Study On Indian Equity Market & Investor's Behaviour: In Reference To US Economic Crisis (2008)

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Abstract:

This paper investigates the investor's behaviour before, during & after the financial crisis using daily buying & selling flows from Indian equity market. It also tries to estimate aggregate stock returns of several days following each investor groups' trade. The sample period covers the impact of US crisis in India. We examine investor behaviour before, during & after this crisis by dividing our data into three sub periods: namely, from 5 April 2007 to 8 Jan 2008 for before the crisis, 9 Jan 2008 to 16 July 2009 to for during the crisis and 17 July2009 to28 April 2011 for after the crisis respectively.

Keywords: US Crisis, Indian Equity market, and Investor behaviour (FII, DII, II)

1.Introduction

The mayhem as started in the deregulated financial markets of US showed its impact on Indian stock market in early 2008. The crisis did not remain confined to pockets of US credit and security markets, as can be witnessed from its spread to other nations developing & developed. Nor did it remain confined, from the very beginning, to the financial sphere, thus impacting the already squeezed space of the real economy.

 Since year 2006 share market has went through many phases in these few years. Investors has been seen getting overjoyed at 21K and crying too when it crashed.

The first impact of the global crisis on India was felt in the stock market in January 2008. This came through the reversal of inflows from foreign institutional investors (FIIs) into the country which was followed by domestic institutional investors & individual investors. India had received about US$ 17.7 billion as net equity investment inflows from FIIs during 2007. This turned into a net disinvestment of US$ 13.3 billion during the period from January 2008 to February 2009. This was the direct result of the massive de-leveraging of US banks after the financial meltdown.

The sudden withdrawal of FIIs from the Indian stock market brought about a crash in the market in January 2008. Watching the FII disinvestment DII & RI also lost their confidence in the Indian Equity market which resulted in down fall of Indian stock market. The benchmark stock price index, the BSE Sensex, plummeted from 20,873 on 8 January to 9093 on 28 November 2008, a 56 per cent fall over a period of 11 months. After which the domestic sentiments had an effect & DII & Individual Investors showed a downfall. The fall in Wall Street started two months before in November 2007, but the intensity of the market crash taking place after a lag in Dalal Street (India's stock exchange) had been much larger.

Capital inflows under external commercial borrowings, short-term trade credit and external borrowing by banks dropped sharply from April 2008.

After the macro-economic reforms in 1991, Indian economy has been increasingly integrated into the global economy. The financial institutions in India are exposed to the world financial market. This has significant impact on India's stock market and exchange rate. India's stock market index Sensex which touched above 21, 000 mark in the month of January, 2008 has plunged below 10, 000 during October.

2.Quick Look At Year 2006 Before The Drastic Fall In 2008

In the secondary market, the uptrend continued in 2006-07 with BSE indices closing above 14000(14,015)for the first time on January 3, 2007.After a somewhat dull first half conditions on the bourses turned buoyant during the later part of the year with large inflows from Foreign Institutional Investors (FIIs) and larger participation of domestic investors. During 2006, on a point-to-point basis, Sensex rose by 46.7%.

The pickup in the stock indices could be attributed to impressive growth in the profitability of Indian corporate, overall higher growth in the economy, and other global factors such as continuation of relatively soft interest rates and fall in the international crude prices.

BSE Sensex (top 30stocks) which was 9,398 at end-December 2005 and10,399 at end-May 2006, after dropping to 8,929 on June 14, 2006,recovered soon thereafter to rise steadily to 13787 by end-December 2006.According to the number of transactions, NSE continued to occupy the third position among the world's biggest exchanges in 2006, as in the previous three years. BSE occupied the sixth position in 2006, slipping one position from 2005.

3.Effects Of The US Financial Crisis In India

It is often said that when the US sneezes the rest of the world catches a cold. The contagion of the crisis has spread to India through all the channels – the financial channel, the real channel, and the confidence channel.

The stock market sank to an 18-month low and the rupee a 5-year low. The stock market dropped 5.3% to 12,595.75. India's financial markets - equity markets, money markets, forex markets and credit markets - had all come under pressure from a number of directions. As a consequence of the global liquidity squeeze, Indian banks and corporate found their overseas financing drying up, forcing corporate to shift their credit demand to the domestic banking sector. This substitution of overseas financing by domestic financing brought both money markets and credit markets under pressure. Second, the forex market came under pressure because of reversal of capital flows as part of the global deleveraging process. Simultaneously, corporate were converting the funds raised locally into foreign currency to meet their external obligations. Both these factors put downward pressure on the rupee. Third, the Reserve Bank's intervention in the forex market to manage the volatility in the rupee further added to liquidity tightening.

In real channel the transmission of the global cues to the domestic economy has been quite straight forward – through the slump in demand for exports. The United States, European Union and the Middle East, which account for three quarters of India's goods and services trade, were in a synchronized down turn. Service export growth also slowed in the near term as the recession deepens and financial services firms – traditionally large users of outsourcing services – are restructured. Nevertheless, the tightened global liquidity situation in the period immediately following the Lehman failure in mid-September 2008, coming as it did on top of a turn in the credit cycle, increased the risk aversion of the financial system and made banks cautious about lending.

4.Literature Review

The financial crisis which started off in the autumn of 2007 and then spread throughout the world through the contagion effect has led to an increased deterioration of economic activity in most world economies. Its occurrence reopened the debates concerning the real effects of a crisis on economies and their persistence. Economic literature, in general, associates financial crises with major economic declines (Reinhart and Rogoff, 2009); among the first impact studies concerning the real effects of a crisis on economies, it is worth mentioning those belonging to (Bagehot, 1873). We take note, however, in economic literature, of a couple of studies which mention a null or modest effect of financial crises on the performances of an economy (Boyd et al., 2005) and the examples given are generally those of developed countries affected by minor (local) crises. As concerns the real effects of currency crises (one of the forms of manifestation of financial crises), according to the traditional view, a real depreciation, in the case of a nominal rigidity, favors exports and boosts output and employment. An illustrative example in this respect is the study conducted by Demirguc-Kunt et al. (2006), who identified a positive impact for 40% of the analyzed currency crises.

Financial crises affect real economy through massive depreciations of the currency and increases in the prices of the imported factors of output and of output costs. Financial crises affect, at the same time, the behaviour of economic agents through the increase of uncertainty in relation to future profits and the decrease of the level of investments and consumption. In addition, banking crises, as a form of manifestation of financial crises, produce a decrease at the level of investments through the distress of credit intermediation and of the payments system, following the diminution of the values of securities.

These effects turn out to be more visible and more persistent for emerging countries. Actually, emerging economies are more vulnerable to factors which lead to the occurrence of crises, such as, for example: the exposure of banks and of private economic agents to maturity mismatches and currency mismatches, distress at the level of international capital markets, banking panic or sudden stops of the entry of foreign capital. These statements are supported by solid empirical evidence in economic literature. Moreover, specialized studies have shown that the effects of financial crises on economic activities are bigger for emerging economies than for developed economies. For example, Hutchison and Noy (2005) analyzed the effect of currency and banking crises on economic output for developed, as well as for emerging countries. They noticed, in the case of emerging countries, an average decrease of output of 8% (for a period of over 2 years), whereas, in the case of developed countries, the average decrease of output was of only 2% (for a period of 1 year). In a study conducted by Dell' Ariccia (2008), one could see that emerging economies registered a level of real effects of banking crises bigger by 1.5 percentages than the level registered by developed economies. At the same time, Reinhart and Rogoff (2009) noticed that the decrease at the level of the GDP, following the manifestation of a financial crisis, is much bigger for emerging economies than for developed ones.

Initially, the research on international portfolio flows highlighted the phenomenon of home bias, whereby despite the advantages of international diversification, portfolios were found to be heavily skewed towards domestic securities (French and Poterba, 1991). Overtime, the degree of home bias in equity portfolios has declined and recent literature has examined the relationship between foreign equity flows and local market returns with an emphasis on detecting the trading behaviour of foreign investors and making inferences on their comparative information advantage or disadvantage relative to local investors (Tesar and Werner, 1994; 1995a; 1995b; Bohn and Tesar, 1996). However, the low frequency of previously available database over a short period used in the earlier studies lacks the power to identify the true dynamic relationship between foreign equity investment flows and local market returns.

One possible explanation for the contemporaneous relationship between foreign portfolio flows and local market returns is the price pressure because the trading volumes of foreign investors are very high for the size of emerging markets. Clark and Berko (1997) used Warther (1995) approach to evaluate price pressure by foreign investors in Mexican stock market, but they do not find any price pressure in the Mexican market.   By

contrast, Ananthanarayanan et al. (2005) had examined the impact of foreign institutional investors on stock market returns in India using monthly data series and found an evidence of validity of price pressure hypothesis.

The above theoretical arguments reveal several competing hypotheses to explain the relationship between foreign institutional investment flows and equity market returns in emerging economies and calls for earlier literature pertaining to this issue which will be helpful to identify the direction of our proposed study.

In a behavioural context, recent studies have examined whether foreign investors are positive feedback traders or destabilize the functioning of local stock markets in developed and emerging economies. Choe et al. (1999) argues that positive feedback trading is not necessarily destabilizing for two reasons: First, investors trading on fundamentals may be sufficiently powerful in the markets to prevent prices from moving away from fundamental values. Second, positive feedback traders may be trading in response to information about fundamentals, so that their trading does not drive prices away from fundamentals. Further, they examined the impact of foreign investors on stock returns in Korea during pre and post-Asian crisis period. The analysis reveals that foreign investors in Korea seem to be positive feedback traders during the pre-crisis period and not in the post-crisis period. Perhaps, more importantly, they find that positive feedback trading need not be destabilizing the Korean stock market. By contrast, the study of Kim and Wei (2002) reveals that foreign investors in Korea did not strongly follow the positive feedback trading strategies during the pre-crisis period, but did so thereafter. Further, the study of Karolyi (2002) of Japan finds a consistent positive feedback trading strategy during pre and post-crisis period.

Richards (2002) also finds evidence of positive feedback trading strategies in emerging Asian equity markets and that foreign flows have significant short-term impacts on emerging markets. Moreover, the study of Griffin et al. (2002) for nine emerging countries has found the evidence of positive feedback trading at daily frequency. However, Lin and Swanson (2004) find, for the eight largest emerging Asian markets, significant evidence that foreign inflows have a short-term positive impact on local market returns but only minimal evidence that foreign investors employ momentum trading.

Using daily data information, Batra (2003) finds that foreign investors tend to follow the positive feedback trading strategies with reference to India. Suresh and Prabheesh (2008) examine the dynamic interaction between FII flows and stock market returns in the

Indian stock market. Using daily data from January 2003 to February 2007, Vector Autoregressive (VAR) framework and Granger causality test, they find the evidence of information revelation hypothesis and momentum trading hypothesis. By contrast, using monthly data series, Ananthanarayanan et al. (2005) do not find any evidence regarding momentum or contrarian strategies being employed by foreign institutional investors in India. But, the research studies performed in the Indian context found that the equity return has a significant and positive impact on the FII (Agarwal, 1997; Chakrabarti, 2002; Griffin et al., 2002; and Trivedi and Nair, 2003).

The earlier studies such as Clark and Berko (1997), Froot et al. (2001), Bekaert et al. (2002), Chakrabarti (2002), Griffin et al. (2002), Richards (2002), Gordan and Gupta (2003), Dahlquist and Robertsson (2004), Adabag and Ornelas (2005) and Ananthanarayanan et al. (2005) etc., employed the ratio of net foreign institutional investment flows to the total size of market capitalization as foreign institutional investment variable and it is not an appropriate measure of foreign institutional investment in examining the issue. This will provide misinformation. For instance, if market capitalization increases faster than foreign institutional investment (due to local investors), the constructed ratio will fall even though there is an absolute increase in foreign institutional investment over the years and vice-versa.

Briefly, using a monthly dataset Chakrabarti examined the nature and causes of FII net inflow into the Indian equity market during the period May 1993 to December 1999. He obtained some interesting results: viz., (1) the FII net inflow is correlated with the return in Indian equity market and the former is more likely to be the effect than the cause of the Indian equity market return; (2) so far as investment in Indian equity market is concerned, foreign investors do not seem to be at an informational disadvantage compared to domestic investors; and (3) the Asian crisis marked a regime shift in the sense that in the post-Asian crisis period the return in the Indian equity market turned out to be the sole driver of the FII inflow, whereas for the pre-Asian crisis period other covariates reflecting return in other competing markets, urge for diversification etc., were also found to be correlated with FII net inflow.

Griffin, Nardari and Stulz (2002) developed a model that accounted for home bias assuming foreign investors are less informed than domestic investors and found that unexpectedly high worldwide returns led to new equity flows into small countries. Shanmugham (2001) reported that, psychological and sociological factors dominated economic factors in share investment decisions. Kamesaka and Wang (2001)

investigated aggregate daily trades of foreign and domestic investors from January 1996 to June 2000 in Indonesia, and found superior returns from foreigners' buying from domestic investors over domestic investors' buying from foreigners. Their results also show that foreigners' superiority in market timing disappears after the crisis when the country begins to suffer from political instability.

To capture the common factors determining international capital flows, Froot, O' Connell and Seasholes (2001), examined the daily international portfolio flows of 44 countries from 1994-1998, and found that regional factors have increased in importance over time.

Based on the above background, the present paper examines the relationship between foreign institutional investment, domestic institutional investment, individual investment flows and Indian stock market returns (BSE Sensex) in India with special reference to before, during and after the global financial crisis period.

5.Research Objectives

- This study aims at investigating the relation between the stock return & investment made by different investors.
- Its objective is to determine performance of individual, domestic & foreign institutional investors.
- We also measure the performance of foreign, domestic institutional and individual investors.

6.Research Methodology

This paper aims at understanding the impact of US financial crisis 2008 on investors' behavior in Indian stock market, the ups and downs in the share market since last few years. This study involves three categories of investors i.e., Foreign Institutional Investors, Domestic Institutional Investors & Individual Investors & the study period has been divided into three parts pre crisis period, during crisis & post crisis period.

In this paper, we focus on the behaviour of foreign domestic institutional investors and Indian equity market using daily aggregated buying and selling flows from April 2007 to April 2011. The US Crisis, one of the major recent international financial crises, showed its impact in India in the beginning of January 2008. One goal of this paper is to examine investor behaviour in the country where the crisis had impacted majorly. By using daily

aggregate buying and selling during the 10 months preceding the crisis, we compare investor behaviour during this stress with that under this stress. This Paper also aims to understand the "behavioural measure" that describes the relation between the stock return and the net investment flow. In this study secondary data of buying and sales value and the sensex data is collected from the relevant sources: BSE and NSE website.

7.Analysis And Discussion Of Results

Figure 1 shows the accumulated net buying of each of the three investor groups. It can be seen that DIIs were net buyers for most of the sample period, their net sold position is visible in the year of 2007 after which the crisis occurred in the Indian stock market & the SENSEX moved downward. It can be seen that DIIs increased their investment during the crisis. In fact DIIs never withdrew from the market.

It is also observed that for whole sample period FIIs were in the opposite direction to Domestic Institutional Investors.
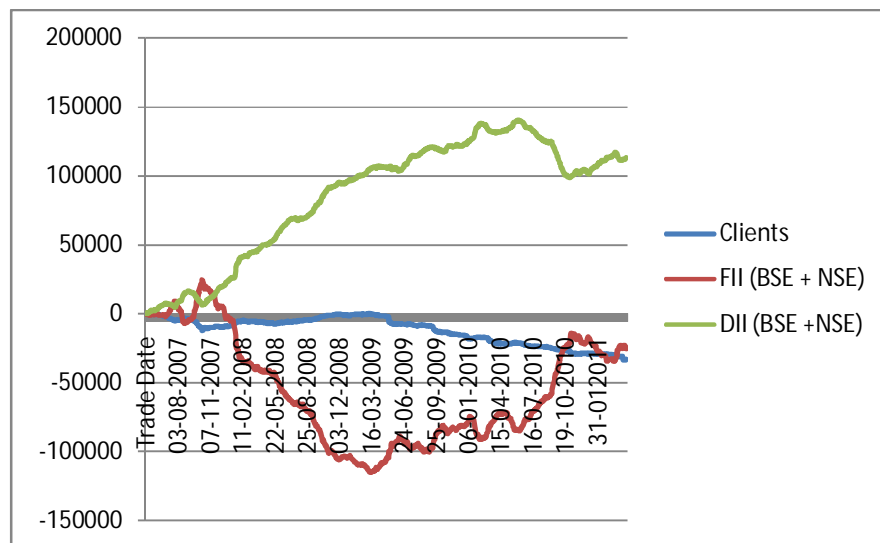

Figure 1

Figure 2 shows the contemporaneous relation between the stock return and the net investment of each investor i aggregated to time t.

Aggregate Simultaneous Return $_{it}$ = $\Sigma^{s=t}$ (Buying - Selling) R_s, (1)

Where R $_{t+k}$ is estimated as daily log return of the closing stock price:

$R_{t+k} = \log (P_{t+k} / P_{t+k-1})$.

We examine the simultaneous relation between the stock return and the net investment of each investor groups, and it is not intended to evaluate their trading performance. Rather, we understand this to be a "behavioural measure" that describes the relation (covariance) between the stock return and the net investment flow. By aggregating to time t, we can view the contribution of each increment of every observing day.

The above indicator represents the behaviour of various investor groups, including foreign investors. The trades of foreign, domestic institutional and individual investors are volatile in India; we observe stable relationships between investors' net positions and stock returns. That is, foreign investors increase their net buying (net investment flow) when the stock price is increasing, and domestic investors increase their net buying (net investment flow) when the stock price is falling.

Figure 2

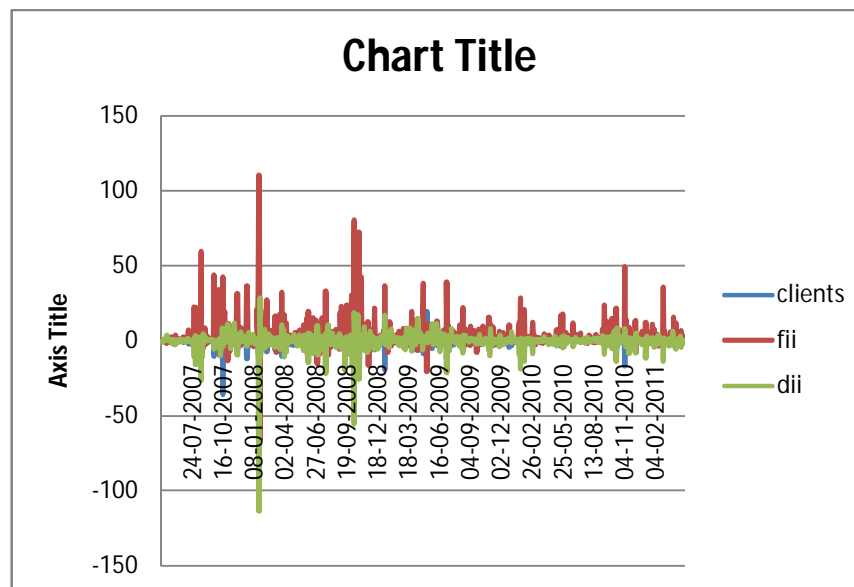**8.Investment Performance Of Foreign, Institutional And Individual Investors**

To evaluate which investor groups traded with good timing in Indian equity market before, during and after the crisis, we estimate the aggregate following one day return based on each investor's net investment flow.

Aggregate following one day return $_{it} = \sum^{s=t}$(Buying $_{is}$- Selling $_{is}$) R_{s+1}
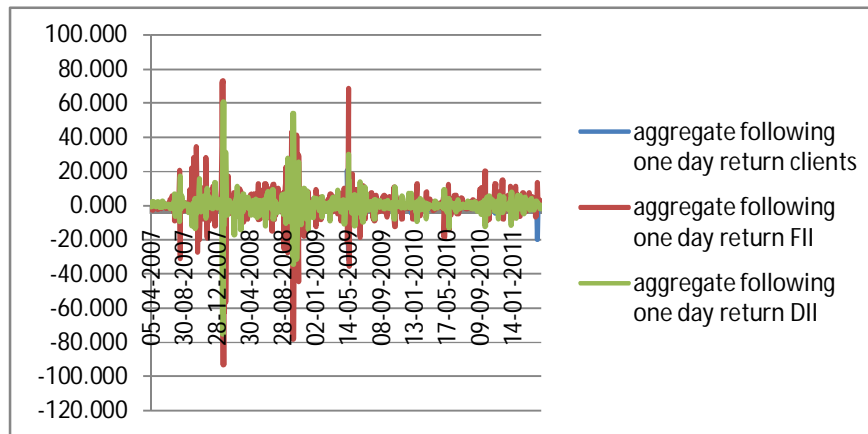
Figure 3

Above figure 3 shows the performance measure of foreign, domestic institutional and individual investors. Foreign investors traded with good timing in most of the stages of the sample period. In contrast, individual investors trade with bad timing in any of the three stages of the crisis. Domestic institutions neither earn profits nor suffer losses during these periods. The bad performance of individual investors in India may be due to the mistiming of short-term momentum cycles.

Investors trade performance based on net buying						
	Foreigners					
	t=0	t=+1	t=+2	t=+3	t=+4	t=+5
before crisis						
I	-13.073	-13.299	-13.032	-12.928	-13.025	737.1087
II	31.55	30.28	31.15	32.83	32.31	750.134
III	57.113	29.152	16.559	11.278	18.602	13.93
sub total	75.59	46.13	34.67	31.18	37.88	1501.17
during crisis						
I	47.43	45.068	46.372	46.595	43.99	40.96
II	77.25	78.69	80.31	80.45	80.77	76.73
III	46.76	44.6500	35.1100	32.689	36.84	31.56
IV	9.74	16.7800	40.3900	30.86	1.133	10.887
V	30.18	31.5740	37.9150	38.078	34.156	29.344
VI	3.52	12.5430	11.1090	12.262	13.387	12.771
sub total	214.88	229.31	251.21	240.93	210.28	202.25
after crisis						
I	30.4445	29.9640	28.1240	30.202	28.6	27.85
II	-14.1334	-12.6360	-15.5220	-15.522	-16.122	-16.1502
III	26.69	22.502	17.5600	4.639	5.644	9.466
IV	-16.91	-18.445	-18.8700	-18.556	-19.8201	-19.4172
V	42.07	43.960	43.6900	43.63	43.13	44.863
VI	50.61	51.636	53.8800	53.869	55.754	50.6411
VII	40.52	29.364	28.2240	21.504	23.21	23.906
sub total	159.29	146.34	137.09	119.77	120.40	121.16

Table 1

Table 1 show that foreign investors profit turn positive during the crisis and negative after the crisis. However we should note from (Table 2) that their gross profit is earned at the expense of India's domestic investors. That is there was a wealth transfer from domestic to foreign investors.

Investors trade performance based on net buying					
Institutions					
	t=+1	t=+2	t=+3	t=+4	t=+5
before crisis					
I	10.0030	10.5164	10.5794	10.5427	-26.6125
II	-4.7743	-5.0197	-5.6153	-3.9588	-37.1553
III	26.60	31.30	33.82	29.95	43.05
sub total	31.83	36.80	38.78	36.53	-20.72
during crisis					
I	-21.4858	-23.4866	-23.4826	-25.4394	-26.1835
II	-45.015	-48.08	-48.11	-47.546	-47.142
III	9.648	8.266	9.244	8.988	6.131
IV	-38.424	-45.05	-38.864	-19.96	-27.557
V	-4.1326	-6.425	-6.536	-3.5578	-0.6683
VI	21.113	24.477	24.791	25.143	24.538
sub total	-78.30	-90.30	-82.96	-62.37	-70.88
after crisis					
I	9.847	2.917	3.477	3.4305	5.946
II	21.713	20.073	20.083	20.398	18.659
III	-23.95	-19.96	-10.735	-11.4008	-14.09
IV	-2.636	-2.6727	-2.7714	-2.763	-3.7588
V	-17.62	-16.62	-17.27	-16.69	-19.4489
VI	3.363	0.0604	-0.6646	-0.5447	-2.9393
VII	13.67	13.77	21.139	20.102	14.3
sub total	4.39	-2.43	13.26	12.53	-1.33

Table 2

Institutional investors stock investment return (Table 2) was relatively small in India. There performance was worse during the crisis. Foreigner's positive return was mainly brought out by individual investor losses, whose performances were negative throughout the sample period (Table 3). Individual Investors continued to trade with bad timing & remained in the market. Such behavioural description as their reluctance to recognise their underperformance (Odean 1998) might explain this phenomenon.

Investors trade performance based on net buying				
Individuals				
	t=+1	**t=+2**	**t=+3**	**t=+4**	**t=+5**
before crisis					
I	-0.323	-0.448	-0.444	-0.444	-0.368
II	-6.702	-6.876	-7.160	-6.728	-220.780
III	-7.79	-4.44	-3.77	-5.12	-9.37
sub total	-14.82	-11.76	-11.37	-12.29	-230.52
during crisis					
I	-23.114	-23.478	-23.535	-21.895	-20.471
II	-9.806	-8.753	-8.44	-9.258	-6.703
III	-10.864	-13.289	-12.527	-13.657	-11.617
IV	-8.136	-8.19	-7.776	-6.596	-8.174
V	-7.46	-9.179	-9.176	-9.261	-8.546
VI	4.701	3.894	3.663	3.534	3.703
sub total	-54.68	-59.00	-57.79	-57.13	-51.81
after crisis					
I	-9.745	-6.766	-7.5	-7.254	-7.856
II	-5.201	-4.717	-4.639	-4.639	-4.009
III	-2.591	-2.418	-0.938	-1.036	-1.011
IV	5.014	5.364	5.397	5.859	6.507
V	-4.575	-4.72	-4.658	-4.715	-4.723
VI	-4.911	-4.662	-4.603	-4.83	-4.603
VII	-24.224	-24.126	-24.493	-24.572	-22.496
sub total	-46.23	-42.05	-41.43	-41.19	-38.19

Table 3

9.Conclusion

The primary objective of this study is to assess the relation between the stock return and the investment made by different investors in Indian Equity market. This paper relies on the methodology that involves the estimation of aggregate following one day return, simultaneous return and further calculation of quarter wise performance based on net buying of each type of investor (DII, FII, Individual investors).

The findings obtained as empirical analysis of this study indicate that DII maintained their investment in the market even during the crisis period, whereas FII withdrew from the Indian equity market. It also can be seen that the loss before, during and after the crisis were more pronounced for institutional investors. From the figures it can be stated that according to the aggregate following one day return foreign investors traded with most of the good timing whereas domestic and individual were not the major traders during the crisis.

On the basis of quarter wise results trade performance of FII's on net buying seemed to be positive during crisis period whereas DII's performed negatively and the Individual Investor's continued to trade with bad timing throughout the sample period.

The findings obtained as a result of the empirical analysis led us to the conclusion that financial crisis have a significant and lasting effect on economic growth.

10.Reference

1. Bagehot, W. (1873). Lombard Street. London: Henry S. King and Company.

2. Boyd, J., Kwak, S., & Smith, B. (2005). The real output loss associated with modern banking crises. Journal of Money, Credit and Banking, No. 37, pp. 977-999.

3. Dell'Ariccia, G., Detragiache, E., & Rajan, R. (2008). The real effect of banking crises. Journal of Financial Intermediation, No. 17(1), pp. 89-112.

4. Demirguc-Kunt, A., Detragiache, E., & Gupta, P. (2006). Inside the crisis: An empirical analysis of banking systems in distress. Journal of International Money and Finance, No. 25(5), pp. 702-718.

5. Hutchison, M.M., & Noy, I. (2005). How Bad Are Twins? Output Costs of Currency and Banking Crises. Journal of Money, Credit and Banking, No. 37, pp. 725-752.

6. Reinhart, C.M., & Rogoff, K.S. (2009). This Time Is Different: Eight Centuries of Financial Folly. Princeton: Princeton University Press.

7. Brennan M J and Cao H H (1997), "International Portfolio Investment Flows", Journal of Finance, Vol. 52, pp. 1851-1880.

8. French K R and Poterba J M (1991), "Investor Diversification and International Equity Markets", American Economic Review, Vol. 81, No. 2, pp. 222-226.

9. Tesar L and Werner I (1994), "International Equity Transactions and US Portfolio Choice", in J Frankel (Ed.), The Internationalization of Equity Markets, pp. 185-220, University of Chicago Press.

10. Tesar L and Werner I (1995a), "Home Bias and High Turnover", Journal of International Money and Finance, Vol. 14, pp. 467-492.

11. Tesar L and Werner I (1995b), "US Equity Investment in Emerging Stock Markets", World Bank Economic Review, Vol. 9, pp. 109-130.

12. Bohn H and Tesar L (1996), "US Equity Investment in Foreign Markets: Portfolio Rebalancing or Return Chasing?", American Economic Review, Vol. 86, No. 2, pp. 77-81.

13. Clark J and Berko E (1997), "Foreign Investment Fluctuations and Emerging Market Stock Returns: The Case of Mexico", Working Paper No. 24, Federal Reserve Bank of New York, New York.

14. Warther V A (1995), "Aggregate Mutual Fund Flows and Security Returns", Journal of Financial Economics, Vol. 39, pp. 209-235

15. Ananthanarayanan S, Krishnamurti C and Sen N (2005), "Foreign Institutional Investors and Security Returns: Evidence from Indian Stock Exchanges", Paper presented for the Winter Research Conference in Finance, on 21st December, at Indian School of Business, Hyderabad, India.

16. Choe H, Kho B and Stulz R (1999), "Do Foreign Investors Destabilize Stock Markets? The Korean experience in 1997", Journal of Financial Economics, Vol. 54, No. 2, pp. 227-264.

17. Kim W and Wei S (2002), "Foreign Portfolio Investors Before and During A Crisis", Journal of International Economics, Vol. 56, pp. 77-96.

18. Karolyi G A (2002), "Did the Asian Financial Crisis Scare Foreign Investors Out of Japan?", Pacific Basin Finance Journal, Vol. 10, pp. 411-442.

19. Richards A (2002), "Big Fish in Small Ponds: The Momentum Investing and Price Impact of Foreign Investors in Asian Emerging Equity Markets", Working Paper, Reserve Bank of Australia.

20. Griffin J M, Nardari F and Rene M Stulz (2002), "Daily Cross Border Equity Flows: Pushed or Pulled?", NBER Working Paper 9000.

21. Lin A Y and Swanson P E (2004), "International Equity Flows and Developing Markets: The Asian Financial Market Crisis Revisited", Journal of International Financial Markets, Institutions & Money, Vol. 14, pp. 55-73.

22. Batra A (2003), "The Dynamics of Foreign Portfolio Inflows and Equity Returns in India", Working Paper No. 109, ICRIER, New Delhi, India.

23. Suresh Babu M and Prabheesh K P (2008), "Causal Relationships Between Foreign Institutional Investments and Stock Returns in India", International Journal of Trade and Global Markets, Vol. 1, No. 3, pp. 259-265.

24. Agarwal R N (1997), "Foreign Portfolio Investment in Some Developing Countries: A Study of Determinants and Macroeconomic Impact", Indian Economic Review, Vol. 32, No. 2, pp. 217-229.

25. Trivedi P and Nair A (2003), "Determinants of FII Investment Inflow to India", Paper Presented in 5th Annual Conference on Money & Finance in the Indian Economy, Indira Gandhi Institute of Development Research (IGIDR), January 30, February 1, 2003, Mumbai.

26. Froot K, O'Connell P and Seasholes M (2001), "The Portfolio Flows of International Investors", Journal of Financial Economics, Vol. 59, pp. 151-193.

27. Bekaert G, Harvey C R and Lumsdaine R L (2002), "The Dynamics of Emerging Market Equity Flows", Journal of International Money and Finance, Vol. 21, No. 3, pp. 295-350.

28. Gordan J and Gupta P (2003), "Portfolio Flows into India: Do Domestic Fundamentals Matter?", IMF Working Paper No. 03/20, New Delhi.

29. Dahlquist M and Robertsson G (2004), "A Note on Foreigners' Trading and Price Effects Across Firms", Journal of Banking and Finance, Vol. 28, pp. 615-632.

30. Chakrabarti R (2002), "FII Flows to India: Nature and Causes", Money and Finance, Vol. 2, No. 7, pp. 61-81.

31. Adabag M C and Ornelas J R (2005), "Behavior and Effects of Foreign Investors on Istanbul Stock Exchange", Proceedings of the 4th Annual Conference of the European Economics and Finance Society.

32. Berner, Richard. 2008. "A Deeper US Recession Goes Global." Morgan Stanley Global Economic Forum (online publication), October 7.

33. Griffin, J., Nardari, F. and Stulz, R (2002) Daily cross-border equity flows: pushed or pulled?

34. Froot, K. O'Connell, P. and Seasholes, M. (2001) The Portfolio flows of international investors, Journal of Financial Economics, 151-193.

35. The Asian crisis and investor behavior In thailand's equity market Akiko Kamesaka*, Ryukoku University Jianxin Wang**, University of New South Wales-2004 Thought, But No Less Successful in the Fight against Poverty." World Bank Policy