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Determinants of FIIs Investment

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One of the events that has gone into the history book of the Indian Economy during the calendar year 2004 is the newer peaks of the stock markets. The year, before closing, achieved an all time high of both Sensex and Nifty around 6602 and 2080 respectively. While a lot of reasons could be cited as reasons for this stock markets rally, the role of Foreign Institutional Investors (FIIs) can not be overlooked. In fact, the FIIs have been playing a key role in the Indian financial markets since their entry into this country in the early 1990s. Their importance has been growing over time as their net investment is on the rise over time. The calendar year that just concluded has received an historic net inflow from FIIs to the tune of US \$ 9.187 billion which is around 28 per cent of the total inflows the country has received till December 31, 2004. A huge portion of these inflows has been received during the last six months of the year, July-December 2004. This explosive portfolio flows by FIIs brings with them great advantages as they are engines of growth lowering the cost of capital in many emerging markets. They facilitate the flow of capital to firms and countries that offer the best investment opportunities breaking the geographical boundaries. They also bring with them the much wanted breadth and depth into the capital markets of the emerging economies.

Indian Scenario

FIIs were first allowed to make portfolio investment in India on September 14, 1992, initially with lots of restrictions. The regulations on them are liberalized over time and at minimal now. The FIIs which made a modest beginning in 1993-94 at US \$ 1638 million stood at US \$ 25754 million as of 2003-04. Because of the historical flows that the year 2004 witnessed, they are at US \$ 32086.90 million as of December 31, 2004. This increase in investment by FIIs is also accompanied by an increase in the number of registered FIIs and sub accounts. There has been an addition of 195 sub accounts and 85 FIIs since the

beginning of this financial year. The total number of registered FIIs is 637 as at the end of December 2004. These FIIs are from many countries with USA accounting for the largest share at 42 per cent, followed by UK and Luxemburg at 19 and 7 per cent respectively. Table 1 gives a country wise break up of the SEBI registered FIIs in India.

Table 1: Country wise share of SEBI registered FIIs
(In per cent)

Country	FIIs
USA	42
UK	19
Luxemburg	7
Hong Kong	4
Singapore	4
Canada	3
Mauritius	3
Australia	2
Switzerland	2
Others	14

(Source: SEBI Bulletin, December 2004)

The size and robustness of the FIIs role in Indian capital markets can be better understood by looking at the assets under their custody as compared to other institutions and participants. As of November 2004, the total assets held by the FIIs stood at Rs.198243 crores as compared to Rs. 91084 crores with mutual funds and Rs.42855 with financial institutions including banks. (SEBI, 2004) The following table give the assets under custody of custodians for the latest three financial years for which the data is available.

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Table 2: Assets under the custody of custodians

(Rs. Crores)

	2001-02	2002-03	2003-04	November 2004
FII's	61753	56139	159397	198243
Financial Institutions	110824	113154	151655	19389
Mutual Funds	32570	41368	90338	91084
NRI's	185	263	563	745
OCBs	1285	1136	1330	1523
Brokers	0	0	35	35
Corporates	13311	13498	20156	22070
Banks	17798	20814	21188	23466
Foreign Depositories	17297	15890	34636	39115
Others	15343	16593	30717	37552
Total	31231	32552	497260	578222

(Source: SEBI Bulletin, December 2004)

In fact, the FIIs are the more predominant players in the equity market than the Mutual funds. The total investment by the mutual funds in the Indian equity markets is just Rs.1308 crores whereas, the same figure for the FIIs is Rs.39,959 crores as of 2003-04. (RBI Annual Report, 2003-04) However, their roles in the debt markets are reversed with mutual funds assuming a more important one than their counter part FIIs.

Though the above discussions might show that the FIIs are assuming more importance in our financial markets, their size relative to the size of our economy is very insignificant. The total foreign investment which includes the Foreign Direct Investment (FDI) besides the Foreign Portfolio Investment (FPI) is only 3 per cent of our GDP as of 2003-04.

Table 3: Foreign Investment

Year	Foreign Investment/GDP (per cent)
1990-91	0.0
1999-2000	1.2
2000-01	1.5
2001-02	1.7
2002-03	1.1
2003-04p	3.0

*P provisional**(Source : RBI Annual Report, 2003-04)*

Hence, we need to work on the specific strategies on how to improve these flows.

Indian equity markets

The equity market capitalization in India has grown from Rs.7.25 trillion in March 2003 to Rs.13.77 trillion in March 2004. This equity market capitalization works out to US \$ 310 billion. This has pushed Indian equity market into a significant one among those of the emerging economies. The equity market capitalization is around 49 per cent of 2003-04 GDP which places the equity market on par with the banking system in terms of financial intermediation. (Economic Survey 2003-04)

However, given the fact that India is the second largest equity market in the world in terms of the number of listed companies, and one of the important goals of our economic and financial reforms is to obtain the deep and liquid stock market, we cannot possibly satisfy ourselves with the current level of market capitalization.

The two most prominent Indian stock exchanges, NSE and BSE, rank third and fifth in the world evaluated by the trading intensity as of 2003.

Table 4: Trading Intensity in the World: 2003

Exchange	Country	No. of Trades ('000)
Nasdaq	US	733000
NYSE	US	722753
NSE	India	336300
Shanghai	China	205554
BSE	India	179595
Taiwan	Taiwan	163805
Korea	Korea	139221
Shenzhen	China	132114
Deutsche Borse	Germany	74866
Euronext	Many	70857

(Source: Ministry of Finance, Economic Survey 2003-04)

The impact cost, which is another important measure of the liquidity of the market has drastically declined from 0.15 per cent in early 2002 to just 0.1 per cent as at the end of 2003-04.

Though all these gives us the satisfaction that we are in the right direction, we should also not forget that this is a wide spread phenomenon across all the securities listed in the stock markets. Many listed companies even today have a negligible liquidity. For example, as of 2003-04, the top 50 companies listed in the NSE account for 79.47 per cent of the turnover in the cash segment and this figure is 74.53 per cent for BSE, when the total number of companies listed as of the same period in NSE and BSE stand at 818 and 5650 respectively. (SEBI Bulletin 2004)



Table 5: Market Concentration in the Emerging Asian Markets: End December 2003

(in per cent)

Market	Index stocks	Share of	Share of 10 largest index stock in market capitalization	Share of 10 most active index stock in turnover
Market capitalization		Turnover		
China	60.3	46.5	27.1	12.7
Thailand	70.1	56.2	42.0	25.5
Taiwan	72.5	58.9	34.0	20.7
Korea	84.5	58.6	43.8	24.0
Malaysia	67.2	39.7	31.2	16.5
India	75.0	74.2	36.5	44.2

(Source: S&P Emerging Stock Markets Factbook, 2004)

Table 5 gives a comparative statistics on the market capitalization and turnover of a few stock markets which show that the markets elsewhere are also not very broad based. All the same, the Indian markets seem to suffer a little more than the ones that are listed above.

The presence of FIIs can improve the liquidity in the market to a great extent by providing the much wanted depth across many listed securities and make it broad based. Broad basing the market by spreading the trading volumes across the various listed securities is a pre-requisite for insulating the market from reacting heavily to the specific happenings of a few heavy weight companies.

Our earlier analysis of the shareholding pattern of the companies included in the S&P CNX 500 index and S&P CNX NIFTY show that the FIIs investment are highly concentrated in a few companies. (Sharma, December 2004)

Table 6: Shareholding Pattern of FIIs as of September 2004

Companies	FIIs share holding (in Million)	Total outstanding shares (in million)	FIIs share-holding as a percent of total
Nifty	3227	23285	13.85
Non-Nifty	1508	35060	4.3
Total	4735	58345	8.12

(Source: Sharma, December 2004)

It is obvious from the above table that FIIs have invested more in Nifty companies than Non-Nifty companies. In order to carry out the study in more detail, t test is done to find if the FIIs shareholding across the groups of Nifty and Non-Nifty companies is statistically significantly different from each other or not. The t-test is used to

compare the values of the mean FIIs investment from the two groups – 50 Nifty companies and 419 non-Nifty companies, and test whether it is likely that the samples are from populations having different mean values or not. The null hypothesis that is tested is that the means of the two groups are not significantly different. If the null hypothesis is proved valid then the two samples are from the populations which are not different from each other and the rejection of the null hypothesis would mean that the samples are from two different populations significantly different from each other. The mean FIIs investment in these two groups of companies is compared using t-test to find if the mean FIIs investment in Nifty companies is different from the mean FIIs investment in non-Nifty companies.

Table 7: t Test Results

	N	Mean	Standard Deviation	t Value
Nifty Companies	50	16.9278	12.8318	6.934#
Non-Nifty Companies	419	4.1476	6.6009	

p < 0.05

The t-test results have rejected the null hypothesis and we are to accept the alternate hypothesis. This means that the FIIs investment in Nifty and non-Nifty companies are statistically significantly different from each other and that means the results of the study on Nifty companies may not really be applicable to non-Nifty companies, since they constitute two different populations in terms of FIIs investments in them. Since the FIIs investment in non-Nifty companies is, any way, considerably low compared to their investment in Nifty companies as shown by the mean values in the table above, the study has decided to focus only on Nifty companies.

The Study

The study looks into the determinants of FIIs investment. It focuses on the issue of what are the parameters that are considered relevant by FIIs in choosing a company's share for investment. This study is based on the shareholding pattern data of the companies as of September 2004 as reported in www.nseindia.com. The information on the impact cost and market return is average for the period June-August 2004 again taken from www.nseindia.com. The study is carried out for the 50 companies included in the S&P CNX NIFTY companies, for two reasons. One, the information required for this study are not available for all the companies of S&P CNX 500 index and second, anyway the t test has already identified the Nifty to be a



group by itself different from the other companies included in the S&P CNX 500 index companies.

Importance of the study

1. This study would help to fill in the gap this currently present in the knowledge on how do FIIs choose individual companies for their investment.
2. This study would also provide the much needed understanding of how do we spread the FIIs investment across the various securities listed in the market thereby try and broad base the market.
3. The understanding of the determinants of FIIs investment would also help stop portfolio outflows being triggered by the specific happenings in a few companies.

Conceptual Framework

The theory on the basic principles of financial market investment strategies suggests that there are two investment philosophies that the global institutional investors follow – ‘Top Down’ and ‘Bottom Up’.

The ‘Top Down’ approach to investment philosophy selects the markets for investment by examining the economic and political environment of the respective economies like interest rates, currency movement, political stability, etc. In contrast, the ‘Bottom Up’ approach concept relies on ‘stock picking’, which is usually based on the fundamental or sector analysis. If the FIIs focus on the economic and political variables specific to various emerging markets and choose India accordingly they are said to be following the top down approach. On the contrary, if an analysis of the companies listed in a market is the basis for investment, the FIIs are described to be following the bottom up approach. In the second case, the FIIs choose to invest in the best of the companies listed in India and may not really be concerned with the variations in the economic and political fundamentals of the country. The flows that follow the bottom up approach as investment philosophy, as a result, may be expected to be less volatile compared to the flows that are the result of the top down investment strategy. Gordon and Gupta (2003) argue on the basis of their study that combinations of domestic, regional and global variables are important in determining equity flows to India. Their study show that an increase in external interest rates adversely affects the FIIs flow into India, while the performance of emerging market stocks positively influence the FIIs flows to India.

This study focuses on the factors that the FIIs may consider when they follow a bottom up approach. While there are many studies on the determinants of FIIs investment from

the top down approach perspective, there are a very few studies on the bottom up approach perspective, in fact negligible. Hence, as mentioned earlier this study is expected to contribute substantially to the knowledge in this respect.

Since there are no earlier studies in India, we incorporate into the analysis the variables that appear, a priori, to be the primary determinants of FIIs investment.

Impact cost

One of the pre-requisites for an investor to be able to comfortably trade frequently in the market (to reconstitute the investment portfolio) is the ability to do so comfortably in a market without having to suffer a great transaction cost. In other words, it requires the market to be liquid. Financial –foreign shareholders have financial focus and lay emphasis on liquidity, argue Coffee (1991) and Aguilera and Jackson (2003). Liquidity, in this context, means the ability of the market to absorb large quantities of trade without a heavy transaction cost. The transaction cost, here, would mean not the fixed costs like brokerage, depository chares etc. but the cost that is attributable to lack of market liquidity. Since these costs are different in different countries and also vary across the stocks listed in the same country’s bourses, it could be one of the important considerations for the Foreign Portfolio Investors.

Table 8: Market Impact Cost Comparison for Equity Trades

Country	Market Impact (basis points)
Australia	6.7
Brazil	28.66
Canada	17.79
Germany	4.32
India	32.18
Korea	18.66
Luxembourg	74.20
Malaysia	18.32
United States - NYSE	10.51

Source: Elkins/McSherry (2000)

‘Obtaining a deep and liquid market has been a central goal of reforms of the 1990s. the impact cost of Nifty of transactions of Rs.5 million which is the best measure of market liquidity was as high as 0.15 per cent in early 2002. Over the entire period of 2002-2003 and 2003-04, the market has been much more liquid, with an impact cost of 0.1 per cent’. (Economic Survey 2003-2004, pp. 66) The market impact of a trade is measured by the impact cost. Impact cost is the cost of executing a transaction in a given stock for a specific predefined order size at any given point



of time. Impact cost, as it is reported by the NSE for the Nifty companies is used in this study. Impact cost is calculated for an order size of Rs.5 million for each stock on a monthly basis. The average of the monthly impact cost of the Nifty stock is taken for the months June–August 2004. The reason for using the average of these three months is to smooth out the impact of a particular month on the cost.

Market Return

The basic rationale for the international capital flows is the rate of return which is higher in a foreign market compared to the domestic market. Capital flows across the geographical boundaries of the countries is mainly to enhance the productivity and efficiency of capital at the global level. Hence the rate of return should certainly explain the choice of a particular stock for investment by the FIIs. Mohanty (1998) has found that the institutional investors as a group have invested in companies with good financial performance. Clark and Berko (1996) show a positive contemporaneous relation between equity flows and stock returns using monthly data for Mexico. The study has used the market return of the Nifty companies' stock as the average of the market return for the 3 months June-August 2004, as it is reported by NSE.

Non-Promoter Shareholding

The shares that are available for trading in the normal course are those that are with the investors other than the promoters and other interested and special categories of investors. This is an important variable to be considered in investing in a stock because the available free-float in most American companies is above 90 per cent whereas in India promoters have more than 50 per cent stakes in majority of large companies. (Biswal, 2003) As early as in 1968, Demsetz (1968) has found that one of the important determinants of secondary market liquidity is the number of shareholders. As the number of persons currently holding a particular share increases, the number of market participants interested in trading the asset increases in direct proportion. Therefore, the number of transactions per unit of time also increases. One of the findings of his study is that the increase in the number of shareholders reduces the bid-ask spread. Benston and Hagerman (1974) also have observed a direct relation between a proxy for insider holdings and bid-ask spread. These studies show that the number of shareholders and the ratio of non-promoter shareholders to total shareholders have a bearing on the interest of the investors in wanting to include that security in their portfolio and also the bid-ask spread. The ratio of shares held by Non-promoter category to

Promoters category as of September 2004 is used in the model. This is a measure of liquidity of a stock in the bourses. This is the quantum of shares that an investor can actually buy and sell.

The FIIs investment cap has not been included as one of the explanatory variables because only 17 out of the 50 Nifty companies studied have FIIs investment cap different from the generic cap. The balance 33 companies have stayed with the generic cap only. Hence, FIIs investment cap is not considered for the model.

The Model

$$FII\ INVT = a + b\ IMPCOST + c\ MKTRETN + d\ NONPROM + e$$

where

FII INVT = FIIs Investment as a per cent of total outstanding shares

IMPCOST = Average of the impact cost for the period June-August 2004 (in per cent)

MKTRETN = Average of the market return for the period June-August 2004 (in per cent)

NONPROM = Ratio of Non-promoters shareholding to total outstanding shares (in per cent)

Table 9: Regression Results

Independent Variable	Coefficient	t-Value	Significance Level
Constant	9.609	1.425	Not significant
IMPCOST	-102.944	-2.120	95%
MKTRETN	-4.068	-0.124	Not significant
NONPROM	0.327	5.402	99%

No. of observations = 50 $R^2 = .705$ Adjusted $R^2 = .497$ Dependent variable = FII INVT

F statistic = 15.178*

*significant at 99%

$$FIIINVT = 9.609 - 102.944\ IMPCOST - 4.068\ MKTRETN + 0.327\ NONPROM$$

It can be observed from table 9 where the regression results are reported that impact cost and non-promoters share holding are found to be significant variables and the market return and volatility are not found to be significant. It could be concluded that the liquidity and the cost of trading are the two important variables that FIIs consider for choosing a particular stock for investment. Kang and Stulz (1997) have found that foreign institutional investors (FIIs) tend to select investments in companies which are actively traded. Douma, George and Kabir (2003) argue on the basis of their findings of their study on FIIs that they invest in



large liquid companies which enable them to exit their positions quickly at relatively lower costs. The impact cost has a negative sign as expected meaning the higher the impact cost the lower the FIIs investment in the company and vice versa. A one per cent change in impact cost would cause a 102 per cent change in FIIs investment. The non-promoters shareholding as a percentage of total outstanding shares is also found to be significant and has a positive sign. The higher the quantum of shares with non-promoters category, the higher the FIIs investment and vice versa. A one per cent change in the shareholding of non-promoters category of shareholders would cause a 0.327 per cent change in FIIs investment.

The reason for the non-significance for the variable, market return may be that the market returns that are considered by an FII are the market return available for equity returns of this country vis-à-vis their home equity returns. Once the average return in the foreign market is higher than the average return on home market investment, may be the differences in the return on the specific stocks in a market may not be as important as its liquidity. Bartram and Dufey (2001) argue the emerging market securities represent an interesting component because of their comparative low correlation with the developed markets. As a result, these securities have considerable power of diversification in spite of their high absolute volatility. 'India's deepening globalization is leading to higher correlations between Indian equity indexes and world markets. However, these correlation coefficients are as yet small, and there are considerable gains from diversification for global portfolios that harness Indian equity indexes.' (Economic Survey 2003-2004, pp.68)

Summary of Findings

When a model, with the FIIs investment as dependent variable and impact cost, market return, and the shareholding of non-promoters category of shareholders to total outstanding shares was tested with empirical data, it was found that impact cost and the quantum of shares available for trading in the market seem to be two important considerations for FIIs for their investment purposes. But of the two significant variables, impact cost has emerged as the most important variable explaining FIIs investment in a company.

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