>
<td>-335364.0</td>
<td>-5935.94</td>
<td>-1713.55</td>
<td>5.68</td>
</tr>
</tbody>
</table>
It is generally agreed that stocks deliver the best average returns over the long period and fluctuate most in the short period. But bond and money market is subjected to lower fluctuations and deliver lower return over the long period. In India, there are limits on foreign participation in bond market: the cap is pegged at $4.7 billion*, of which government securities account for $3.2 billion and corporate debt $1.5 billion. The FII investors resort to a comparatively higher investment in equities than debt during the period under study. The prediction of yield from bonds and equities is perplexing very often and it should be noted in this context that a study undertaken by Elroy Dimson, Paul Marsh and Mike Staunton of the London School of business titled ‘Triumph of Optimist’ covering a period of 100 years from 1900 to 2000 reveals that “in all major markets in the world it is equities that outperformed bonds and bills and Australia, Sweden and United states topped the real returns on equities whereas Sweden and Switzerland topped the real returns from bonds”14


The Indian stock market, which gives scope for short and long term traders, mutual funds, pension funds and insurance companies, may be able to stabilize the market to a certain extent. However, the Indian stock market in 2003-04 is much stronger than that of the conditions prevailed in 1999-2000.15 The rising of FII ceiling in debt funds is the positive feature in encouraging large inflow of investment by FII. Inspite of situation, India should be cautious about the fact that if the foreign investors start selling their stock either equity or debt market, it is very hard to find equivalent Indian institution to buy these stocks.

In the stock market, portfolio risk not only depends on the riskness but also the relationship of the different type of securities comprising the portfolio16. Considering the risk involved in portfolio investment, it should also be noted in this context that “inflation is like a slow cancer that eats away at the real purchasing value of a portfolio”17 and, in this sense, Indian inflation trend has not maintained stability during the period between 1998 and 2009 but the fluctuations in inflation is not very high and is tolerable to foreign investors. However, the modern portfolio theory has changed the evaluation process dramatically from crude return to evaluation of risk and return in equity and bond market and has made evaluation of risk as an integral part of portfolio performance.18


**IV FII & Market capitalisation**

In India, the market value of equity accounted for 8.6 percent of GDP in 1986-87, increased to 9.0 percent in 1987-88. According to the Reserve Bank of India, the percentage of capitalization of stock market was 12 percent of GDP in 1990 increased to 41 percent in 1999. But, market capitalization-GDP ratio in 1991 was 203 percent in U.K, 184 in Malaysia and 182 in USA. The BSE market capitalization which was Rs.5,45,361 crore in 1998 increased to 30,86,075 crore in 2009 whereas the NSE market capitalization which was Rs.4,91,175 crore in 1999 increased to Rs.28,96,194 crore in 2009.

**Table No.4**

Market capitalization of BSE and NSE & FII’s Total purchase of equity and debt (Rs in crores at the end of March of respective years)

<table>
<thead>
<tr>
<th>Year</th>
<th>FII total purchase of equity and debt</th>
<th>BSE Capitalisation</th>
<th>Market Capitalisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 1998-99</td>
<td>16507.7</td>
<td>545361</td>
<td>491175</td>
</tr>
<tr>
<td>00</td>
<td>57430.4</td>
<td>912842</td>
<td>1020426</td>
</tr>
</tbody>
</table>
The regression model $Y = f(X_1, X_2)$ shows that $R^2 = 0.952$, $F = 79.279$ since the critical $F$ value is 4.46 and is lesser than the computed $F$ value, the equation is significant and Durbin Watson statistics =1.054; $N=12$ and the number of regressors=2 the critical value at 5 percent=dL=.95 and du=1.54..$d^*$>du, there is no evidence of positive first order autocorrelation.

$Y = -86531.268 +0.131X_1 + 0.062X_2$ and both $X_1$ and $X_2$ are not significant.

$t = -2.160$  0.328  0.146

The critical $t$ value is 2.365. The computed $t$ values are less than the the critical $t$ values ,the variables are insignificant

Unit root test:

$Y_t=101736.3+.826Y_{t-1}(\text{Total purchase})$

$X_{1t}=627616.1+.791X_{1t-1}(\text{market capitalization BSE})$

$X_{2t}=625552.3+.775X_{2t-1}(\text{market capitalization NSE})$

The unit root test shows that there is stability in the series of data of the above variable.

GRANGER CAUSALITY TEST - TOTAL PURCHASE AND BSE MARKET CXAP
Equation 1

FII Purchase = -112796.567 + 0.423 BSE Market cap lag - 1.403 FII purchase lag

\[ t = \begin{array}{c}
-1.104 \\
2.627 \\
-1.623 
\end{array} \]

\[ R^2 = 0.820 \]

\[ D = 2.977 \]

\[ F \text{ change} = 15.896 \]

\[ N = 10, K = 3 \]

So \( N - K = 10 - 3 = 7 \)

So the critical T value is 2.365. From the above calculated t value, calculated \( \beta_1 \) and \( \beta_3 \) are less than the critical t value, 2.365. So \( \beta_1 \) and \( \beta_3 \) are not significant. But the calculated \( \beta_2 \) is greater than the critical t value, 2.365. Hence \( \beta_2 \) is significant.

Equation 2

BSE MARKET CAP = -263759.547 + 2.733 BSE Market cap lag - 10.638 FII purchase lag

\[ t = \begin{array}{c}
-0.461 \\
3.032 \\
-2.195 
\end{array} \]

\[ R^2 = 0.787 \]

\[ D = 2.759 \]

\[ F \text{ change} = 12.907 \]

\[ N = 10, K = 3 \]

So \( N - K = 10 - 3 = 7 \)
So the critical T value is 2.365. From the above calculated t value, calculated β1 and β3 are less than the critical t value, 2.365. So β1 and β3 are not significant. But the calculated β2 is greater than the critical t value, 2.365. Hence β2 is significant.

So the above equations FII purchase to BSE Market capitalization and BSE Market capitalization to FII purchase are unidirectional causality.

NSE AND FII PURCHASE

**Equation 1**

\[
\text{FII Purchase} = -121236.030 + 0.435 \times \text{NSE Market cap lag} - 1.321 \times \text{FII purchase lag}
\]

\[
t = -1.068 \quad 2.384 \quad -1.440
\]

\[
R^2 = 0.802
\]

\[
D = 2.768
\]

\[
F \text{ change} = 14.193
\]

**T Test**

N= 10, K= 3

So N- K= 10- 3= 7

So the critical T value is 2.365. From the above calculated t value, calculated β1 and β3 are less than the critical t value, 2.365. So β1 and β3 are not significant. But the calculated β2 is greater than the critical t value, 2.365. Hence β2 is significant.

**Equation 2**

\[
\text{NSE MARKET CAP} = -210704.102 + 2.561 \times \text{NSE Market cap lag} - 9.141 \times \text{FII purchase lag}
\]

\[
t = -0.340 \quad 2.569 \quad -1.493
\]

\[
R^2 = 0.743
\]

\[
D = 2.493
\]

\[
F \text{ change} = 10.110
\]
T Test

N= 10, K= 3

So N- K= 10- 3= 7

So the critical T value is 2.365. From the above calculated t value, calculated β1 and β3 are less than the critical t value, 2.365. So β1 and β3 are not significant. But the calculated β2 is greater than the critical t value, 2.365. Hence β2 is significant.

So the above equations FII purchase to NSE Market capitalization and BSE Market capitalization to FII purchase are unidirectional causality.

In India, both the stock markets BSE and NSE, are efficient and effective since the short term and intermediate goals are achieved as they strive to attain its long term objectives. However, as reiterated by the Boton Report 1971, the size of the companies affects the cost of acquiring capital and small firms have to face various kinds of hurdles in raising finance. Notwithstanding these facts, in India, the blue-chip companies may be in a better place to attract FII investment. Some companies seek second round financing which aims at raising additional capital to finance products or enterprises already launched. Notwithstanding these facts, “the Indian Corporate sector has historically preferred raising equity to debt for resource mobilization from the capital market.” In Indian stock exchange, a single share holder's share is limited to 5 percent of the total equity and 10 percent cap is mandated for a single FII's investment in any listed company's equity. Besides, FDI upto 26 percent of the paid-up capital in as stock exchange is allowed at present and the remaining 23 percent can be invested by FII. For public issue by companies, 50 percent is reserved for Qualified Institutional buyers (QIB), mutual funds, and domestic and foreign institutions, 15 percent for High Net worth Individuals and 35 percent for retail investors.


Whatever may be the debt and equity limits evolved by SEBI, the interest rate is playing its own role in the overall investment in stock and debt markets by FII. Irving Fisher observed that market rate of interest is determined by the real rate of interest, which, in turn, determined by the supply of savings, the demand for funds and the premium based on inflationary expectation. However, the real rate of interest is also influenced by other factors such as volume of consumer credit, corporate profit and financial requirements, Central bank policy, external trade deficit, national budget deficit, capital inflows etc. Generally interest rate has to play a role in the FII investment in stock since low interest rate prevailing in India as compared to earlier periods will encourage investment in stock markets and further result in industrial development. And again, “low interest rate would be positive for bond market and mutual funds” Contrary to interest rate phenomenon, certain economists namely Kul B. Bhatia, Barry Bosworth and Frederic Mishkin have found evidence that deviate from interest rate phenomenon, that is, there is a significant relationship between aggregate consumption of equities and capital gains, but there is more uncertainty in the relationship between consumption of equity and stock prices. In the light of the above observations, as far as FII in investment stocks are concerned, its behavior FII can not be predicted on the basis of interest rate alone but this depends on many other parameters including mass psychology, risk and return, business environment.

As far as India is concerned, a large proportion of savings is from households, of which, around 40 percent is being invested in bank deposits and there is no proportionate increase in investment in stocks. Since the Indian households are much interested in fixed and recurring deposits in view of risk free and certainty of return, the proportion of household savings invested in shares and debentures increased slowly from 1-2 percent in the seventies to 2-3 percent in the first half of the eighties. According to a SEBI-NCAER Survey, of the total 13.1 million investor households in India, the investors in bonds was 9.6 million and due to financial illiteracy, the number of non-investor households was 92 percent. But this kind of savings and investment trend in India has not affected the interests of the FII investors in the stock and debt markets. As such, in India, the major portion of FII’s investment is long-term investment and for an average FII investor, the objective should be to earn at least normal profit.26


V FII AND STOCK INDICES:

With regard to Sensex index of BSE which was 2898.69 in 1993-94 increased to 16568.89 in 2007-08 and further declined to 12365 in 2008-09. In the same way, NSE index increased from 884.60 in 1993-94 to 4896.60 in 2007-08 and further declined to 3731.03 in 2008-09. India has become a destination of international equity funds and for foreign fund managers, apart from hedging, the stability of the government, the fundamentals of the Indian economy and the stock indices are the governing factors for investment in the Indian Stock markets by FII. It is evident from the regression analysis, BSE index has a negative effect on attracting Foreign institutional Investors while NSE has a positive effect on drawing the attention of FII.
### Table No-5

**FII investors and Stock indices-1993-94 to 2008-09 (MA)**

<table>
<thead>
<tr>
<th>Year</th>
<th>no. of FII</th>
<th>BSE SENSEX</th>
<th>NSE NIFTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>3</td>
<td>2898.69</td>
<td>884.60</td>
</tr>
<tr>
<td>1994-95</td>
<td>156</td>
<td>3974.91</td>
<td>1202.87</td>
</tr>
<tr>
<td>1995-96</td>
<td>353</td>
<td>3288.68</td>
<td>965.26</td>
</tr>
<tr>
<td>1996-97</td>
<td>439</td>
<td>3469.24</td>
<td>1005.75</td>
</tr>
<tr>
<td>1997-98</td>
<td>496</td>
<td>3812.86</td>
<td>1087.34</td>
</tr>
<tr>
<td>1998-99</td>
<td>450</td>
<td>3294.78</td>
<td>956.62</td>
</tr>
<tr>
<td>1999-2000</td>
<td>506</td>
<td>4658.63</td>
<td>1369.01</td>
</tr>
<tr>
<td>2000-2001</td>
<td>527</td>
<td>4269.69</td>
<td>1336.49</td>
</tr>
<tr>
<td>2001-2002</td>
<td>490</td>
<td>3331.95</td>
<td>1077.13</td>
</tr>
<tr>
<td>2002-2003</td>
<td>502</td>
<td>3206.29</td>
<td>1036.10</td>
</tr>
<tr>
<td>2003-2004</td>
<td>540</td>
<td>4492.19</td>
<td>1428.13</td>
</tr>
<tr>
<td>2004-2005</td>
<td>685</td>
<td>5740.99</td>
<td>1805.26</td>
</tr>
<tr>
<td>2005-2006</td>
<td>882</td>
<td>8278.55</td>
<td>2513.40</td>
</tr>
<tr>
<td>2006-2007</td>
<td>996</td>
<td>12277.23</td>
<td>3572.44</td>
</tr>
<tr>
<td>2007-2008</td>
<td>1297</td>
<td>16568.89</td>
<td>4896.60</td>
</tr>
<tr>
<td>2008-2009</td>
<td>1609</td>
<td>12365.55</td>
<td>3731.03</td>
</tr>
</tbody>
</table>

Source: SEBI

Regressors Sensex indices and Nifty indices on no of FII during the period between 1994 and 2009 reveals the following statistical inference.

\[ Y = 42.040 - 0.341X1 + 1.454X2, \]
T= 0.462 -1.313 1.647

k-1=2,N-K=13,Critical F ratio =3.80. The F ratio 29.51 is greater than the critical F value 3.80, the equation is statistically significant.

R²=.820 OR 82 percent.

The Durbin Watson statistic 1.108 which is between DL1 and DU(.95-1.54) and which lies in the zone of indeterminacy in the case of suspected positive autocorrelation.

VI FII and tax on equities and bonds

Pertaining to tax on equities for FII, turnover tax has already been implemented in many countries and in many emerging economies. In many countries, turnover tax is levied on both sales and purchases of equity and in India, according to the present budget, the seller has to pay a 10 percent short term capital gains tax whereas the buyer has to pay 0.015 basis points transaction tax. For traders and arbitrageurs the tax rate has been reduced from 1.5 basis points to 0.015 percent but the delivery based trade in equities will be levied 0.15 percent tax in which both the buyer and the seller will have to share 7.5 paise each. In Asia, the incidence of turnover tax has been varying between 5 and 50 basis points among different countries. Through a low capital gains tax, FII may be attracted and therefore a concessional tax rate should also be provided to long-term capital gains. The turnover tax is ubiquitous due to the reason that it treats all purchases equally and it is argued that a turn over tax is preferable to high capital gains tax. Low level of turnover tax is one of the important aspects which attracts FII investors to a considerable level. FII under portfolio investments scheme can avail a concessional tax regime of a flat rate of tax of 20 percent on dividend and interest income and a tax rate of 10 percent on long term (one year or more) capital gains.

VII

To conclude, India offers a huge untapped potential for a strong and vibrant equity culture due to globalization and the market has to evolve strategies towards investment to unleash
strength of all institutions and individuals not only in India but also from other trading countries. Therefore, the creation of highly competitive market conditions in equity, bond and derivative markets in India is very essential and hence the revitalization of participation of FII and the strengthening of FDI and other portfolio investment are highly warranted and again, the encouragement to domestic retail investors including small investors will also pave the way for efficient trading and speedier investment and economic growth.

Since stock markets shows minimum or wide fluctuations in indices day-today basis, it is very difficult to consider stock market as “a barometer of the general economic condition”27. As such, in India, FII and the stock markets do not dictate the present economic policy of India and economic policy of India cannot be an hostage to the vagaries of stock markets and FII. Chen, Roll and Ross test shows that the economic variables have more explanatory power beyond a stock market index or in the multiple regression of stock returns.28 Bragg, in his book, ‘Protecting against Inflation and Marketing Yield’, Georgia State university, Business publishing division (1966) states that “a series of economic periods or cycles characterized not by economic indicators but instead by underlying moods or mass psychology”29 In such scenario, in India, economic conditions are such that the Indian Stock Markets are fortunately less volatile to FII investors and are yielding high returns as comparable to many stock markets in the globe.

As far as equity is concerned, the Indian investors now find a wide choice due to the chances of investing in foreign markets such as NYSE, NASDAQ, LSE etc and therefore, FII investments should be encouraged on par with internationally competitive exchanges by providing various kinds of services to the listing companies and by reducing listing fees in par with the international stock exchanges. Liberal norms for foreign inflows through FII can pave the way for overall improvement in stock market. and, as a consequence, FII will not seek structures behind PNs. and India will continue to be a promising investment destination.


NOTES

1. FII eligible to invest- Overseas Pension Funds, Mutual Funds, Investment Trust, Asset Management Company, Nominee Company, Bank, Institutional Portfolio Manager, University Funds, Endowments, Foundations, Charitable Funds, Charitable Societies, A trustee or Power Attorney holder incorporated or established outside India proposing to make proprietary investments or with single investor holding more than 10 percent of the shares or units of the fund.

2. Sub -account: The sub account is generally the underlying fund on whose behalf the the FII invests. The following entities are eligible to be registered as sub accounts, viz, partnership firms, private company, public company, institution or funds or portfolios established outside India whether incorporated or not, Proprietary fund of FII, foreign corporates, foreign individuals.

3. FII-two categories

* Regular FII:s those who are required to invest not less than 70 percent of their investment in equity related instruments and 30 percent in non-equity instruments

* 100 percent debt-fund: those who are permitted to invest only in debt instruments.

FII not permitted to invest in equity issued by an Asset Reconstruction company.

FII are not allowed to invest in any company which is engaged or proposed to engage in the following activities.

1. Business Chit Fund

2. Nidhi company

3. Agricultural or plantation activities
4. Real estate business or construction of farm houses

Currently 49 percent FDI allowed in Asset Reconstruction company which may be increased to 100 percent

4. Portfolio investments in India include investment in American Depository Receipts (ADR), Global Depository Receipts (GDRs), Foreign Institutional Investments and investment in offshore funds. Before, 1992, only Non-resident Indians and overseas corporate bodies were allowed to undertake portfolio investments in India.