

FOREIGN INSTITUTIONAL INVESTMENT: A STUDY OF CO RELATIONSHIP WITH MUTUAL FUNDS INVESTMENT AND SENSEX

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ABSTRACT

India has experienced fiscal and balance of payment crisis in 1990-91. In response, it embarked on the path of liberalization in 1992. During this era, for the first time our then Finance Minister Manmohan Singh permitted Foreign Institutional Investors to invest in all the listed securities of Indian capital market in 14th September 1992 to reduce country dependence on debt-creating capital flows, correct the accurate balance of payment crisis and develop the capital markets. FIIs are considered to be an important part of a stock market movement. FIIs are termed as hot money which increases the inflow within the country and contributed towards the Volatility of BSE Sensex. Inflow of the foreign capital brings foreign currency (\$) into the country which contributes towards the development of the economy but large portion of capital in stock market comes through domestic route, in which MF plays significant role. The objective of this paper is to find out the Correlation between FIIs Net Investment and Sensex and FIIs Net Investment and MFs Net Investment. This is in consideration to find out whether FIIs are more correlated with Sensex or MFs. The sample period of the study spans from FY 2000-01 to 2012-13. Karl Pearson's Coefficient of Correlation is used for the purpose of find out correlation. The study concluded that FIIs Net Investment has positive correlation with Sensex as well as with MFs Net Investment but it is more positively correlated with Sensex than MFs Net Investment.

Keywords: Sensex, FIIs Net Investment, MFs Net Investment, Karl Pearson's Coefficient of Correlation.

INTRODUCTION:

A well-recognized stock market of any country has considered being an important part on the development of economy (Bohra & Dutt, 2011). Returns on stock market are combination of domestic as well as foreign investments. In which domestic or local investors seizes greater knowledge about Indian financial markets than that of foreign investors who belongs to some other country (Chakraborty, 2007). Stock market provides investors large number of scripts with huge degree of risk, return and liquidity. There are wide range of options among the investors whether domestic or foreign investors in terms of assets which inducing more savings, increased competition, enhanced risk elements as well as enhanced the Gross Domestic Products (GDP) of the country, which is an important indicator of a growing economy. Foreign capital plays significant role for every national economy, regardless of its level of development (Goudarzi & Ramanarayanan, 2011).

Due to Balance of Payment Crisis in 1990-91, the era of Liberalization, Globalization and Privatization (LPG) happened in 1991 (Gordon & Gupta, 2003). This era introduced large number of policy changes in India. During this era, for the first time FIIs were permitted to invest in all the listed securities of Indian capital market in 14th September 1992 (Kaur & Dhillon, 2010). Such liberalization integrated domestic financial and global markets which permits free flow of capital from 'Capital-rich' to 'Capital-scarce' countries which resulted into higher rate of return, increased productivity and efficiency of capital at global level (Bekaert and Harvey, 2000). Most of the developing countries have opened their stock markets for foreign investors either due to inflationary pressures, large current account deficits, currency depreciation, increase in foreign debt or as a result of economic policy (Bansal & Pasricha, 2009). Foreign capital flows have affected by large amount of macroeconomic and financial factors like Inflation, Interest rate, exchange rate, market capitalization, returns on sensex, index of industrial production etc (Kaur & Dhillon, 2010). In the line of above discussion this paper attempted to analyze how domestic and foreign investment contributed towards the Sensex of the country. Sensex is an important indicator of the growing economy all over world which is influenced by various factors in which MFs and FIIs are two of important factors contributed towards the economic development of the country.

The further paper would cover definitions and regulations related to FIIs, review of literature, database and methodology and findings and conclusions. Discussion of regulation is important to know about the investment pattern of FIIs in India so that it could be easy to analyze the amount of difficulties to be involved in their investment decisions.

FIIS REGULATION:

Securities and Exchange Board of India (SEBI) has been provides regulations Securities and Exchange Board of India (FIIs Regulation), 1995 after their introduction into Indian Capital Market. Time to time various amendments have taken place in this regulation via SEBI (FIIs Regulation) amendment regulations 2001, 2004, 2005, 2006, 2007, 2010, 2011 etc. This is to provide some simplification to movement of foreign investors into Indian Capital Market.

FOREIGN INSTITUTIONAL INVESTORS:

The term FIIs have defined by Securities and Exchange Board of India (FIIs) Regulations, 1995 chapter-1 section: 2(f) as "An institution established or incorporated outside India which proposes to make investment in India in Securities." According to Consolidated FDI Policy (2012), "Foreign Institutional Investor'(FII) means an entity established or incorporated outside India which proposes to make investment in India and which is registered as a FII in accordance with the SEBI (FII) Regulations 1995."

MUTUAL FUND:

According to SEBI (Mutual Funds) Regulations, 1996 Mutual Funds means "Fund established in the form of a trust to raise monies through the sale of units to the public or a section of the public under one or more schemes for investing in securities including money market instruments or gold or gold related instruments or real estate assets."

ROUTE OF FIIS INVESTMENT:

FIIs have two route of making investment in Indian capital market:

- i. On its own behalf.
- ii. On behalf of sub account (*Sub-account means any person residents outside India, on whose behalf investments are proposed to be made in India by a FII investor and who is registered as a sub-account under*

SEBI. For each sub-account a separate registration is granted. The sub-account should fall into the categories, namely: a Broad Based Fund or Portfolio incorporated or established outside India; a Proprietary Fund; a Foreign Corporate (*A foreign corporate means a body corporate incorporated outside India which has listed securities on any stock exchange outside India with an asset base of not less than \$ 2 billion US dollars and had an average net profit of not less than fifty million US dollars during the three financial years preceding the date of the application.*) or an Foreign individual; (*A Foreign Individual has a net worth of not less than \$ 50 million, holds the passport of a foreign country for 5 years, hold a certificate of good standing from a bank and client of the concern FII for last 3 years. The NRIs shall not be eligible for opening a sub-account*) or a University Fund, Endowment, Foundation, Charitable Trust or Charitable society (Securities and Exchange Board of India (Foreign Institutional Investors) Regulations, 1995).

WHO MAY BE FOREIGN INSTITUTIONAL INVESTORS?

FII include: an Institution established or incorporated outside India as a Pension Fund; Mutual Fund; Investment Trust; Insurance or Reinsurance Company; an International or Multinational Organization or an agency thereof or a Foreign Governmental Agency (Sovereign Wealth Fund) or a Foreign Central Bank; an Asset Management Company, Investment Manager or Advisor, Bank or Institutional Portfolio Manager, established or incorporated outside India and proposing to make investments in India on behalf of Broad Based Funds (*A broad based fund means a fund established outside, which has at least twenty investors, with no single individual investor holding more than forty-nine per cent of the shares or units of the fund*) its proprietary funds; Trust established outside India; University Fund, Endowments; Foundations or Charitable Trusts or Charitable Societies which have in existence for at least 5 years (Securities and Exchange Board of India (Foreign Institutional Investors) Regulations, 1995).

INVESTMENTS PATTERN OF FIIS IN INDIAN STOCK MARKET:

- (i) A FII could invest in the primary and secondary markets including shares, debentures and warrants of the companies unlisted, listed or to be listed on a recognized stock exchange in India. These could also invest in units of mutual fund whether listed or unlisted; dated government securities; listed derivatives; commercial paper and security receipts.
- (ii) Total investments in equity, convertible debentures (CDs) and tradable warrants on its own account or on behalf of sub-account shall not be less than 70% of the aggregate of total investment by the FIIs. A foreign corporate or individual shall not be eligible to invest through the 100% debt route.
- (iii) FIIs can't invest in security receipts on behalf of its sub-account. FIIs could invest or transact in the Indian securities market only on the basis of taking and giving delivery of securities purchased or sold. They could enter into short selling transaction as specified by SEBI. RBI shall grant permission to make transactions in government securities like commercial paper (CP) and T-Bill.
- (iv) FII investment in equity shares of a company on behalf of its sub-accounts shall not exceed 10% of the total issued capital provided further that foreign corporate or individuals, each of such sub-account shall not more than 5% of the issued capital.
- (v) FII could lend or borrow securities on behalf of sub account. No FII could issue or deal in off-shore derivative instruments, directly or indirectly, unless such off-shore derivative instruments are issued only to persons who are regulated by an appropriate foreign regulatory authority and know your customer (KYC) norms have been fulfilled. No sub-account shall issue off-shore derivative instruments. Off-shore derivative instruments are issued by FIIs against securities held by it that are listed or proposed to be listed on any recognized stock exchange in India.
- (vi) FIIs shall disclose information regarding the terms of and parties to off-shore derivative instruments such as Participatory Notes (PNs), Equity Linked Notes or any other such instruments enter into by it or its sub-account units or affiliates relating to any securities listed or proposed to be listed in Indian Stock Exchange. (Securities and Exchange Board of India (Foreign Institutional Investors) Regulations, 1995).

LITERATURE REVIEW:

Various researchers have given an emphasis conceptually and empirically on the area of FIIs and its importance in Stock market which influences the Sensex. Agrawal P.R (1997) have evaluated about the impact of regulatory framework and determined how FIIs' action imposed reaction to Indian capital market. The author found that the correlation between FIIs' action and market reaction is so perfect that the stocks which have gone up the

maximum are the stocks which are at a premium in the GDR market.

Aggarwal, Klapper, & Wysocki (2005) examined the investment allocation choices of actively-managed US Mutual funds in emerging market equities after the market crisis of the 1990s. They found that US funds invest more in the companies with strong shareholders rights, accounting standards and legal frameworks. Further the study emphasized that investors preferred more on such companies which have greater corporate governance practices. Ultimately better corporate governance practices attracted large amount of investors to invest in particular company.

Chakraborty (2007) examined the causality between FII flows and Indian stock market return during April 1997-March 2005. The study found that the causality between these two variables are highly modeled specific and enable to detect the direction between these two variables. However, Mishra, Das and Pardhan (2010) examined the causality between foreign institutional investments and the real economic growth in India over a period 1993:Q1 to 2009:Q2. It found that the foreign institutional investment inflows have the potential of influencing the process of economic development of India through the positive impacts on macro-economic fundamentals of the country. Further, Goudarzi & Ramanarayanan (2011) also investigated about the co integration and causality between the Indian stock market and foreign institutional investment in India during world financial turmoil of 2008. The author on the basis of his study found that the BSE500 stock index and FIIs series are co integrated and causality between them is bilateral. Ultimately, co-integration and causality are the two important factors which enable to determine how the FIIs have contributed towards the development of the capital market.

Prasanna (2008) highlighted about the contribution of FIIs particularly among the companies in the sensitivity index of the BSE. It also examined the relationship between foreign institutional investment and firm specific characteristics in terms of ownership structure, financial performance and stock performance. The study concluded on the point that foreign investments are more in companies which have high volume of publicly held shares. It further found that in financial performance variable share returns and earnings per share are more influencing variables on the investment decision. Thus both micro and macroeconomic factors have affected the FIIs investment in stock market in support of such term Kaur & Dillion (2010) investigated about the determinants of foreign institutional investors' investment in India. The author found that FIIs inflows in India are determined by both stock market characteristics and macroeconomic factors. The study further concluded that returns on Indian stock market have positive impact whereas US stock market returns have no significant influence on FIIs investment to India. With the continuing importance of FIIs in BSE sensex Bohra & Dutt (2011) attempted to understand the behavioral pattern of FII in India and figure out the reason for indifferent responses of BSE Sensex due to FII inflows. Jain, Meena & Mathur (2012) have also examined the contribution of FIIs Investment in Sensitivity index and found that these two have high degree of positive correlation with each other with the help of Karl pearsons correlation of coefficient. Thus ultimately they also have observed about the FIIs impact on BSE Sensex.

Bansal & Pasricha (2009) studied about the impact of market opening to FIIs on Indian stock market behavior. In the line of this direction study found that there is no significance change in Indian stock market average returns after the opening up of the stock market for FIIs. However, Sahu (2009) investigated about the participation of foreign institutional investors and the other financial institutions in India and the performance of the Indian stock markets. They found that the Indian market offers reasonable safe returns in the emerging market space. Further Gupta (2011) examined the relationship between Indian stock market and FIIs Investment in India and found that these two are influencing each other however their timing of influence is different.

The present study given more emphasis on the relationship between Indian stock market and FIIs investment and determined the co-integration and causality between these two variables. Further, Prasanna (2008), Kaur & Dillion (2010) and Bohra & Dutt (2011) have investigated that BSE sensex has depended more on the FIIs Investment but conceptually and empirically not only Sensex but also FIIs Investment depend upon Sensex. Thus to through light on this statement, this paper has prepared which hypothetically proof the relationship between Sensex, FIIs and MFs Net Investment.

RESEARCH OBJECTIVE:

That is to find out:

- a. The Correlation between FIIs Net Investment and Sensex.
- b. The Correlation between FIIs Net Investment and MFs Net Investment.
- c. Whether FIIs Net Investment are more correlated with Sensex or MFs Net Investment.

DATABASE AND METHODOLOGY:

SELECTION OF SAMPLE AND SOURCES OF DATA:

The data is collected from the secondary sources via website of SEBI and BSE. The sample period for the study spans from financial year 2000-01 to 2012-13. The data of FIIs Net Investment and MFs Net Investment have collected from the report of SEBI whereas the Sensex data have collected from the archives of the BSE. Sensex consist of 30 component stocks representing large, well-established and financially sound blue chip companies across the key sectors. MFs Net Investment is a difference between MFs Gross Purchase and Gross Sales and FII Net Investment is a difference of FIIs Gross Purchase and Gross Sales. The Correlation between them has been calculated in the excel sheet. This paper is the extension of study conducted by Jain, M., Meena, P. L., & Mathur, T. N. (2012). They have emphasized only on the correlation between FIIs Net Investment and Sensex whereas this paper examined the relationship of FIIs Net Investment not only with Sensex but also with MFs Net Investment, thus it is a comparative study.

HYPOTHESIS:

H1 There is high degree of positive or close correlation between FIIs Net Investment and Sensex.

H2 There is positive correlation between FIIs Net Investment and MFs Net Investment.

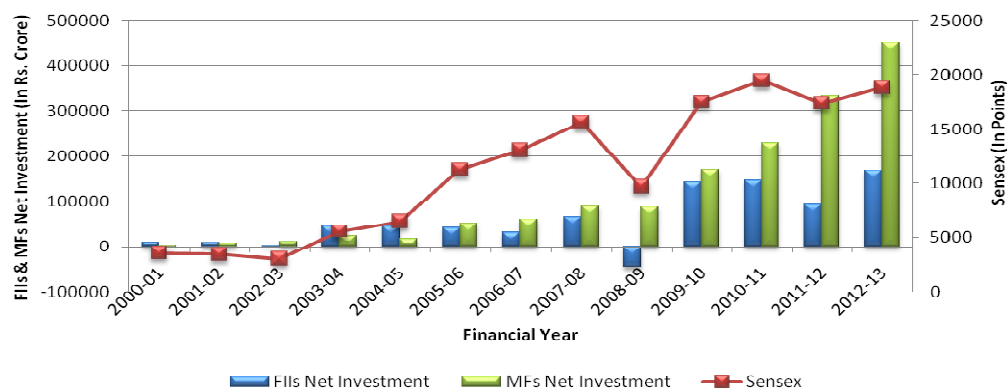
H3 FIIs Net Investment is more positively correlated with Sensex than MFs Net Investment.

Table 1.1: FIIs Net Investment, Sensex and MFs Net Investment

Financial Year	FIIs Net Investment (In INR Crore)	Sensex (In points)	MFs Net Investment (In INR Crore)
2000-01	9933.40	3604.38	2256.51
2001-02	8762.60	3469.35	7163.34
2002-03	2689.30	3048.72	10537.72
2003-04	45765	5590.6	24009
2004-05	45881.3	6492.82	17435
2005-06	41466.7	11279.96	51104
2006-07	30840.4	13072.1	61607
2007-08	66179.1	15644.44	90095
2008-09	-45811	9708.5	88787
2009-10	142658.3	17527.77	170076
2010-11	146438.1	19445.22	228879
2011-12	93725.50	17404.2	333462.9
2012-13	168851.1	18835.77	450710.8

Source: Annual Reports of SEBI and Website of BSE (www.bseindia.com)

Chart: 1.1 FIIs Net Investment, Sensex and MFs Net Investment



ANALYSIS:

The above chart 1.1 shows the relationship of Sensex with FIIs and MFs Net Investment. In the chart, during 2000-01 to 2002-03 the net investment by FIIs and MFs was lower and it turned the Sensex less the 5,000

points, which shows the adverse movement of the Sensex on the stock exchange. From 2003-04, Sensex started gaining as the investment by the FIIs and MFs gone up. This increasing trend continued till to the 2007-08. There were sub-prime crises in US in 2007 which affected the whole world and in 2008-09 the FIIs investment turned into negative and Sensex also felt.

Table: 1.2 Karl Pearson's Coefficient of Correlation between FIIs Net Investment and Sensex

Financial Year	FIIs Net Investment (X)	Deviation (Σdx)	Σd^2x	Sensex (Y)	Deviation (Σdy)	Σd^2y	$dx dy$
2000-01	9933.4	-48326.58	2335458781	3604.38	-7558.99	57138353.1	365300244.2
2001-02	8762.6	-49497.38	2449991084	3469.35	-7694.02	59197967.4	380833943.3
2002-03	2689.3	-55570.68	3088100989	3048.72	-8114.65	65847569.6	450936741.4
2003-04	45765	-12494.98	156124640.5	5590.6	-5572.77	31055782.6	69631694.64
2004-05	45881.3	-12378.68	153231832.8	6492.82	-4670.55	21814051.7	57815284.47
2005-06	41466.7	-16793.28	282014408.2	11279.96	116.59	13592.8694	-1957903.22
2006-07	30840.4	-27419.58	751833620.5	13072.1	1908.73	3643244.34	-52336541.6
2007-08	66179.1	7919.12	62712388.47	15644.44	4481.07	20079974.6	35486098.19
2008-09	-45811	104070.98	10830769839	9708.5	-1454.87	2116651.19	151409913.5
2009-10	142658.3	84398.32	7123075640	17527.77	6364.40	40505567.8	537144508.6
2010-11	146438.1	88178.12	7775380033	19445.22	8281.85	68589013.9	730277789.2
2011-12	93725.5	35465.52	1257802781	17404.2	6240.83	38947939.9	221334197.8
2012-13	168851.1	110591.12	12230394802	18835.77	7672.40	58865698.2	848499103.5
Total	757379.8	0.00	48496890838	145123.83	0.00	467815407	3794375074
N	13			13			
Mean (X or Y)	58259.98			11163.37			
Variance (x)	5998.82						
Variance (y)	61078.065						
Karl Pearsons' coefficient of Correlation	0.79661						

Note: Figures are in round off basis.

Result: The above table 1.3 shows the Karl Pearson's Coefficient of Correlation between FIIs Net Investment and BSE Sensex from 2000-01 to 2011-12 financial years. On the basis of above calculation it has founded that there are high degree of positive correlation between FIIs Investment and Sensex (0.79661). The Coefficient of correlation varies between -1 to +1. Correlation below 0.5 shows the low degree of positive correlation whereas above 0.5 shows the high degree of positive correlation. Thus the first hypothesis is accepted that these two are highly correlated with each other. If there is any variation in the calculation, this will be only due to round off.

Table: 1.3 Karl Pearson's Coefficient of Correlation between FIIs Net Investment and MFs Net Investment

Financial Year	FIIs Net Investment (X)	Deviation (Σdx)	Σd^2x	MFs Net Investment (Y)	Deviation (Σdy)	Σd^2y	$\Sigma dx dy$
2000-01	9933.4	-39110.658	1529643595	2256.51	-88194.529	7778274975	3449346097
2001-02	8762.6	-40281.458	1622595885	7163.34	-83287.699	6936840832	3354949984
2002-03	2689.3	-46354.758	2148763620	10537.72	-79913.319	6386138580	3704362598
2003-04	45765	-3279.058	10752223.55	24009	-66442.039	4414544569	217867322.2
2004-05	45881.3	-3162.758	10003040.28	17435	-73016.039	5331341976	230932086.3
2005-06	41466.7	-7577.358	57416359.31	51104	-39347.039	1548189491	298146615.1
2006-07	30840.4	-18203.658	331373176.7	61607	-28844.039	831978595.4	525067033.9
2007-08	66179.1	17135.042	293609652.9	90095	-356.039	126763.8882	-6100745.956
2008-09	-45811	-94855.058	8997482091	88787	-1664.039	2769026.348	157842532.2
2009-10	142658.3	93614.242	8763626243	170076	79624.961	6340134388	7454030326
2010-11	146438.1	97394.042	9485599352	228879	138427.961	19162300340	13482058585
2011-12	93725.5	44681.442	1996431229	333462.9	243011.861	59054764506	10858120284
2012-13	168851.1	110591.115	12230394802	450710.8	332547.472	110587820826.62	36776795796
Total	757379.8	0.000	48496890838	1536123.27	0.000	237590876605	83568151497
N	13			13			
Mean (X or Y)	58259.985			118163.328			
Variance (σ_x)	61078.065						

Variance (σ^2)	135189.58					
Karl Pearson's Coefficient of Correlation (r)	0.7785					

Note: Figures are in round off basis.

Result: Table 1.3 shows the correlation between FIIs Net Investment and MFs Net Investment. It shows that there is high degree of positive correlation between MFs and FIIs Net Investment (**0.7785**). With regard of this H2 has accepted but FIIs Net Investment is more positively correlated with Sensex than that of MFs Net Investment so the H3 has also accepted.

FINDINGS AND CONCLUSION:

On the basis of above study, it is concluded that both Sensex and MFs have high degree of positive correlation with FIIs Net Investment, whereas FIIs Net Investment are more positively correlated with Sensex than MFs Net Investment. They both have impacted the volatility and movement of FIIs Net Investment. The Karl Pearson's Coefficient of Correlation between FIIs Investment and Sensex is **0.79661** and FIIs Investment and MFs Investment are **0.7785** respectively which shows that the inflows are higher than outflow in both the cases. In the above study all the hypothesis has accepted.

No doubt Inflow of the foreign capital brings foreign currency (\$) into the country which contributes towards the development of the economy but large portion of capital in stock market comes through domestic route, in which MFs play significant role. Development of capital market depends not only in the foreign capital but also upon the domestic investment route. Thus it is important for the country to encourage the investment within the country along with the foreign investment. Because, FIIs look for income, if the economy grow they entered into the stock market of concerned economy but exit from the market in the same speed as they entered.

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