

Impact of Foreign Institutional Investor on Indian Stock Market During Financial Crisis

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ABSTRACT

Indian capital market is the major index of Indian economy and the main focusing part is primary market and secondary market through which economy is operating. This was tremendously affected by foreign investment inflow into the Indian capital market. Hence FII becomes the matter of discussion after the major economic reforms since 1991. The main objective of this research paper was to study the impact of FII on Indian stock market by taking sensex as a benchmark index. The paper covers the statistical analysis of FII (Foreign Institutional investor) flows and its impact on the index during Global financial crisis of 2008 and Euro zone crisis of 2011. The empirical analysis has been done using statistical tools like t-test, correlation, regression analysis to identify the relation between FII and Indian stock market and The impact of the FII flows during the two crises has been analyzed.

1. Introduction

The effect of financial crisis is very increasing with the increase in globalization. The effect of the same can be seen in different part of the world on more or less basis. . The effect of global economic crisis is giving some trouble to India also. The year 2008 saw the world facing the Global Financial Crisis and the year 2011 saw the world facing the Euro zone crisis. Both the crisis had a deep impact on the Indian stock markets. The markets tanked in both the crisis whereas the FII were net sellers during both the global crisis event. The Global Financial Crisis saw the world economy going for recession as the USA which is world big daddy went for a slowdown. In the last 10 year, average GDP of the world grew by 2.5 % to 2.8% as compared to Indian economy average of 7.5% to 8 % which shows the potential of the Indian economy. But in the last 3 years the Indian Economy also slowed down and the GDP touched 10 year low of 4.6%.

Global Financial Crisis of 2008

Crisis is one of the forms of business cycle that may lead to a panic or stressful change in economic, political social environment. the The beginning of current economic crisis was in back to mid 2007, when the three things became clear first Low income or subprime US households that had borrowed heavily from banks and financial companies to buy homes, second the size of this subprime housing loan market was huge at near to \$ 1.4 trillion and Wall Street financial engineers had packaged these loans to really complicated financial instruments. Till 2006 the USA economy was economically sound, prevailing interest rates were low, price of houses were increasing due to lower interest rates. Because of lower interest rates banking sector was earning lower profit therefore financial institution and banks had decided to charge high rates of interest and loans were given for purchasing the houses to sub-prime lenders. They took such kind of risk because they thought that the price of houses were never get fall down. they found the opportunities in housing sectors because of continuous price rise of houses and made huge investment in housing sector due to this there was a more demand of loan in US but to fulfill

that demand fund was inadequate . to fulfill the demand Americans bank introduce new instrument named mortgage bond. By using those mortgages bond housing loans were again mortgaged which was already mortgaged by people by artificially increasing the price of houses more than their actual prices by selling these mortgage bonds . Large amounts of funds were collected by American banks. These funds were utilized for financing the housing loans in US

This housing fizz based on sub-prime loans burst in 2006-07. In this same year housing prices was declined and that adversely affected to speculative investment in housing sector. The investor has to face loss instead of profit. So they started to sell the houses but because of lack of demand houses could not be sold out. Loans amount could not be repaid by borrower and banks were failed to recollect the loans amounts. the prices of mortgaged bond were started declining as a result investors of mortgage bond had to face loss. This problem became serious in America. The large banks like Lehman Brothers, Merrill Lynch had declared bankrupt. In USA, 19 large banks and 100 private financial institutions were declared bankrupt. Thus, the default in mortgage loans for housing is the primary reason for the financial crisis sweeping the world.

Impact of sub- prime crisis on Indian stock market

The Indian economy had performed well during the last two decades, followed by high growth rate of real Gross Domestic Product (GDP), besides increase in domestic savings and increase in investment and productivity but the effect of US subprime crisis were felt in financial market of all over the world .the year 2008 saw the world going into recession. USA Economy had the subprime crisis and as the result it went for a recession which took the world economy into a recession. US economy is \$ 16 trillion which is the largest in the world and it contributes 23 % in the world GDP. The reckless lending by the US banks lead to bankruptcy as the banks could not collect the amount. The investment banks in USA filed for bankruptcy which led to large scale unemployment as thousands of people were removed out of jobs. This led to the slowdown in the US

economy. This slowdown affected countries like Japan, China, Eurozone which have more of export oriented model. The slowdown in the US led to these major economies also going to recession. This triggered a fall in the global stock markets where the Indian stock markets fall like pin of cards. The Indian SENSEX was at 21206 on 10th January 2008 and came down to 7697 on 24th October 2008 as the FII sold shares worth Rs. 52,000 crores from the Indian stock market. This shows the power of FII in our markets.

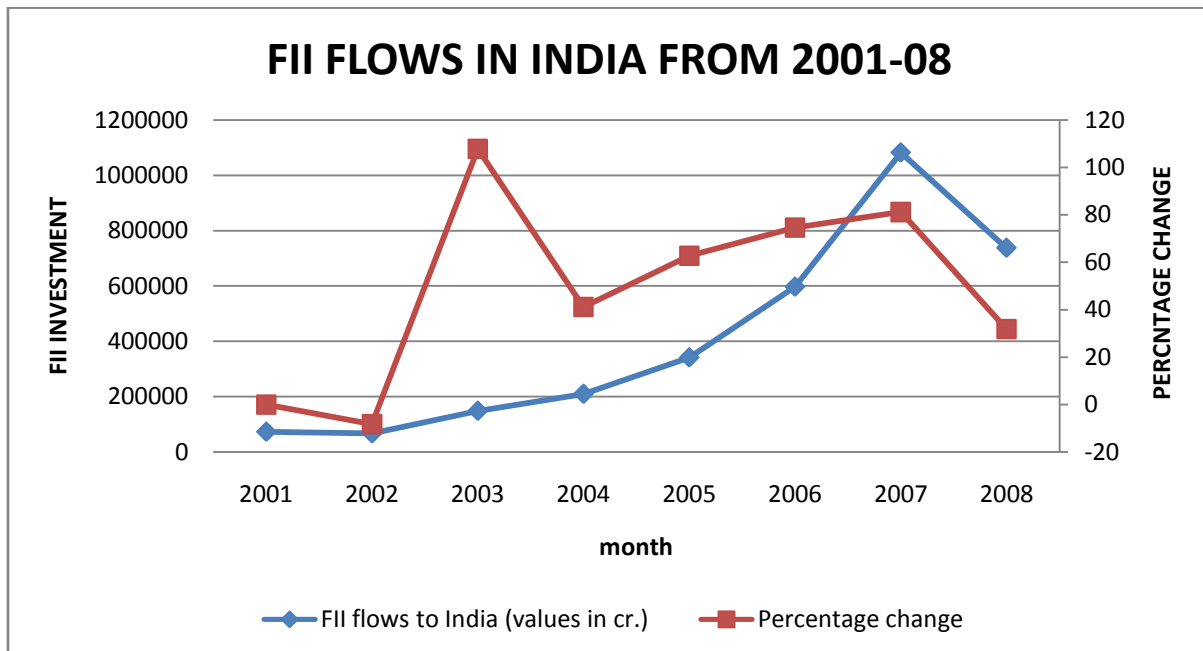
In the present global scenario, India has been considered as the most promising and fast growing economy in the world.

Because of the liberalized rules for Foreign Direct Investment (FDI) in Indian economy, the real estate, telecommunication, service sector, construction activities, power etc have become very attractive investment avenues for both the domestic as well as foreign investors. In the same way, due to the increased activities of Foreign Institutional Investors (FIIs) in mutual funds, pension funds etc, the Foreign Portfolio Investment in the country has witnessed tremendous upswing during 2000s. The overall foreign investment in India met serious slow down during the global economic crisis. The following table reveals the position of foreign investment in India

Foreign investment in india from year 2001 to2008
TABLE N0-1

Years	FII flows to India (values in cr.)	Percentage change
2001	73435	-
2002	67401	-8.22
2003	148811	107.84
2004	210047	41.15
2005	341818	62.73
2006	597139	74.69
2007	1082001	81.19
2008	737696	31.82

CHART- 1



Interpretation: it is clear from the diagram that flows of FII were increasing since 2003-04. However it was beaten by financial crisis in 2008 the year in which FII flows had been declined and showed negative growth rate. Because of the stock markets collapsed in USA and Europe, there was panic in the Indian stock markets. The foreign institutional investors (FIIs) who had invested in Mumbai stock market suddenly withdrew their investment. This naturally dipped the BSE sensex. The value of sensex which reached 17,578 on February 2008 declined to 16,371 on March 28th, 2008. It further declined to 9647 in Dec 2009 because of the net selling

by the foreign institutional investors (FIIs). Such decline was noticed in many other Asian stock markets also.

2. Literature Review

“The cost of ‘Coupling’: The global crisis and the Indian Economy”¹, where it was stated that during 2003-04 to 2006-07, the FII inflows rose significantly and Indian stock market saw a surge where the Indian corporate sector tripled in the value which was majorly driven by private placement. As soon as the FII exit, the reverse tendency in the collapse of stock market triggered. The Indian government responded to this positively and RBI aimed at reducing the interest rate and

thereby increasing access to credit to the corporate. They also stated the role of the government in stabilizing the economy and stressed upon the fact that if the big firms are tightly regulated and permitted to discount risk in the pursuit of profit, the government will have to eventually nationalize them.

Another report titled, "Global financial crisis and key risks: Impact on India and Asia",² stated that the Indian market was not that much affected by the global economic crisis of 2008 and gave reasons for the resilience exhibited by the Indian economy. It was also given that the FII witnesses a decrease in the net flow in the period of April – September, 2008. The decrease in the FII inflow was to the tune of US \$ 9.1 billion. Though the FII inflows decreased, during this period, but India as a country remained spared from the crisis. He also emphasized on the role of RBI in effective management of domestic liquidity and monetary conditions which were consistent with monetary policy instance. He also stated that the financial stability in India is achieved through perseverance of prudential policies and which act as a shield for the financial market, among others.

Another research paper titled, "Global Financial crisis, its impact on India and the policy response"³ has highlighted the inability of India's to secure itself from the global adverse financial developments. The central bank's intervention was an important step which helped the country to ease out the liquidity measures. It was perceived that the economy like India would be not impacted by the global financial crisis and it was true to some extent, as soon as the crisis started as it opened some opportunities, but later when the crisis was wide spread, India was no exception to this. He suggested that in order to achieve a growth rate of 9%, several measures are required to be taken up such as revival of economic reforms, efforts to raise domestic savings, large investment and special focus to agriculture and rural development, among others. According to him, the stronger growth should attract more foreign savings and will help the economy. There should be concentrated and conscious efforts to increase the domestic savings, which could be one of the factors for reducing the impact of the FII on the

India. A good track record is no guarantee for future performance. Investors should look for quantitative measures to evaluate which investment is good for them.

3. Research Methodology

➤ **Problem statement:** impact of FII on Indian stock market during financial crisis.

➤ **Objective of study:**

1. To study the impact of FII before subprime crisis and during crisis.
2. To find the relation between FIIs investment & sensex
3. To study whether the stock market is affected by FII investment

➤ **Variables to be studied:** FII flows to the Indian stock market and sensex

➤ **Data:** secondary data has been collected from bse website ,various magazines published by SEBI, equity master website .

➤ **Period of Study:** the study period is divided in to two part first is before subprime crisis period from Jan 2001 to Dec 2006 and during crisis period from Jan 2007 to dec2012.

➤ **Sample size:** 144 observations have been taken for the purpose of analysis. The two variables taken for study are monthly FII flows into the stock market and the month end closing SENSEX data has been taken.

➤ **The period of study:** the period of study is from year 2001 to 2012. The period of study is divided in to two parts pre crisis period year 2001 and 2006 and during crisis period year 2007 and 2012. The rationale for the selected period is that 2008 as these years have been very crucial for the world as world saw Global Financial Crisis.

➤ **Hypothesis:**

Ho:- There is no significant relationship between FII flows and the Index during & after crisis crisis.

H1:- There is significant relationship between FII flows and the Index during & after crisis.

➤ **Data analysis:** The data analysis has been done using the MS EXCEL and other statistical tools. Analysis has been done using Correlation, regression, F Test, T Test.

4. Data Analysis and Interpretation

IMPACT OF FII ON BSE SENSEX BEFORE FINANCIAL CRISIS OF 2008
CHART-2

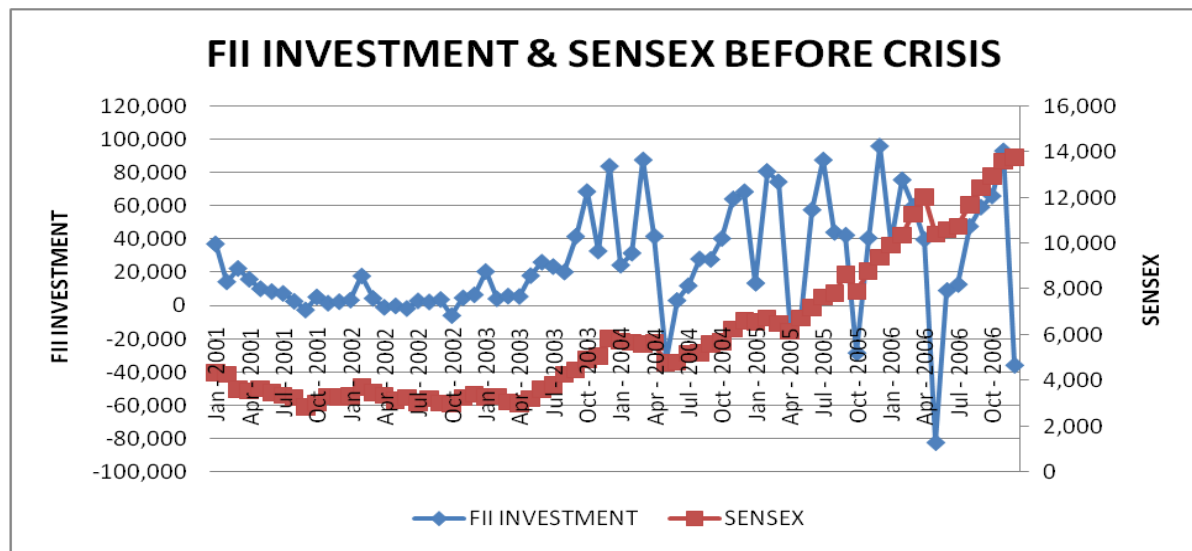


Table no-2

Regression Statistics	Column1
Multiple R	0.34371694
R Square	0.11814133
Adjusted R Square	0.10554335
Standard Error	2918.98271
Observations	72

Table no-3

ANOVA	Column1	Column2	Column3	Column4	Column5
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	79903161.3	79903161.3	9.37779894	0.00311532
Residual	70	596432204	8520460.05		
Total	71	676335365			

Column1	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95.0%
Intercept	5107.898828	430.1312874	11.8752087	1.9475E-18	4250.029037	5965.76862
X Variable 1	0.031906098	0.010418933	3.06231921	0.00311532	0.011126192	0.052686004

The estimated regression equation is $Y = -5107 + 0.031906X$

IMPACT OF FII ON BSE SENSEX AFTER FINANCIAL CRISIS OF 2008
CHART- 3

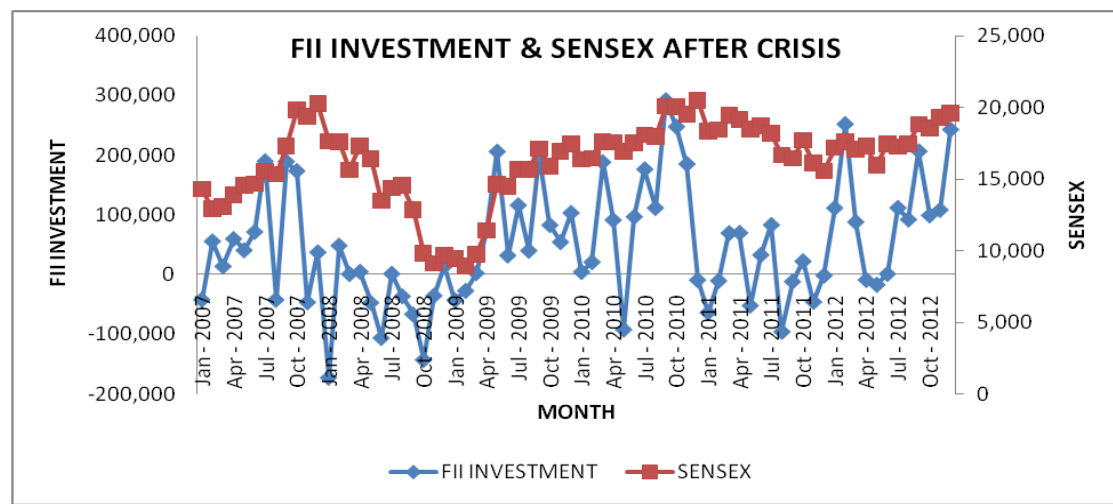


Table no- 4

Regression Statistics	Column1
Multiple R	0.40897536
R Square	0.16726085
Adjusted R Square	0.15536457
Standard Error	2619.56064
Observations	72

Table no- 5

ANOVA	Column1	Column2	Column3	Column4	Column5
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	96480657.7	96480657.7	14.059936	0.00036125

Residual	70	480346855	6862097.93			
Total	71	576827513				
Column1	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95.0%
Intercept	15684.53655	346.89596	45.2139499	1.5224E-53	14992.67439	16376.39872
X Variable 1	0.011801853	0.003147448	3.74965812	0.00036125	0.005524466	0.018079239

The estimated regression equation is $Y = -15684.53 + 0.0118018X$

Interpretation: In this study the relationship has been found through MS EXCEL. Correlation analysis has been used to find out the relationship between FII investment and sensex. chart-2 shows the flow of both the variable before financial crisis of 2008. It has been found that FII Investment and BSE SENSEX had followed positive co relation the value is 0.3437 before crisis and after the financial crisis of 2008 the correlation was 0.4089 which was higher than before crisis period. it has been clear from the correlation that during financial crisis period the flow of FII affected mostly to the value of the sensex because at that time FII was the net seller of the Indian stock market that shows power of FII in our stock market.

To find out the impact regression analysis has been used. Table no-2 and table no- 4 shows the result of regression analysis. the coefficient of determination R Square before crisis period is 0.1181 explains that 11.81% of variation in dependent variable (sensex) can be explains with the help of independent variable (FII Investment) and the coefficient of determination R Square during crisis period is 0.1672 explains that 16.72% of variation in dependent variable (sensex) can be explains with the help of independent variable (FII Investment). standard error which is the standard deviation of the sampling distribution before crisis period is 2918 and during crisis period is 2619.

From statistical perspective, test of acceptability of the linear regression model can be explains by ANOVA test. Table-3 explains that variance ratio F calculated value before crisis is 9.377 Tested at 5% level of significance is greater than level of significance. So H_0 is rejected and H_1 is accepted. Variance ratio F calculated value after crisis is 14.0599 Tested at 5% level of significance is greater than level of significance. So H_0 is rejected and H_1 is accepted

Regression equation before crisis period is $Y = -5107 + 0.031906X$ where 0.03190 signifies to a direct positive relationship between variables sensex and FII investment. Regression equation after crisis period is $Y = -$

$15684.53 + 0.0118018X$. 0.01180 signifies a direct positive relationship. By comparing two equations the relationship in during crisis period is more compare to before crisis period. Growth of inward FII with a unit determines an increase in sensex on an average of 0.01180 in India. In other word one unit change in sensex will be explained by one unit change in FII. The lower limits and upper limits at 5% level of significance are 4250 and 5965 before crisis period and 14992 and 16376 during and after crisis period..

5. Conclusion

In the concluding words it can be said that, India cannot escape unmarked present crisis because its economy has become more incorporated with rest of the world over the past two decades. The FII are having significant impact on the Indian stock market. They are actually controlling the movement of the Indian stock market. The FII had withdrawn Rs. 52000 crores in 2008 and the sensex had given negative return of 52 % and in 2011 when there was Euro zone crisis the FII gave negative return of 26 Mutual funds allow for portfolio diversification and relative risk aversion through collection of funds from the households while FII flows affect the stock market directly. All this real life event shows that how deep is the impact of FII on the Indian stock market. FII flow data from 2008 to 2012 has been taken as this time period has been very crucial for the world economy and the Indian economy. The year from 2001 to 2007 there was global liquidity flush. All indices including Sensex, Dow Jones were at all time high in 2007. This analysis from 2001 to 2007 may not give real correlation between FII flows and Sensex but from 2008 to 2012 when in 2008 FII pulled out Rs. 52,000 crores from Indian markets and the Sensex came crashing from 21,206 to 7697 shows their power and in 2011 during Euro zone crisis, FII were net sellers for whole year and the Sensex delivery -24.65 % negative return. This time frame is very vital since it shows the impact of FII on our markets. The analysis proves that if FII pull out the money then our markets are nowhere able to withstand.

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