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**A CRITICAL ANALYSIS OF CAUSES AND FACTORS FOR THE CRASH OF
SENSEX BETWEEN JANUARY 2008- OCTOBER 2008**

By

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A PROJECT REPORT

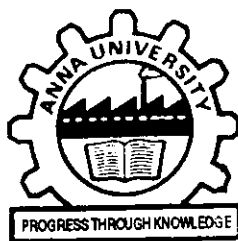
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BONAFIDE CERTIFICATE

Certified that the Project report titled "A Critical analysis of Causes and factors for the Crash of SENSEX between January 2008- October 2008 "is the bonafide work of Ms. **Bansi.V.Popat** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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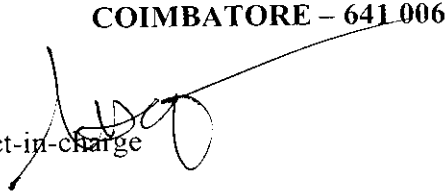
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ABSTRACT

A country's economic growth is largely associated with the changing dynamics of its stock market. Since independence, Indian stock market has been incessantly growing. Lot of government norms and legislations had been imposed for keeping the market free from the trickery and deception. In spite of these norms and regulations, Indian stock market could not be perfectly sterilized from scams, even though their performance was quite noticeable. But the market was really boosted up after the financial sector reform, which opened the door for the FII inflow. This report attempts to frame a brief account on the changing dynamics of the Indian stock market and tries to explain that the major cause of the volatility in the sensx is mainly due to the FII flow.

This project explores the relationship of Foreign Institutional investment [FII] flows to the Indian equity market with its possible covariates based on a daily data-set for the period January 2008 to October 2008. The set of possible covariates considered comprises two types of variables. The first type includes variables reflecting daily increase or decrease in sensx points. The second type of variables, on the other hand, is essentially the outflow and inflow of FII investment in the equity market. Endeavour has been to see if the results would carry through when the phenomenon of FII flows was examined using a set of daily data on the relevant variables. The data-set incorporates day to day variations and hence is better suited for examination of various interrelationships. The results show that the volatility of the sensx [equity market] is mainly due to the FII flows to and from the Indian market.

Other than FII inflows, another very important factor that highly affected the performance of the Indian stock market is the role of the Mutual fund industry. Gradually, foreign mutual funds were also coming into the market. As a result of which the contribution of UTI in the Mutual Fund industry started falling at a fast rate.

The government policies and regulations also affect the stock market. In India the stock market is regulated by the Securities Exchange Board of India [SEBI]. SEBI introduces policies and regulations as and when necessary so as to maintain transparency in the stock market. Some of the policies that have had an impact on the Sensex is the restriction on the issue of P-Notes.

One of the outcomes of the global crisis is the fall of major indices world-wide. In India also stock market indices have fallen to a great extent. Due to the crisis there has been a major downfall in the Sensex during the period of January-October 2008. This study aims at analyzing the causes for the downfall of Sensex during the period of January-October 2008. Ever since the opening of Indian equity market to foreigners, the FII investments have steadily grown. But presently the Foreign Institutional Investors [FIIs] have had a major role in the crash of Sensex due to heavy selling by them in the Indian equity market which led to the outflow of money from the stock market. One of the main reasons taken up for this study are the selling pressure by the Foreign Institutional Investors [FIIs] in the Indian equity market. This project also analyses the bulk deal transactions carried out by the FII and its effect on Sensex. The sectoral influence of the 30 companies on the Sensex is also analyzed

which shows that the companies in the Oil and Gas sector account for the maximum

drop in the sensex. The effect of mutual fund investments on the Sensex is also analyzed and a comparison is made between FII and Mutual Funds to find out which of the two has major impact on the sensex. It is found that FIIs influence the market more than the mutual fund. The sectoral influence of the 30 companies on the Sensex is also analyzed which shows that the companies in the oil and gas sector account for the maximum drop in the sensex.

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CHAPTER –1

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 RESEARCH BACKGROUND :

The global crisis of 2008 is an ongoing major financial crisis. Around the world stock markets have fallen, large financial institutions have collapsed or being bought out and governments in even the wealthiest nations have had to come up with rescue packages to bail out their financial systems. India being a globalized economy has not escaped from the global crisis .Global financial markets witnessed turbulent conditions mainly because US sub-prime mortgage loans escalated into widespread financial stress. The melt down in the US sub-prime real-estate market has led to a global loss in stock markets world wide. Till today the global financial situation continues to be uncertain and unsettled.

The effects of the global crisis have directly impacted some important macro economic variables. Three such indicators stand out in terms of their sudden deterioration since the middle of last year: (1) the decline in the foreign exchange reserves held by the Reserve Bank of India (2) the fall in the external value of the rupee, especially vis-à-vis the US Dollar and (3) *the decline in the stock market indices*. Financial markets across the globe are in the midst of an intense bear phase. In India the global credit crisis has manifested acute weakness of the rupee and the tumbling of the stock markets. India being a globalised economy has not escaped from the global crisis. This is clearly known from the volatility in the Sensex between January 2008 and October 2008 which continues till today.

The growth of the equity market in India has been phenomenal in the present decade until the global crisis. The Indian stock market is represented by two most prominent stock indices viz., BSE's Sensitive Index [Sensex] and NSE's S&P CNX Nifty[Nifty]. The SENSEX which is the oldest index in the country is generally considered to be a barometer for the Indian stock markets.

The BSE Sensex increased significantly from a level of 13,072 as at end-March 2007 to its peak of 20,873 on January 8, 2008 in the presence of heavy portfolio flows responding to the high growth performance of the Indian corporate sector. With portfolio flows reversing in 2008, partly because of the international market turmoil, the Sensex has now dropped to a level of 11,328 on October 8, 2008, and further down to a level of 9,872.44 on October 23, 2008 in line with similar large declines in other major stock markets. Against this backdrop the unthinkable happened, the stock market Of the United states of America or Wall street stock exchange crashed due to a crisis in the housing finance sector of its leading banks, caused due to delinquency and non-repayment of housing loans. This resulted in a panic in the world market including India. The Foreign Investment also came down heavily due to a liquidity crunch in the major companies. The banks stopped lending to the bankers and in effect the market came to a sudden stop.

In 1999-00, India experienced an FII influx of Rs.9765.13 crores, the highest level achieved so far. 5 years later, India marked the unprecedented growth of capital inflows; the FII figure exceeded to Rs. 40,000 crores. This hike was mainly due to the steep rise in prices of steel and aluminum. An index [developed by Morgan Stanley Capital International (MSCI)] to measure the amount of FIIs from amongst the emerging markets of the world gives a weight of 4.3 percent to India. Such a buoyant inflow of FII continued in a consistent manner over the period 2004 – 2006. But in May, 2006, Indian capital market faced a real tough situation. During this month, India witnessed a massive foreign fund outflow worth Rs. 11,131 crore. The major reason behind this major sell-off was the rise in US interest rates. Due to this massive outflow, Sensex fell by 1884.48 points, i.e., about 15 per cent from the peak of 12,671.11 points on May 11, 2006. Similarly in the period January 2008 to October 2008 the Indian stock market faced a massive downfall again witnessed by foreign fund outflow worth Rs 25,72,822 crore. Due to this outflow Sensex fell to 9872.44 points which is about 53.45 % from the peak of 21206.77 points on January 9, 2008

The BSE Sensex or the Bombay Stock Exchange Sensitive Index or the BSE 30 comprises of 30 component stocks representing large well established and financially sound companies across key sectors. This index consists of stocks representing about 90% of the market capitalization. The base year is taken as 1978-1979=100. The companies in the Sensex are revised accordingly as per their performance. Sensex is calculated using the free-float market capitalization methodology, where in, the level of index at any point of time reflects the free-float market value of 30 component stocks relative to a base period, which is taken as 1978-1979 and the base value is 100 points.

The Scrips in Sensex are selected based on the following:

- **Listing history:** The scrip should have a listing history of at least 3 months at BSE.
- **Trading frequency:** The scrip should have been traded on each and every trading day in the last three months at BSE.
- **Final rank:** The scrip should figure in top 100 companies listed by final rank which is arrived by assigning 75% weightage to the rank on the basis of three month average full market capitalization and 25% weightage to the liquidity rank based on three month average daily turnover and three month average impact cost.
- **Market capitalization weightage:** The weightage of each scrip in Sensex based on three month average free-float market capitalization should be at least 0.5% of the index.
- **Industry/sector representation:** Scrip selection would generally take in to account a balanced representation of the listed companies in the universe of BSE.
- **Track record:** In the opinion of BSE Index Committee, the company should have an acceptable track record.

The 30 companies constituting the Sensex are as follows:

Table 1: Sensex Constituents

Scrip Code	Company name	Sector
500410	ACC Ltd.	Housing Related
500103	Bharat Heavy Electricals Ltd.	Capital Goods
532454	Bharti Airtel Ltd.	Telecom
532868	DLF Ltd.	Housing Related
500300	Grasim Industries Ltd.	Diversified
500010	HDFC	Finance
500180	HDFC Bank Ltd.	Finance
500440	Hindalco Industries Ltd.	Metal, Metal Products & Mining
500696	Hindustan Unilever Ltd.	FMCG
532174	ICICI Bank Ltd.	Finance
500209	Infosys Technologies Ltd.	Information Technology
500875	ITC Ltd.	FMCG
532532	Jaiprakash Associates Ltd.	Housing Related
500510	Larsen & Toubro Limited	Capital Goods
500520	Mahindra & Mahindra Ltd.	Transport Equipments
532500	Maruti Suzuki India Ltd.	Transport Equipments
532555	NTPC Ltd.	Power
500312	ONGC Ltd.	Oil & Gas
500359	Ranbaxy Laboratories Ltd.	Healthcare
532712	Reliance Communications Limited	Telecom
500325	Reliance Industries Ltd.	Oil & Gas

500390	Reliance Infrastructure Ltd.	Power
500376	Satyam Computer Services Ltd.	Information Technology
500112	State Bank of India	Finance
500900	Sterlite Industries (India) Ltd.	Metal, Metal Products & Mining
532540	Tata Consultancy Services Limited	Information Technology
500570	Tata Motors Ltd.	Transport Equipments
500400	Tata Power Company Ltd.	Power
500470	Tata Steel Ltd.	Metal, Metal Products & Mining
507685	Wipro Ltd.	Information Technology

Ever since the opening of Indian equity market to foreigners, the FII investments have steadily grown. But presently the Foreign Institutional Investors [FIIs] have had a major role in the crash of Sensex due to heavy selling by them in the Indian equity market which led to the outflow of money from the stock market. Current investments of FIIs is Rs. 2,55,464.40 Crores. This accounts for 9% of the total market capitalization.

Influence of FIIs on Indian Stock Market:

- They increased depth and breadth of the market.
- They played major role in expanding securities business.
- Their policy on focusing on fundamentals of the shares had caused efficient pricing of shares.

These impacts made the Indian stock market more attractive to FIIs and also domestic investors, which involve the other major player MF (Mutual Funds). The impact

of FIIs is so high that whenever FIIs tend to withdraw the money from market, the domestic investors become fearful and they also withdraw from market.

FIIs are overseas entities registered with the country's stock market regulator- Securities Exchange Board of India [SEBI]. FII mainly means an entity established or incorporated outside India and is proposing to invest in India. They were allowed to participate as pension funds, mutual funds, insurance companies, banks, university funds, endowments, foundations, charitable trusts/charitable societies, asset management companies, investment trusts, etc. Besides investing on their own behalf, they can also invest on behalf of foreign corporate, foreign individuals and institutions, funds or portfolios established outside India which are called sub-accounts. On registration FII are allowed to invest in the following type of avenues:

- (1) securities in primary and secondary markets including shares, debentures and warrants of companies, unlisted or listed or to be listed in any recognized stock exchange in India;
- (2) units of mutual funds
- (3) dated government securities
- (4) derivatives traded on a recognized stock exchange
- (5) Commercial papers.

The Indian stock markets are both, shallow as well as narrow, and therefore, the movement of indices depends on the trade done in limited number of stocks.(in this case 30 companies constituting the Sensex are taken into account.) thus, when FIIs frequently buy or sell stocks in the indices, it leads to a volatile market. This volatility has been visible in the medium and long term as well. From a low of 4505 on May 17,2005 it rose to a peak of 16679 on January 3,2008 and again the Sensex crashed down from an all time high of 21206.77 points on January 9,2008 to as low as 9872.40 points on October 23,2008.

Another reason for the downfall of Sensex due to FII are the restriction on the issue of P-notes by the Securities Exchange Board of India [SEBI]. P-notes are instruments issued by registered FIIs to other overseas investors for investing in the Indian stock market.

On issuing Participatory Notes and collecting funds, FIIs invest in the Indian market on behalf of the P-Note holders. So, when FIIs buy in their name they might be actually transacting on behalf of an unidentified P-Note holder. Participatory Notes serve as a short cut for foreign investors who don't want to go through the procedural formalities and the process of registering as FIIs. This route also allows participants who are not eligible to trade in Indian markets to 'participate', though they aren't registered with SEBI.

Investors who take the P-Note route are often anonymous, with the issuing FII not required to disclose the identity or profile of the P- Note holder, unless specifically asked by SEBI. This results in the regulator having no idea of their identity, investment status or objectives. So due to this reason SEBI banned the issue of P-Notes so that it could have a transparent trading in the stock markets. This resulted in lower investment by portfolio investors and led to immediate reaction of the market fall in Sensex. But this ban on P-notes had an adverse effect on the Indian stock markets because heavy selling by the FII started in the stock market. Despite the P-note ban, Indian indices continued to move northward in the period following this move for a full four months until January 2008. On October 6, 2008

SEBI announced the lifting of all its earlier restrictions on P-notes. Foreign Institutional Investors can now issue P-notes with derivative as underlying. The change in SEBI's stance was to arrest the outflow of money from the markets. The reversal, though it took immediate effect, hasn't helped reverse the direction of fund flows. FIIs continue to be net sellers till date.

The central bank-Reserve Bank of India and the stock market regulator-SEBI have announced various measures with regard to FIIs like the reduction in Cash Reserve

Ratio [CRR]. The cut in CRR will basically replenish the liquidity which was drawn out of the system when FIIs sold heavily in the stock market. SEBI also made it compulsory for the FIIs and their sub-accounts to report to it the position of Indian stock securities lent by them abroad. The objective behind this is to track and regulate the foreign investments coming into the country and stop unhealthy speculation in the market and reduce short-selling by the FII.

1.2 PROBLEM IDENTIFIED FOR THE STUDY

Sensex is the common name given for the Sensitive Index. This index consists of 30 stocks representing about 90% of market capitalization. The base year is taken as 1978-1979. The period from January 2008 to October 2008 has been historical for the SENSEX, because within such a short period the Sensex reached an all time high of 21,206.77 points on January 2008 and crashed down to as low as 9,872 points on October 23, 2008.

The project under study is to find out the causes and effect on the market due to the downfall of this Sensex. It is presumed that the crash was due to the selling pressure of Foreign Institutional Investors [FIIS] especially by U.S Companies due to the financial crisis. The project also aims to identify other causes such as selling by Indian mutual funds, retail investors etc.

1.3 NEED FOR THE PROJECT:

Sensex is a measure for the Indian stock markets. The fall of Sensex has brought down the Indian equity market on the whole. The study on the Sensex will help to analyse the causes and reasons for the down fall which has affected the entire market. It is crucial to know the reasons for this crash so as to get a clear picture of the standing of the stock market. The project will help to understand how much the recession has affected the economy. The study help to analyse if the downfall of the Sensex and FII outflows are related in any way and also help to know how much Indian stock markets are dependent on the Foreign Institutional Investors.

1.4 OBJECTIVES OF THE STUDY:

The main objective of the study is to find out the reasons for the Sensex crash. The influence of the following is to be analyzed:

- To find out if the Sensex crash was due to the withdrawals by FIIs.
- To study the role of Mutual Funds in the Indian stock market and also to compare the influence of the FII investment and the Mutual fund investment on the Sensex
- Impact of measures announced by the government during the period of January 2008 and October 2008 and its influence on the stock market.
- Sectoral influence of the companies on the downfall of Sensex.

1.5 SCOPE OF THE PROJECT:

The scope of the study covers the period of January 2008 and October 2008. A critical analysis of the Sensex during this period is done to carry out the objectives of the study which includes movement of the FIIs and the bulk deals carried out by them and its impact on the Sensex, the share holding pattern of the Sensex constituents, industrial influence on the Sensex. The above scope has been carried out for all the 30 constituents of the Sensex as far as possible.

CHAPTER –2
LITERATURE SURVEY

CHAPTER 2

LITERATURE SURVEY

- In the study conducted by K.S.Chalpati Rao, K. V. K .Ranganathan, M. R. Murthy–“*Foreign Institutional Investments and the Indian Stock Market*”[*Journal of Indian School of Political Economy –Vol.XI,No.4,October-December 1999*]¹, they showed that FII sales and purchases accounts for half of the BSE trade against the total market turnover of Rs.5, 27,960 crores in 1999.They proved that the resemblance between the distribution of trading values at BSE and exposure of FII investments seem to suggest a strong positive relationship between the two. The study showed that net FII investments influence stock prices in India as it traces the relationship to the sectoral level.

- Samal (1997)² in his study pointed out that India’s equity market remained psychologically under the dominant influence of the FIIs. FIIs modulated the market sentiment with their buy and sell orders. Domestic institutions and operators, in most cases, followed their path to make the best that was possible. Furthermore, he concluded that though FIIs investments greatly influenced the share price movement and created volatility in the equity market, it did not help the market.

- Paramita Mukherjee, Suchismita Bose and Dipankor Coondo- *Foreign Institutional Investment in the Indian Equity market-An Analysis of daily flows during January 1999-May 2002*”[*ICRA bulletin-Money and Finance*]³ in their paper found that the FII flows to and from the Indian market tend to be caused by return in the domestic equity market and not the other way round. The study also proved that while FII sale and net inflow are significantly affected by the Indian equity market, FII purchase is not responsive to this market performance. Our

results additionally suggest that in the case of India (and other countries having thin and shallow equity markets) the prime focus should be on regaining investors' confidence in the equity market so as to strengthen the domestic investor base of the market.²⁹ Once this is achieved, a built-in cushion against possible destabilising effects of sudden reversal of foreign inflows might develop. Only then would it be possible to reap fully the benefits of capital market integration.

- Ashok.K.Lahiri,U.K.Sinha and U.Kumar(June 2004)- *The Report of the Committee on Liberalisation of FII ,Government of India, Ministry of Finance, Department of Economic affairs-*⁴ showed the sectoral caps for FII investment in Indian companies. The Regulations for FII investment in India and the FII investment ceiling is given in this report which does effect the volume invested by the FIIs. Sectoral guidelines for FDI and FII investment is also given in the report. The committee has also suggested the pros and cons of having FII investment in the Indian equity market. the report enables us to find out the securities in which FII investment is possible and the aggregate portfolio investment limits of NRIs / PIOs / OCBs and FIIs is also stated. It is evident from the report that like in other countries, the restrictions on FII investments have been progressively liberalized.

- Suchismita bose and Dipankar Coondoo- *The impact of Foreign Institutional investment Regulation in India-A Time series Intervention Analysis of equity markets [ICRA Bulletin-Money and Finance]*⁵ examined the impact, if any, or the FII policy reforms on FII portfolio flows to the Indian stock markets. The policies render FII investments more sensitivity to domestic markets and raise the inertia of FII flows. In this study The determinants of FII flows to India have been considered and also the effects of policy changes on such flows. The quantitative results from this study may be useful in judging the possible effect of similar policy changes on FII flows in future. This paper sets the base for analyses that

may be designed to examine the impact of regulatory changes in the stock market which also may affect FII activity that may be called for in future in view of the strong emphasis on development of local securities market made by the IMF for stabilising flow of funds to emerging markets. the SEBI/RBI's control over the FII investments like banning of NRIs/OCBs and mandating stricter disclosure norms also do not show any significant negative impact on the net inflows. On the whole, it is found that these policies mostly render FII investments more sensitive to domestic market returns and raise the inertia of FII flows.

- *Genesis of Indian stock market & impact of world economy on Indian market- Rituparna Bhattacharya, Anuradha Sen & Sandipa Lahiri Anand⁶*. This report studies the impact of Asian Financial Crisis of 1997-98, which badly affected the emerging economies by toppling their currencies against the \$US, apart from the drastic sink in their stock prices. This dramatic fall in the stock prices has adversely affected the core sector, the ramifications of which percolated down to the grass-root level, thereby affecting the economic independence of the common people. It is evident from the report Other than FII inflows, another very important factor that highly affected the performance of the Indian stock market is the role of the Mutual fund industry.
- *Indian Stock Market Volatility in Recent Years: Transmission from Global and Regional Contagion and Traditional Domestic Sectors- Amitava Sarkar, Gagari Chakrabarti, Chitrakalpa Sen⁷* This study investigates volatility in Indian stock markets. Specifically, it looks for the possible volatility transmission channel for Indian stock market from the Indian sectoral developments as well as developments in the global market. SENSEX is used as the Indian market index and its response to overseas market indices like Dow Jones, FTSE, BVSP, MerVal, JKSE; further the relationship between SENSEX and domestic sectoral indices have also been examined. this study identifies some volatility transmission channels for Indian stock market. The global stock market is having its influence

on Indian stock market. The impact of developed country effect, particularly, that of US stock market has been the most prominent. In the domestic sectors, we see that Capital Goods and Consumer Durables sectors are the two most predominant sectors, their contribution to the volatility of SENSEX being the most; in particular, Capital goods sector has remained the most important explanatory and propagator of shocks in SENSEX return whereas sectors such as FMCG, IT or HC have only a mild, almost insignificant impact on SENSEX volatility. So, it can be said that in India, the traditional sectors still remain the most important sectors.

CHAPTER –3

METHODOLOGY

CHAPTER 3

METHODOLOGY

3.1. Type of Project:

This project is an exploratory study to find out the causal factors for the downfall of Sensex.

3.2. Sources and method of data collection

Secondary Data is being used for the study

Method of Data Collection:

Data is collected from various sources like

- BSE Website
- NSE Website
- SEBI Website
- RBI Website
- Daily Financial News papers
- Balance sheets and annual reports of 30 Companies

3.3. Tools for Analysis:

Correlation:

Correlation is used to find the relationship between two variables. There may be fluctuation or covariation between two variables. Correlation is used to find out the linear relationship between the variables. Correlation may be:

- Positive or negative
- Simple or partial or multiple
- Linear or non-linear

3.4 Limitations of the study

1. The Sensex has been analyzed only for the period ranging from January 2008 to October 2008.
2. The movement of FIIs activities being purchases, sales etc., for the individual sensex constituents was not available.
3. The affect of fluctuations in exchange rates for the FII transactions were not taken into consideration.
4. The other factors like investor behavior have not been taken into consideration.
5. Market returns on the scrips have not been considered.

CHAPTER –4
DATA ANALYSIS AND
INTERPRETATION

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

A macro and micro analysis of the study is undertaken for better understanding. The data used for the analysis are shareholding patterns of all the 30 companies, bulk deals undertaken by the FII, trends in FII investments, sectoral influence of the companies on the Sensex during the period of study. Statistical tool, correlation has been used to find out the relationship between FII & Mutual fund investment on one hand and the Sensex points on the other.

4.1 MACRO ANALYSIS:

A stock exchange, share market is a corporation or mutual organization which provides facilities for stock brokers and traders, to trade a company stock and other securities. Stock exchanges also provide facilities for the issue and redemption of securities, as well as, other financial instruments and capital events including the payment of income and dividends. The securities traded on an exchange include: shares issued by companies, unit trusts and other pooled investment products and bonds. To be able to trade a security on a certain stock exchange, it has to be listed there. Trade on an exchange is by members only. A stock exchange is often the most important component of stock market. Supply and demand in stock market is driven by various factors which as in all free markets affect the price of the stocks. The stock exchange are a part of global market for securities.

The Indian stock market has two markets Primary and secondary market. The initial offering of stocks and bonds to investors is by definition done in the primary market and subsequent trading is done in the secondary market. Primary Market may be defined as a market for new issues.

The primary market is the pacesetter for mobilizing resources by corporates. The bull-run in the secondary market enabled and emboldened companies to enter the market with big issues and attract investors and traders to invest in public issues to reap high profits following their listing.

The factors influencing the stock market affect the volatility of the market in which they are traded. These factors, in turn, are responsible for the development of the stock market in any country and making it comparable with the global markets. Stock market development is a multidimensional concept. It is measured by various parameters like size, liquidity, volatility and concentration of the stock market, its integration with capital and the legal rules in the world market.

4.2 MICRO ANALYSIS:

Bombay Stock Exchange is the oldest stock exchange in Asia with a rich heritage, now spanning three centuries in its 133 years of existence. What is now popularly known as BSE was established as "The Native Share & Stock Brokers' Association" in 1875. BSE is the first stock exchange in the country which obtained permanent recognition (in 1956) from the Government of India under the Securities Contracts (Regulation) Act 1956. BSE's pivotal and pre-eminent role in the development of the Indian capital market is widely recognized. It migrated from the open outcry system to an online screen-based order driven trading system in 1995. Earlier an Association Of Persons (AOP), BSE is now a corporatised and demutualised entity incorporated under the provisions of the Companies Act, 1956, pursuant to the BSE (Corporatisation and Demutualization) Scheme, 2005 notified by the Securities and Exchange Board of India (SEBI). Over the past 133 years, BSE has facilitated the growth of the Indian corporate sector by providing it with an efficient access to resources

There is perhaps no major corporate in India which has not sourced BSE's services in raising resources from the capital market. Today, BSE is the world's number one exchange in terms of the number of listed companies and the world's 5th in

transaction numbers. The market capitalization as on December 31, 2007 stood at USD 1.79 trillion. An investor can choose from more than 4,700 listed companies, which for easy reference, are classified into A, B, S, T and Z groups. The BSE Index, SENSEX, is India's first stock market index that enjoys an iconic stature, and is tracked worldwide. It is an index of 30 stocks representing 12 major sectors. The SENSEX is constructed on a 'free-float' methodology, and is sensitive to market sentiments and market realities.

FII's in India include Asset Management Companies, Pension Funds, Mutual Funds, and Investment Trusts as Nominee Companies, Incorporated/Institutional Portfolio Managers or their Power of Attorney holders, University Funds, Endowment Foundations, Charitable Trusts and Charitable Societies.

- SEBI acts as the nodal point in the entire process of FII registration. RBI approval under FEMA enables an FII to buy/sell securities on Stock Exchanges and open foreign currency and Indian Rupee accounts with a designated bank branch. Investment by FIIs in India is regulated under SEBI (FII) Regulations, 1995 and Regulation 5(2) of FEMA.
- FIIs can buy/sell securities on Stock Exchanges. They can also invest in listed and unlisted securities outside Stock Exchanges, where the price has been approved by RBI.
- No individual FII/sub-account can acquire more than 10 percent of the paid-up capital of an Indian company. All FIIs and their sub-accounts taken together cannot acquire more than 24 per cent of the paid-up capital of an Indian Company. Indian Companies can raise the above-mentioned 24 per cent ceiling to the Sectoral Cap/Statutory Ceiling as applicable by passing a resolution by its Board of Directors followed by passing a Special Resolution to that effect by its General Body.
- The presence of Sectoral Cap/Statutory Ceiling means that foreign investment from all sources cannot exceed a specified level. A Company to which no sectoral cap/statutory ceiling is applicable can raise the limit of permissible FII investment to 100 percent of the paid-up capital. A Company to which a 49 per cent Sectoral Cap is applicable can raise the limit of permissible FII investment to 49 per cent

and if there is an existing foreign direct investment of 15 per cent, possible FII investment can only be up to 34 per cent.

- No permission from RBI is needed so long as the FIIs purchase and sell on recognized stock exchange. However, all non-stock exchange sales/purchases require RBI permission.
- FIIs can avail of the Forward Cover Facility from the Authorized Dealer subject to certain conditions.
- High Net worth Individuals /foreign corporates can invest through SEBI Registered FIIs subject to a sub-limit of 5 per cent each, within the aggregated limit of 24 per cent.
- FIIs can trade in Exchange Traded Derivative Contracts.

In India, Mutual fund industry was introduced in 1963, when the Reserve Bank of India took the initiative of setting up the Unit Trust of India. UTI was de-linked from the RBI in 1978 and the Industrial and development Bank of India (IDBI) took over the regulatory and administrative control. After 1987, some other non-UTI mutual funds (set up by public banks) were allowed to enter the market, e.g., Life Insurance Corporation of India, (LIC), General Insurance Corporation of India (GIC) and SBI Mutual Fund. Another major structural change in the mutual fund industry came along with the financial liberalization. By the year 1993, not only the public sector banks, but the private entities were also allowed to emerge as major players in the market. The first one to come was Kothari Pioneer.

The BSE Sensex or the Bombay Stock Exchange Sensitive Index or the BSE 30 comprises of 30 component stocks representing large well established and financially sound companies across key sectors. The 30 companies listed in the Sensex are as follows:

1. ACC Ltd

The Associated Cement Companies Limited(ACC) is an Indian company in the cement manufacturing business. Its registered office is called Cement House. It is a blue chip company. The stock price of this company contributes in calculating BSE Sensex. On 1 September 2006 the name of The Associated Cement Companies Limited was changed to ACC Limited. The company is the only cement company to get the Super brand status in India.

2. BHEL

Bharat Heavy Electricals Limited (BHEL) is the largest engineering and manufacturing enterprise in India in the energy-related and infrastructure sector which includes Power, Railways, Telecom, Transmission and Distribution, Oil and Gas sectors and many more. These sectors have been supplied with endless number of equipments manufactured by BHEL. BHEL was established more than 50 years ago, ushering in the indigenous Heavy Electrical Equipment industry in India. The company has been earning profits continuously since 1971-72 and paying dividends since 1976-77. It is one of India's nine largest Public Sector Undertakings

3. Bharti Airtel

Bharti Airtel, formerly known as **Bharti Tele-Ventures LTD (BTVL)** is India's largest and world's third largest cellular service provider with more than 82 million subscribers as of December 2008. It also offers fixed line services and broadband services. It offers its TELECOM services under the **Airtel** brand and is headed by Sunil Mittal. The company also provides telephone services and Internet access over DSL in 14 circles. The company complements its mobile, broadband & telephone services with national and international long distance services.

4. DLF Ltd

DLF Ltd (Delhi Leasing and Finance Limited), is India's largest real estate developer based in New Delhi, DLF developed some of the first residential colonies in Delhi . In 1957, with the passage of Delhi Development Act, the government assumed the control of real estate development activities in Delhi and the role of private real estate developers was restricted. As a result DLF began acquiring land at relatively low cost outside the area controlled by the Delhi Development Authority, particularly in the district of Gurgaon in the adjacent state of Haryana. In the mid-1970s, the company started developing its ambitious DLF City project which helped transform Gurgaon from a farming village to a commercial and real estate hub. DLF has been instrumental in putting Gurgaon on the urban landscape of India. Its upcoming plans include hotels, infrastructure and special economic zones-related development projects.

5. Grasim Industries ltd

Grasim Industries Limited was incorporated in 1948; Grasim is the largest exporter of Viscose Rayon Fiber (VSF) in the country, with exports to over 50 countries. It enjoys 24% of global market share in VSF business. This, along with Aditya Birla Nuvo can be considered as the flagship companies of the AV Birla Group. Grasim is headquartered in Nagda.

6. HDFC Ltd

Housing Development Finance Corporation Limited or **HDFC**, is an Indian bank, focusing on home mortgages. HDFC's distribution network spans 243 outlets that include 49 offices of HDFC's distribution company, HDFC Sales Private Limited. In addition, HDFC covers over 90 locations through its outreach programmes. HDFC's marketing efforts continue to be concentrated on developing a stronger distribution network. Home loans are also Shareket through HDFC Sales, HDFC Bank Limited and other third party Direct Selling Agents (DSA).

7. *HDFC Bank Ltd*

HDFC Bank Ltd. is a commercial bank of India, incorporated in August 1994, after the Reserve Bank of India allowed establishing private sector banks. The Bank was promoted by the Housing Development Finance Corporation, a premier housing finance company (set up in 1977) of India. HDFC Bank has 1,500 branches and over 2,890 ATMs, in 528 cities in India, and all branches of the bank are linked on an online real-time basis. As of September 30, 2008 the bank had total assets of INR 1006.82 billion.

8. *Hindalco industries ltd*

Hindalco Industries is India's largest Aluminium manufacturing Company and is a subsidiary of the Aditya Birla Group. It is run by one of the world's youngest billionaires, Mr. K.M. Birla. The company has annual sales of ₹ 5 billion and employs 13,675 people and is listed on Forbes 2000. A metals powerhouse with a turnover of US\$ 14 billion, Hindalco is the world's largest aluminium rolling company and one of the biggest producers of primary aluminium in Asia.

9. *Hindustan Unilever ltd*

Hindustan Unilever Limited (abbreviated to **HUL**) formerly Hindustan Lever Limited, is India's largest consumer products company and has an annual turnover of over Rs 13,000 crores. HUL is the market leader in Indian consumer products with presence in over 20 consumer categories such as Soaps, Tea, Detergents and Shampoos amongst others with over 700 million Indian consumers using its products. It has over 35 brands. Sixteen of HUL's brands featured in the AC Nielsen-Brand Equity list of 100 Most Trusted Brands Annual Survey (2008)

10. *ICICI Bank ltd*

ICICI Bank (formerly **Industrial Credit and Investment Corporation of India**) is India's largest private sector bank in market capitalization and second largest overall in terms of assets. Bank has total assets of about USD 100 billion (at the end of March 2008), a network of over 1,399 branches, 22 regional offices and 49 regional

processing centers, about 4,485 ATMs (at the end of September 2008), and 24 million customers (at the end of July 2007). ICICI Bank offers a wide range of banking products and financial services to corporate and retail customers through a variety of delivery channels and specialized subsidiaries and affiliates in the areas of investment banking, life and non-life insurance, venture capital and asset management. ICICI Bank is also the largest issuer of credit cards in India

11. ITC Ltd

ITC continues in its traditional businesses of Cigarettes, Hotels, Paperboards, Packaging and Agri-Exports, it is gaining market share in its nascent businesses of Packaged Foods & Confectionery, Branded Apparel and Greeting Cards. ITC's wholly owned Information Technology subsidiary, ITC InfoTech India Limited, is pursuing emerging opportunities in providing end-to-end IT solutions, including e-enabled services and business process outsourcing.

12. Infosys Technologies ltd

Infosys Technologies Limited is a multinational information technology Services Company headquartered in Bangalore, India. It is one of India's largest IT companies with over 100,000 professionals (including subsidiaries) as of Sep 30; 2008. It has nine development centers in India and over 50 offices worldwide. Its annual revenues for the fiscal year 2007 - 2008 exceeded US\$4 billion with a market capitalization of over US\$14 billion

13. Jaiprakash Associates ltd

Transforming challenges into opportunities has been the hallmark of the Jaypee Group, ever since its inception four decades ago. The group is a diversified infrastructure conglomerate and has a formidable presence in Engineering & Construction along with interests in the power, cement and hospitality. The infrastructure conglomerate has also expanded into real estate & expressways Transforming challenges into opportunities has been the hallmark of the Jaypee Group, ever since its inception four decades ago. The group is a diversified infrastructure conglomerate and has a formidable presence in

Engineering & Construction along with interests in the power, cement and hospitality. The infrastructure conglomerate has also expanded into real estate & expressways

14. Larsen & Tourbo ltd

Larsen & Toubro Limited (L&T) is India's largest engineering and construction conglomerate with additional interests in Electricals, electronics and IT. A strong customer-focused approach and constant quest for top-class quality have enabled L&T to attain and sustain leadership position over 6 decades. L&T enjoys a premier brand image in India and its international presence is on the rise, with a global spread of over 30 offices and joint ventures with world leaders.

15. Mahindra &Mahindra Ltd

The Mahindra Group's Automotive Sector is in the business of manufacturing and marketing utility vehicles and light commercial vehicles, including three-wheelers. It is the market leader in utility vehicles in India since inception, and currently accounts for about half of India's market for utility vehicles. The Automotive Sector continues to be a leader in the utility vehicle segment with a diverse portfolio that includes mass transport as well as new generation vehicles like Scorpio and Bolero.

16. Maruti Suzuki India Ltd

Maruti Suzuki is one of India's leading automobile manufacturers and the market leader in the car segment, both in terms of volume of vehicles sold and revenue earned. Until recently, 18.28% of the company was owned by the Indian government, and 54.2% by Suzuki of Japan. The Indian government held an initial public offering of 25% of the company in June 2003. As of May 10, 2007, Govt. of India sold its complete share to Indian financial institutions. With this, Govt. of India no longer has stake in Maruti Udyog.

17. NTPC Ltd

NTPC, India's largest power company, was set up in 1975 to accelerate power development in India. Today, it has emerged as an '**Integrated Power Major**', with a significant presence in the entire value chain of power generation business. In the Forbes list of '**World's 2000 largest companies, 2007**', NTPC occupies 411th place. With a current generating capacity of 29,894 MW, NTPC has embarked on plans to become a 75,000 MW company by 2017.

18. ONGC Ltd

ONGC is the only Company from India in the Fortune Magazine's list of the World's Most Admired Companies 2007. ONGC has single-handedly scripted India's hydrocarbon saga by:

- Establishing 6.61 billion tonnes of In-place hydrocarbon reserves with more than 300 discoveries of oil and gas; in fact, 6 out of the 7 producing basins have been discovered by ONGC: out of these In-place hydrocarbons in domestic acreages, Ultimate Reserves are 2.36 Billion Metric tonnes (BMT) of Oil Plus Oil Equivalent Gas (O+OEG).
- Cumulatively producing 788.273 Million Metric Tonnes (MMT) of crude and 463 Billion Cubic Meters (BCM) of Natural Gas, from 111 fields.

19. Ranbaxy Laboratories Ltd

Ranbaxy Laboratories Limited, India's largest pharmaceutical company, is an integrated, research based, international pharmaceutical company, producing a wide range of quality, affordable generic medicines, trusted by healthcare professionals and patients across geographies. Ranked 8th amongst the global generic pharma companies, Ranbaxy today has a presence in 23 of the top 25 pharma markets of the world. The Company has a global footprint in 49 countries, world-class manufacturing facilities in

11 countries and serves customers in over 125 countries. Earlier in June 2008, Ranbaxy entered into an alliance with one of the largest Japanese innovator companies, Daiichi Sankyo Company Ltd., to create an innovator and generic pharmaceutical powerhouse. The transformational deal will place Ranbaxy in a higher growth trajectory. The ranking of the combined entity will be catapulted to the No. 15th position in the global pharmaceutical space and it will emerge stronger in terms of its global reach and in its capabilities in drug development and manufacturing

20. Reliance Industries Ltd

Reliance Industries Limited is India's largest private sector conglomerate (and second largest overall) with an annual turnover of US\$ 35.9 billion and profit of US\$ 4.85 billion for the fiscal year ending in March 2008 making it one of India's private sector Fortune Global 500 companies, being ranked at 206th position (2008). It was founded by the Indian industrialist Dhirubhai Ambani in 1966. Though the company's oil-related operations forms the core of its business, it has diversified its operations in recent years. After severe differences between the founder's two sons, Mukesh Ambani and Anil Ambani, the group was divided between them in 2006. In September 2008, Reliance Industries was the only Indian firm featured in the Forbes's list of "world's 100 most respected company.

21. Satyam Computer Services Ltd

Satyam Computer Services Ltd will change soon with new name, was founded in 1987 by B. Ramalinga Raju. The company offers information technology (IT) services panning various sectors, and is listed on the New York Stock Exchange and Euro next. Satyam's network covers 67 countries across six continents. The company employs 40,000 IT professionals across development centers in India, the United States, the United Kingdom, the United Arab Emirates, Canada, Hungary, Singapore, Malaysia, China, Japan, Egypt and Australia. It serves over 654 global companies, 185 of which are Fortune 500 corporations. Satyam has strategic technology and marketing alliances with over 50 companies. Apart from Hyderabad, it has development centers in India at

Bangalore, Chennai, Pune, Mumbai, Nagpur, Delhi, Kolkata, Bhubaneswar, and Visakhapatnam.

21. Reliance communications Ltd

Reliance Communications has a reliable, high-capacity, integrated (both wireless and wireline) and convergent (voice, data and video) digital network. It is capable of delivering a range of services spanning the entire infocomm (information and communication) value chain, including infrastructure and services — for enterprises as well as individuals, applications, and consulting. Today, Reliance Communications is revolutionizing the way India communicates and networks, truly bringing about a new way of life.

22. State Bank of India

State Bank of India (SBI) is the largest bank in India. It is also, measured by the number of branch offices and employees, the second largest bank in the world. The bank traces its ancestry back through the Imperial Bank of India to the founding in 1806 of the Bank of Calcutta, making it the oldest commercial bank in the Indian Subcontinent. The Government of India nationalized the Imperial Bank of India in 1955, with the Reserve Bank of India taking a 60% stake, and renamed it the State Bank of India. In 2008, the Government took over the stake held by the Reserve Bank of India. SBI provides a range of banking products through its vast network in India and overseas, including products aimed at NRIs. With an asset base of \$126 billion and its reach, it is a regional banking behemoth. SBI has laid emphasis on reducing the huge manpower through Golden handshake schemes and computerizing its operations.

23. Reliance Infrastructure Ltd

Reliance Infrastructure Ltd is not only India's largest private sector enterprise in power utility but also the largest private sector player in many other infrastructure sectors of India. In the power sector we are involved in generation, transmission, distribution

and trading of electricity and constructing power plants as EPC partners. In the infrastructure space the company is focused on roads, urban infrastructure which includes MRTS, Sea link and Airports, Specialty Real Estate which includes business districts, trade towers, convention centre and SEZ which includes IT & ITES SEZ and non IT SEZ as well as free trade zones

24. Sterlite industries ltd

Sterlite Industries is a public company traded under the ticker SLT at the NYSE in the form of ADS (American Depositary Shares) since 2007.150,000,000 ADS at US\$ 13.44 per share have been issued and registered on November 15, 2006, representing one underlying equity share per ADS.

25. Tata Consultancy Services Limited

Tata Consultancy Services Limited (TCS) is an Indian software services and consulting company. It is India's largest provider of information technology and business process outsourcing services. The company is listed on the National Stock Exchange and Bombay Stock Exchange of India. TCS is part of one of India's largest and oldest conglomerates, the Tata Group, which has interests in areas such as energy, telecommunications, financial services, manufacturing, chemicals, engineering, materials, government and healthcare.

26. Tata Motors

TATA motors Limited, formerly known as **TELCO** (TATA Engineering and Locomotive Company), is a multinational corporation headquartered in Mumbai, India. It is India's largest passenger automobile and commercial vehicle manufacturing company. Part of the Tata Group, and one of the world's largest manufacturers of commercial vehicles. The OICA ranked it as the world's 20th largest automaker, based on figures for 2006.

27. TATA Steel :

Tata Steel formerly known as **TISCO** and **Tata Iron and Steel Company Limited** is the world's sixth largest steel company, with an annual crude steel capacity of 28 million tonnes. It is the second largest private sector steel company in India in terms of domestic production. Ranked 315th on Fortune Global 500, it is based in Jamshedpur, Jharkhand, India.^{[3][4]} It is part of Tata Group of companies. Tata Steel is also India's second-largest and second-most profitable company in private sector with consolidated revenues of Rs 1,32,110 crore and net profit of over Rs 12,350 crore during the year ended March 31, 2008.

28. TATA Power

As India's largest private power utility, Tata Power have set the momentum of growth. In our quest to deliver sustainable energy, we are spreading our footprint nationwide, creating new benchmarks in operational efficiencies, investing in global resources and redefining paradigms. Their strength lies in fulfilling our commitments and our ability to manage well in the changing environment. We take pride in building lasting and trusting relationship with our customers along with a legacy of caring for our communities in and around our areas of operations. As we strive to lead the reform process for sustainable power, we are excited to redefine the contours of Indian 'Power' Sector.

29. Wipro Ltd

Wipro Technologies is a corporation based in India. It was founded as a vegetable oil company, but since then has diversified into the information technology, consumer care, lighting, engineering and healthcare businesses.

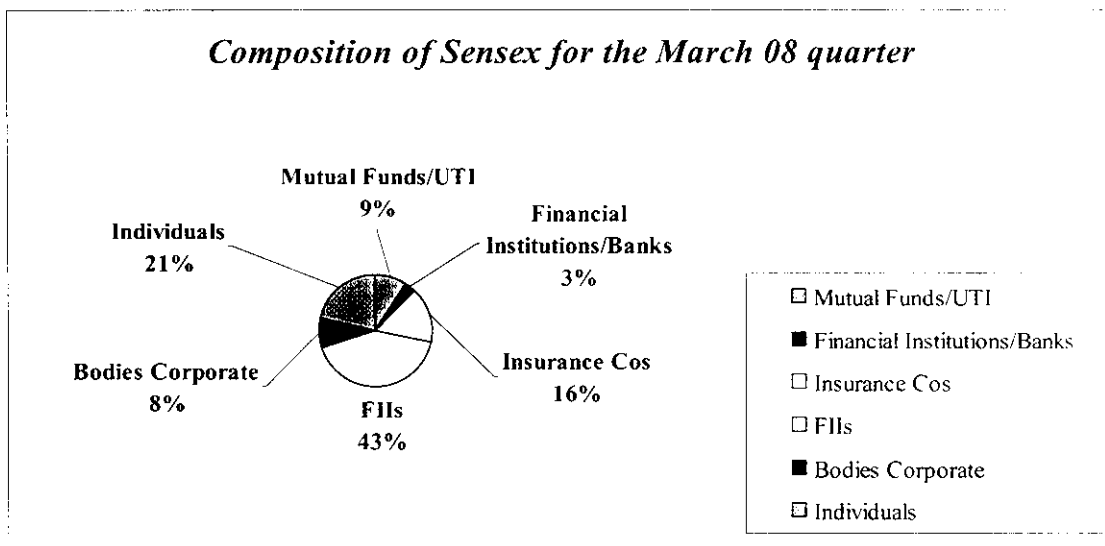
4.3. SHARE HOLDING PATTERN

Data for the share holding patterns of all the 30 companies for the period of January 2008 to October 2008 has been collected. The share holding patterns are taken for three quarters: January-march 2008, April –June 2008, July-September 2008.

Table 2: Share Holding Pattern for the Quarter ended March 2008

Company name	mutual fund/uti		financial institutions/bks		insurance companies		FIs		Inidies corporate		individuals		total	
	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%
ACC Ltd.	5,888,878	5.70	33,333,439	32.27	0	0.0	28,366,912	27.46	5,218,974	5.05	30,478,099	29.51	103,286,302	
Asy Electricals Ltd.	27,251,932	17.33	859,390	0.55	1,981,876	8.89	88,471,103	56.27	16,677,059	10.61	9,982,137	6.35	157,223,497	
Avi Airtel Ltd.	40,612,849	6.52	1,222,512	0.20	44,892,253	7.21	474,252,686	76.17	38,391,925	6.17	23,235,493	3.73	622,607,718	
DLF Ltd.	7,276,156	3.64	2,004,860	1.00	1,739,844	0.87	128,841,616	64.43	9,882,408	4.94	50,222,065	25.12	199,966,949	
Industries Ltd	7,992,922	14.66	230,935	0.42	10,330,026	19.31	20,380,173	37.38	4,090,507	7.50	11,298,304	20.72	54,522,867	
HDFC	10,266,070	4.40	427,955	0.18	15,351,758	6.58	172,196,252	73.85	4,448,416	1.91	30,467,602	13.07	233,158,053	
IC Bank Ltd.	9,836,118	5.37	251,167	0.14	10,410,068	5.69	91,765,868	50.15	31,389,135	17.15	39,348,254	21.50	183,000,610	
Industries Ltd	45,169,460	6.91	11,326,506	1.73	128,760,800	19.70	160,070,447	24.49	136,126,211	20.83	172,053,398	26.33	653,506,822	
Jan Unilever Ltd.	63,428,137	6.13	1,526,921	0.15	266,036,484	25.69	330,009,896	31.87	19,350,708	1.87	355,051,027	34.29	1,035,403,173	
J Bank Ltd.	67,829,186	8.59	2,963,463	0.38	119,559,469	15.14	448,435,059	56.80	65,494,745	8.30	85,196,295	10.79	789,478,217	
Technologies Ltd	16,718,693	4.80	24,036,054	6.90	0	0.00	190,821,914	54.82	16,348,351	4.70	100,192,778	28.78	348,117,790	
ITC Ltd.	559,758,359	22.32	6,199,411	0.25	851,765,585	33.96	528,328,812	21.07	92,475,988	3.69	469,330,973	18.71	2,507,859,128	
Sh Associates Ltd.	108,305,089	17.64	6,776,500	1.10	23,151,625	3.77	298,718,931	48.65	58,377,392	9.51	118,749,260	19.34	614,078,797	
Sh Toubro Limited	46,397,717	19.55	47,357,223	19.95	16,432,426	6.92	48,552,953	20.45	11,186,252	4.71	67,444,714	28.41	237,371,285	
S & Mahindra Ltd.	12,706,111	7.54	1,631,313	0.97	50,462,706	29.93	62,632,739	37.15	15,925,273	9.45	25,224,904	14.96	168,583,046	
Suzuki India Ltd.	18,843,389	14.31	6,081,825	4.62	41,926,369	31.84	45,347,942	34.44	11,170,286	8.48	8,318,919	6.32	131,688,730	
STPC Ltd.	60,767,560	7.08	6,903,570	0.80	87,398,342	10.19	422,534,048	49.24	80,961,750	9.44	199,460,227	23.25	858,025,497	
ONGC Ltd.	35,193,551	6.38	3,236,364	0.59	77,740,274	14.10	163,093,588	29.59	233,320,942	42.33	38,613,582	7.01	551,198,301	
Laboratories Ltd.	11,313,125	4.88	1,588,959	0.69	74,172,289	31.98	66,966,811	28.87	8,731,394	3.76	69,154,429	29.82	231,927,007	
Communications Ltd	64,354,925	10.17	3,444,856	0.54	117,506,832	18.57	205,377,423	32.46	40,869,654	6.46	201,077,740	31.78	632,631,430	
ce Industries Ltd.	39,550,061	6.20	1,751,103	0.27	83,653,619	13.12	259,136,306	40.64	72,205,802	11.32	181,321,621	28.44	637,618,512	
Infrastructure Ltd.	11,924,356	8.29	720,799	0.50	42,255,720	29.37	43,858,727	30.48	15,652,015	10.88	29,471,135	20.48	143,882,752	
Computer Services Ltd.	32,703,236	6.91	589,484	0.12	53,878,152	11.39	323,292,147	68.34	3,960,499	0.84	58,668,575	12.40	473,092,073	
Bank of India	27,872,856	13.22	12,036,124	5.71	33,242,808	15.77	80,951,021	38.40	19,875,446	9.43	36,814,649	17.46	210,792,904	
Industries (India) Ltd.	23,908,396	17.78	707,818	0.53	20,763,368	15.44	53,294,112	39.64	13,729,176	10.21	22,054,588	16.40	134,457,458	
Services Ltd	12,662,081	5.78	1,005,267	0.46	38,834,836	17.72	105,554,562	48.16	8,118,278	3.70	53,006,272	24.18	219,181,296	
Motors Ltd	10,160,944	5.75	1,484,661	0.78	55,287,401	31.29	65,388,543	37.00	3,658,768	2.07	40,827,076	23.10	176,707,393	
Company Ltd.	14,822,460	10.23	485,230	0.33	42,050,784	29.02	45,565,584	31.44	2,013,410	1.39	39,984,944	27.59	144,922,412	
Steel Ltd.	37,067,613	7.77	1,978,300	0.41	120,146,722	25.18	142,344,102	29.83	18,711,828	3.92	156,958,458	32.89	477,207,023	
Wipro Ltd.	5,557,514	2.21	13,441,526	5.34	16,943,742	6.73	76,526,027	30.41	35,403,676	14.07	103,783,343	41.24	251,655,828	
		278.07		87.90		485.4		1,249.97						643.98

Chart 1: Composition of sensex for the march 2008 quarter



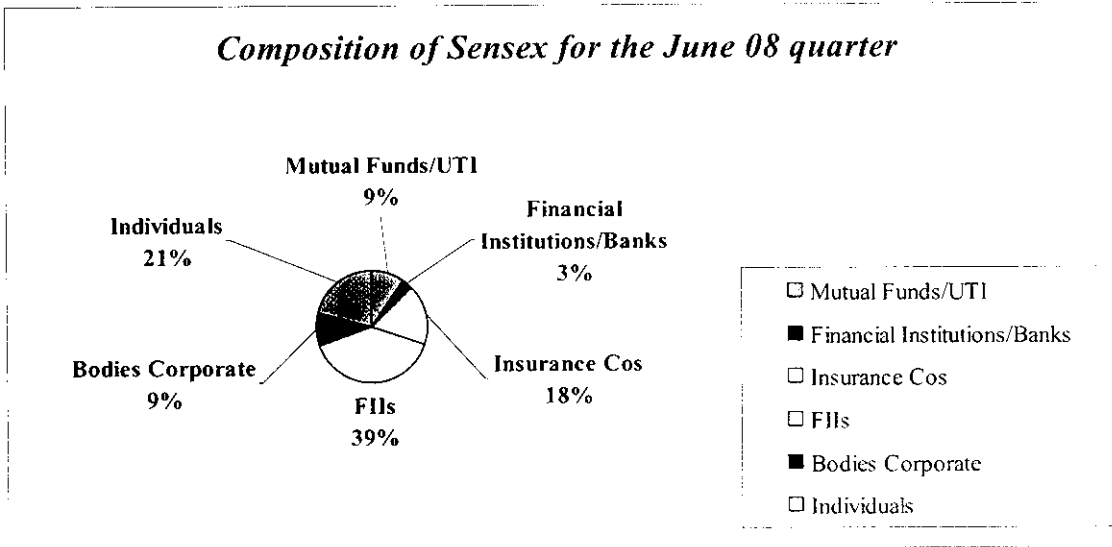
Interpretation of chart 1

The above pie-chart shows the share holding pattern of mutual funds, UTI, financial institutions, banks, individuals' corporates, FIIs for the sensex companies on the whole. It is clear that the FIIs have had maximum share holding of 43% in all the 30 companies together for the quarter ended March 2008.

Table 3: Share holding Pattern for the quarter ended june 2008

Company name	mutual fund/uti		financial institutions/bks		insurance companies		FIs		bodies corporate		individuals		total	
	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%
Electricals Ltd.	5,990,787	6.08	36,121,333	37.23	0	0.00	17,128,541	17.65	6,627,721	6.83	31,242,143	32.20	97,020,525	
d.	32,846,528	20.94	1,144,342	0.73	15,390,288	9.81	78,224,136	49.87	17,793,438	11.34	11,455,677	7.30	156,854,409	
	54,871,709	8.86	1,173,882	0.19	51,634,851	8.34	448,504,186	72.45	40,581,410	6.56	22,260,573	3.60	619,026,611	
	7,052,901	3.55	1,929,525	0.97	1,739,844	0.88	111,662,961	56.16	18,665,989	9.39	57,780,136	29.06	198,831,356	
es Ltd.	6,075,113	11.31	378,620	0.70	12,785,388	23.80	19,409,579	36.13	3,651,172	6.80	11,419,665	21.26	53,719,537	
	12,293,935	5.26	699,709	0.30	17,275,602	7.40	167,933,138	71.92	4,730,870	2.03	30,570,098	13.09	233,503,352	
d.	10,378,580	4.45	290,186	0.12	10,548,250	4.53	118,883,475	51.03	42,499,404	18.24	50,368,231	21.62	232,968,126	
ires Ltd.	54,479,290	8.16	11,496,618	1.72	128,609,415	19.25	150,456,325	22.52	154,743,551	23.17	168,204,636	25.18	667,989,835	
ever Ltd.	79,545,542	7.69	1,489,691	0.14	264,701,741	25.60	313,114,136	30.28	24,256,627	2.35	351,008,861	33.94	1,034,116,598	
L.	66,878,872	14.00	3,470,996	0.73	124,745,745	26.12	124,745,745	26.12	72,284,886	15.14	85,432,366	17.89	477,558,610	
ologies Ltd.	22,355,359	6.17	22,884,611	6.32	0	0.00	192,130,531	53.02	17,878,843	4.93	107,130,352	29.56	362,379,696	
	559,890,727	22.32	4,079,368	0.16	876,563,998	34.94	506,847,362	20.21	100,807,111	4.02	460,271,988	18.35	2,508,460,554	
ociates Ltd.	100,203,743	16.22	4,848,265	0.78	30,781,545	4.98	286,899,701	46.43	69,619,659	11.27	125,545,949	20.32	617,898,802	
ro Limited	46,587,304	19.63	49,842,514	21.01	16,590,326	6.99	41,435,810	17.46	13,192,595	5.56	69,636,691	29.35	237,285,240	
ahindra Ltd.	10,969,574	6.47	1,381,862	0.81	56,353,260	33.23	60,767,735	35.84	14,678,016	8.66	25,416,320	14.99	169,566,767	
India Ltd.	17,864,214	13.61	6,238,415	4.75	45,316,526	34.53	42,784,714	32.60	10,431,605	7.95	8,619,175	6.57	131,254,649	
	62,542,778	7.30	10,791,422	1.26	136,209,406	15.90	340,851,622	39.78	100,040,487	11.68	206,380,867	24.09	856,816,582	
	35,245,595	6.42	2,349,846	0.43	83,561,425	15.21	148,065,467	26.95	241,062,591	43.88	39,071,726	7.11	549,356,650	
atories Ltd.	13,309,760	5.71	803,214	0.34	70,617,275	30.30	63,675,811	27.32	14,706,142	6.31	69,952,218	30.01	233,064,420	
unications	58,731,986	9.29	2,660,096	0.42	122,521,310	19.37	206,019,189	32.57	44,078,021	6.97	198,484,656	31.38	632,493,258	
ines Ltd	41,189,270	6.49	1,419,252	0.22	86,316,962	13.60	248,759,750	39.18	77,168,953	12.16	180,017,038	28.35	634,871,225	
tructure Ltd.	11,969,663	8.61	893,428	0.64	42,245,500	30.40	39,109,387	28.14	14,771,561	10.63	29,968,236	21.57	138,957,775	
ner Services Ltd.	37,371,377	7.85	129,342	0.03	59,228,495	12.44	320,473,734	67.34	3,516,541	0.74	55,202,685	11.60	475,922,174	
India	23,596,052	10.97	15,376,712	7.15	34,242,753	15.92	80,420,603	37.38	20,100,641	9.34	41,403,301	19.24	215,140,062	
ies (India) Ltd.	18,949,598	14.92	574,473	0.45	20,807,273	16.39	54,074,174	42.59	11,219,597	8.84	21,345,786	16.81	126,970,901	
cy Services	20,511,796	8.93	835,567	0.36	40,769,473	17.75	109,242,049	47.57	7,450,467	3.24	50,814,013	22.13	229,623,365	
id	7,550,653	4.41	1,220,142	0.71	58,577,616	34.23	58,774,043	34.35	3,335,177	1.95	41,648,530	24.34	171,106,161	
ompany Ltd.	16,085,520	14.79	303,256	0.28	41,771,325	38.42	45,954,747	42.26	2,310,672	2.13	2,310,672	2.13	108,736,192	
	36,663,824	7.68	2,319,552	0.49	122,172,286	25.60	144,652,804	30.31	19,749,456	4.14	151,650,687	31.78	477,208,609	
	6,529,363	2.59	564,052	0.22	0	0.00	109,909,470	43.56	36,892,601	14.62	98,420,461	39.01	252,315,947	
		290.70		89.69		525.93		1,179.01				633.83		

Chart 2: Composition of sensex for the june 2008 quarter



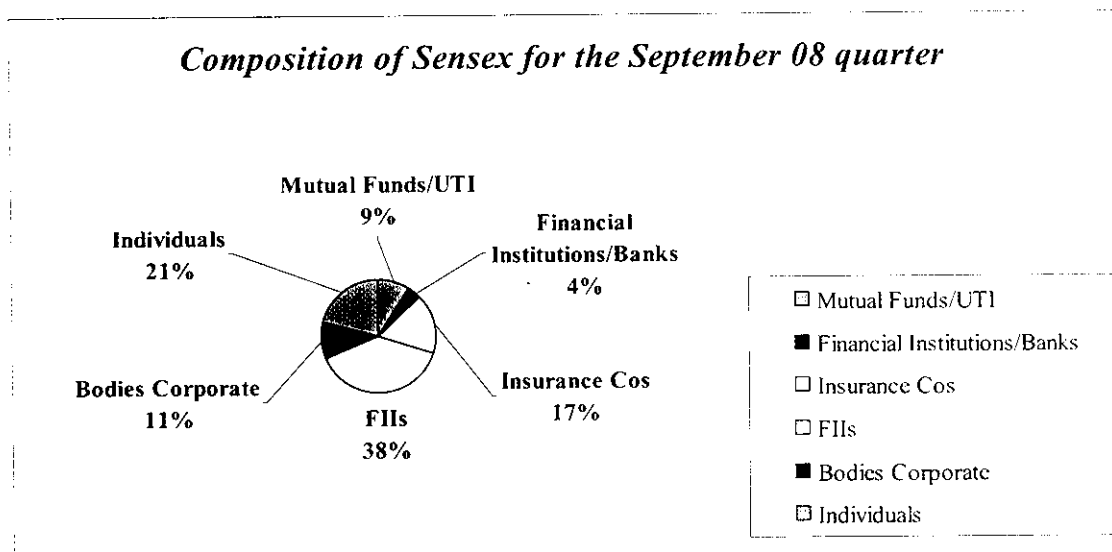
Interpretation of chart 2

The above pie chart shows the share holding pattern of mutual funds, UTI, banks, insurance companies, FIIs, corporates and individuals. It is evident that the FIIs have had major holding of 39% in all the 30 companies for the quarter June 2008.

Table 4: Shareholding Pattern for the quarter ended September 2008

company name	mutual fund/uti		financial institutions/bks		insurance companies		FII's		bodies corporate		individuals		total
	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	No of Shares	%	
Ltd.	5,683,846	7.89	37,862,363	52.58	0	0.00	16,626,267	23.09	5,917,996	8.22	5,917,996	8.22	72,008,468
Heavy Electricals Ltd.	30,760,189	19.72	933,013	0.60	15,718,412	10.08	81,373,605	52.17	16,009,068	10.26	11,174,996	7.16	155,969,283
Airtel Ltd.	55,551,100	9.11	1,459,380	0.24	58,577,699	9.60	428,908,202	70.32	43,528,952	7.14	21,923,543	3.59	609,948,876
Ltd.	4,501,077	2.27	2,037,910	1.03	1,739,844	0.88	115,554,638	58.22	17,186,991	8.66	57,465,293	28.95	198,485,753
m Industries Ltd.	5,786,305	10.86	322,432	0.61	13,828,444	25.96	18,388,201	34.52	3,547,866	6.66	11,394,402	21.39	53,267,650
Bank Ltd.	12,688,337	5.33	901,789	0.38	17,492,420	7.35	171,697,784	72.13	4,892,203	2.06	30,377,135	12.76	238,049,668
Bank Ltd.	15,937,887	6.47	489,025	0.20	21,407,956	8.69	115,164,246	46.75	44,178,955	17.93	49,150,894	19.95	246,328,963
leo Industries Ltd.	46,976,938	7.06	11,425,615	1.72	128,029,415	19.24	159,342,527	23.94	151,309,083	22.74	168,396,366	25.30	665,479,944
stan Unilever Ltd.	96,116,140	9.33	1,232,972	0.12	250,381,582	24.30	303,525,621	29.46	32,456,952	3.15	346,597,060	33.64	1,030,310,327
Bank Ltd.	86,115,676	10.92	3,330,378	0.42	128,016,185	16.24	405,655,170	51.46	76,990,218	9.77	88,200,207	11.19	788,307,834
s Technologies Ltd.	22,465,957	6.20	25,740,719	7.10	0	0.00	186,284,508	51.41	20,835,591	5.75	107,010,501	29.53	362,337,276
td.	559,929,949	22.32	4,032,341	0.16	875,060,211	34.88	509,455,494	20.31	102,833,301	4.10	457,492,438	18.24	2,508,803,734
cash Associates Ltd.	109,902,133	17.78	5,142,605	0.83	37,402,099	6.05	254,293,302	41.14	79,901,425	12.93	131,462,654	21.27	618,104,218
& Toubro Limited	42,494,070	17.81	50,609,806	21.21	16,611,326	6.96	42,966,705	18.01	14,250,883	5.97	71,627,887	30.03	238,560,677
ndra & Mahindra Ltd.	9,180,399	5.42	1,320,042	0.78	57,933,882	34.19	63,750,649	37.63	12,219,362	7.21	25,029,100	14.77	169,433,434
i Suzuki India Ltd.	14,911,787	11.31	6,247,087	4.74	46,817,847	35.52	45,202,478	34.29	10,081,799	7.65	8,544,789	6.48	131,805,787
Ltd.	42,252,087	4.93	7,980,438	0.93	169,602,555	19.80	350,162,476	40.88	85,369,233	9.97	201,201,149	23.49	856,567,938
Ltd.	39,304,432	7.14	1,929,339	0.35	87,025,715	15.80	136,708,977	24.82	246,672,985	44.78	39,204,321	7.12	550,845,769
xy Laboratories Ltd.	4,594,699	1.94	864,505	0.36	39,259,474	16.54	26,579,648	11.20	108,748,543	45.82	57,306,523	24.14	237,353,392
ee Communications Ltd.	52,530,762	8.24	3,981,914	0.62	129,855,765	20.38	194,462,247	30.52	50,495,683	7.93	205,826,128	32.30	637,152,499
ce Industries Ltd.	39,147,195	6.22	1,673,094	0.27	90,979,721	14.46	246,714,030	39.22	70,854,734	11.26	179,627,166	28.56	628,995,940
ce Infrastructure Ltd.	13,905,278	10.06	921,572	0.67	43,137,978	31.20	38,982,973	28.19	10,643,305	7.70	30,680,514	22.19	138,271,620
n Computer Services Ltd.	38,241,853	8.02	217,584	0.05	60,609,455	12.71	315,600,375	66.21	4,743,601	1.00	57,264,130	12.01	476,676,998
Bank of India	28,690,503	13.21	15,964,172	7.35	34,795,051	16.02	76,424,907	35.19	20,871,940	9.61	40,430,047	18.62	217,176,620
e Industries (India) Ltd.	25,669,433	16.90	1,160,766	0.76	24,673,375	16.25	44,764,685	29.48	25,958,506	17.09	29,627,910	19.51	151,854,675
onsultancy Services Ltd.	17,366,401	7.55	913,405	0.40	45,286,204	19.69	108,212,318	47.05	7,274,313	3.16	50,950,941	22.15	230,003,582
Motors Ltd.	4,939,383	2.91	1,959,215	0.62	61,136,405	36.80	57,512,501	33.87	3,085,547	1.82	42,072,714	24.78	169,805,765
ower Company Ltd.	14,279,682	9.76	505,098	0.35	45,428,213	31.05	44,118,430	30.15	2,193,422	1.50	39,804,839	27.20	146,329,684
teel Ltd.	32,502,533	6.81	1,991,231	0.42	129,708,815	27.18	128,977,896	27.03	24,253,505	5.08	159,778,297	33.48	477,212,277
b Ltd.	6,748,456	2.67	17,610,946	6.97	0	0.00	90,837,392	35.95	38,247,937	15.14	99,256,472	39.28	252,701,203

Chart 3: Composition of Sensex for the September 2008 quarter



Interpretation of chart 3

The above pie chart shows the share holding pattern of mutual funds, uti, banks, insurance companies, FIIs, corporates and individuals. It is evident that the FIIs have had major holding of 38% in all the 30 companies for the quarter September 2008.

INTERPRETATION OF CHARTS

From the above charts and tables it is evident that the FIIs have had the maximum share holding in all the companies for all the three quarters. Any changes in the FIIs holding would have an impact on the Sensex. The Sensex index is directly proportional to the FII holdings. The chart also depicts a down trend in the FII holding for all the quarters. This is the first instance which substantiates the objective of the study – That the FIIs have had a major role in the down fall of Indian Stock Market: Sensex.

4.4. Correlation

Correlation is a statistical tool used to find the relationship between two variables

Formula:

$$\frac{N\sum XY - \sum X \sum Y}{\sqrt{(\sum X^2 - \sum X)^2 - (\sum Y^2 - \sum Y)^2}}$$

Positive correlation: When the values of two variables change in the same direction, there is positive correlation

Negative correlation: When the values of two variables change in opposite direction, there is negative correlation.

Here the two variables taken are

- 1) the net investment by the FIIs and mutual funds for the period of January 2008 to October 2008 and
- 2) the other variable is the increase or decrease in the Sensex for the period of January 2008 to October 2008.

With the help of correlation we can find whether the changes in the sensex points are correlated with the movement in FIIs & mutual funds.

The correlation has been carried out in three parts assuming

- i. daily settlement
- ii. T+1 settlement
- iii. T+2 settlement

This grouping is done in order to further justify the results obtained.

Table 5: Correlation

**Correlation between FII & Mutual Fund investment and Increase or decrease in
Sensex points**

In all the tables given below two variables are taken into consideration. Dependent variable 'X' is taken as FII & Mutual fund investments respectively and the independent variable 'Y' is taken as the increase or decrease in the sensex points for the period January-October 2008.

Table 5. 1. FII & Increase or decrease in Sensex points w. r. t Daily settlement

Date	FII investment	Increase or decrease in sensex points
1 January	797.9	13.72
2 January	142.3	164.59
3 January	-244.5	-120.1
4 January	725.1	341.69
7 January	508.8	125.76
8 January	-80.9	60.68
9 January	1053.4	-3.55
10 January	274.6	-287.7
11 January	-630.8	245.37
14 January	113.7	-99.4
15 January	174.4	-476.96
16 January	225.8	-382.98
17 January	-2279.6	-167.29
18 January	-2186	-687.12
21 January	-1356.1	-1408.35
22 January	-2425.7	-875.41
23 January	-2256.2	864.13
24 January	-2499.9	-372.33
25 January	-1351.2	1139.92
28 January	669.1	-208.88
29 January	-1513.4	-60.84
30 January	-285.1	-333.3
31 January	-611.4	-109.93
1 February	-3393.4	593.87
4 February	1034.3	417.74
5 February	3810.7	2.84
6 February	576.9	-523.67
7 February	-528.2	-612.56
8 February	-168.4	-62.04

Date	FII investment	Increase or decrease in sensex points
11 February	0	-833.98
12 February	-1845.6	-22.9
13 February	-115.1	341.13
14 February	349	817.49
15 February	-1183.1	348.62
18 February	1147.5	-67.2
19 February	-115.9	27.61
20 February	1585.1	-458.06
21 February	56.7	117.08
22 February	285.6	-385.61
25 February	-453.8	301.5
26 February	738.5	155.62
27 February	85.4	19.8
28 February	396.4	-1.51
29 February	0	-245.76
3 March	-244.1	-900.84
4 March	-683.5	-337.99
5 March	-472.8	202.19
7 March	-129.7	-566.56
10 March	1106.9	-51.8
11 March	-1137.6	199.43
12 March	-172.4	4.83
13 March	143.6	-770.63
14 March	-172.5	403.17
17 March	-128.8	-951.03
18 March	-632.4	23.97
19 March	-687.7	161.37
24 March	537.2	294.57
25 March	324.1	928.09
26 March	1345.3	-130.66
27 March	557.6	-71.27
28 March	430.7	355.73
31 March	-114.3	-726.85
1 April	10.8	-17.82
2 April	-1188.2	123.78
3 April	-20.2	82.15
4 April	-543	-489.43
7 April	1364.6	413.96
8 April	376.7	-169.46
9 April	148.7	202.89
10 April	-172.3	-95.41
11 April	-314.8	112.54
15 April	-31.3	346.02

Date	FII investment	Increase or decrease in sensex points
16 April	80.9	90.53
17 April	4.1	237.01
21 April	699	258.13
22 April	277.4	44.54
23 April	392.4	-85.83
24 April	-263.1	23.04
25 April	-526.1	404.9
28 April	348.8	-110.02
29 April	81.2	362.5
30 April	345.4	-91.14
2 May	-84.7	312.81
5 May	720	-109.22
6 May	-306.7	-117.89
7 May	-728.8	-33.7
8 May	325.1	-258.66
9 May	-402.5	-343.58
12 May	-370.5	123.83
13 May	-125.4	-108.04
14 May	186.3	225.49
15 May	258.1	375.19
16 May	729.9	81.4
20 May	57	-204.76
21 May	-319.8	12.98
22 May	-611.4	336.05
23 May	-550.7	-257.47
26 May	-500.5	-301.14
27 May	-1115	-72.91
28 May	-354.1	249.78
29 May	-733.9	-209.11
30 May	-1083.9	99.31
2 June	254.6	-352.39
3 June	-349.3	-100.62
4 June	-952.3	-447.77
5 June	-825.2	254.93
6 June	-1419	-197.54
9 June	307	-506.08
10 June	-1341.8	-176.85
11 June	-844	296.07
12 June	-151.5	64.88
13 June	-1141.7	-60.58
16 June	-51.8	20.62
17 June	-532.8	301.08
18 June	372.4	-274.59

Date	FII investment	Increase or decrease in sensex points
19 June	-449.8	-334.32
20 June	-352.6	-516.7
23 June	-952.5	-277.97
24 June	-620.8	-186.74
25 June	274.1	113.49
26 June	-103.6	201.75
27 June	-469	-619.6
30 June	-746.2	-340.62
1 July	-227.1	-499.92
2 July	174.3	702.94
3 July	-350.4	-570.51
4 July	-702.5	359.89
7 July	532.6	71.99
8 July	-319.9	-176.34
9 July	168.5	614.61
10 July	-287.7	-38.02
11 July	-345.9	-456.39
14 July	-310.3	-139.34
15 July	-212.3	-654.32
16 July	-680.4	-100.39
17 July	-210.4	536.05
18 July	535.8	523.55
21 July	589.2	214.64
22 July	-111.9	254.16
23 July	-390.5	838.08
24 July	1635.6	165.27
25 July	556.3	502.07
28 July	-546.3	74.17
29 July	-609.3	-557.57
30 July	-332.3	495.67
31 July	-391.9	68.54
1 August	597	300.94
4 August	-342.2	-78.82
5 August	-400.6	383.2
6 August	64.1	112.47
7 August	1628.6	43.71
8 August	-19	50.57
11 August	79.1	336.1
12 August	409.7	-291.79
13 August	-384.3	-119.01
14 August	-646.3	-368.94
18 August	-396.3	-78.52
19 August	0	-101.93

Date	FII investment	Increase or decrease in sensex points
20 August	-1135.8	134.5
21 August	-285.4	-434.5
22 August	-278.1	157.76
25 August	-113.8	48.86
26 August	93.9	31.87
27 August	-506	-185.43
28 August	279.9	-248.45
29 August	143.8	516.19
1 September	-257	-66.02
2 September	-171.7	551.35
4 September	1337.4	-150.76
5 September	-399.1	-415.27
8 September	-1736.8	461.14
9 September	758.1	-44.21
10 September	-186.2	-238.15
11 September	-870.1	-338.32
12 September	-1410.5	-323.48
15 September	-856.4	-469.54
16 September	-629.3	-12.47
17 September	-1240.6	-255.9
18 September	-1333.5	52.7
19 September	-598.7	726.72
22 September	1167.9	-47.36
23 September	111.4	-424.65
24 September	-867.7	122.21
25 September	-174.4	-145.34
26 September	-703.8	-445
29 September	604.1	-506.43
30 September	387	264.68
1 October	84.5	195.24
3 October	-284.2	-529.35
6 October	-1046	-724.62
7 October	-1121.4	-106.46
8 October	-548.1	-366.88
10 October	-847.7	-800.51
13 October	-2323.2	781.24
14 October	-842.2	174.31
15 October	-189.1	-674.28
16 October	-840.7	-227.63
17 October	-1911.3	-606.14
20 October	-867.6	247.74
21 October	-840.1	460.3
22 October	113.9	-513.49

Date	FII investment	Increase or decrease in sensex points
23 October	-272.9	-398.2
24 October	-347.4	-1070.63
27 October	-1178	-191.51
28 October	0	498.52
29 October	-1010.9	36.43
31 October	-1074.9	743.55

$$r = 0.055528$$

INTERPRETATION: In the above table 'r' is positive. Positive correlation implies that both the variables are related on each other which means that if the FII investment decreases then there is a decrease in the sensex points, as well when FII investment increases then the Sensex will also increase.

Table 5. 2. Mutual Fund investment and increase or decrease in Sensex points w. r. t Daily settlement

Date	Mutual fund investment	Increase or decrease in sensex points
1 January	183.5	13.72
2 January	295.2	164.59
3 January	490	-120.1
4 January	616.6	341.69
7 January	30	125.76
8 January	12.5	60.68
9 January	-201.2	-3.55
10 January	46.3	-287.7
11 January	-274.2	245.37
14 January	-551.4	-99.4
15 January	-519.5	-476.96
16 January	-59.5	-382.98
17 January	460.9	-167.29
18 January	-271.2	-687.12
21 January	2001.8	-1408.35
22 January	1195.1	-875.41
23 January	874.4	864.13
24 January	350.1	-372.33

Date	Mutual fund investment	Increase or decrease in sensex points
25 January	221.2	1139.92
28 January	368.8	-208.88
29 January	-117.7	-60.84
30 January	416.3	-333.3
31 January	2134.5	-109.93
1 February	100	593.87
4 February	818.9	417.74
5 February	-297.5	2.84
6 February	-212.2	-523.67
7 February	-78.4	-612.56
8 February	-293.5	-62.04
11 February	-570.8	-833.98
12 February	-99.9	-22.9
13 February	7.7	341.13
14 February	296.3	817.49
15 February	161.9	348.62
18 February	-45.1	-67.2
19 February	-326.8	27.61
20 February	-191.3	-458.06
21 February	-226.8	117.08
22 February	-163.6	-385.61
25 February	-140.5	301.5
26 February	525.9	155.62
27 February	192.5	19.8
28 February	600.7	-1.51
29 February	456.4	-245.76
3 March	-452.9	-900.84
4 March	-151.4	-337.99
5 March	-280.1	202.19
7 March	-51.5	-566.56
10 March	335.8	-51.8
11 March	318.4	199.43
12 March	-494.3	4.83
13 March	-380.8	-770.63
14 March	-321.1	403.17
17 March	-102.4	-951.03
18 March	65.1	23.97
19 March	-291.5	161.37
24 March	-469.8	294.57
25 March	534.5	928.09
26 March	-431	-130.66
27 March	-52.2	-71.27
28 March	344.2	355.73

Date	Mutual fund investment	Increase or decrease in sensex points
31 March	-90.3	-726.85
1 April	-285	-17.82
2 April	-127.9	123.78
3 April	-68.6	82.15
4 April	-162.5	-489.43
7 April	-40	413.96
8 April	89.8	-169.46
9 April	214.4	202.89
10 April	349.4	-95.41
11 April	172.8	112.54
15 April	121.8	346.02
16 April	-256.8	90.53
17 April	-86.3	237.01
21 April	99.6	258.13
22 April	-96.7	44.54
23 April	95.1	-85.83
24 April	33.1	23.04
25 April	-73.4	404.9
28 April	-199.6	-110.02
29 April	381.5	362.5
30 April	-272.2	-91.14
2 May	-76.2	312.81
5 May	141.7	-109.22
6 May	-26.5	-117.89
7 May	-23	-33.7
8 May	-83.4	-258.66
9 May	-335.3	-343.58
12 May	-64.8	123.83
13 May	-305.4	-108.04
14 May	133.1	225.49
15 May	309.9	375.19
16 May	227	81.4
20 May	-488.7	-204.76
21 May	-44.5	12.98
22 May	-92.2	336.05
23 May	18.6	-257.47
26 May	51.8	-301.14
27 May	-94.5	-72.91
28 May	363.9	249.78
29 May	0.9	-209.11
30 May	451.1	99.31
2 June	-165.2	-352.39
3 June	124.1	-100.62

Date	Mutual fund investment	Increase or decrease in sensex points
4 June	202	-447.77
5 June	546.9	254.93
6 June	59.3	-197.54
9 June	-41.1	-506.08
10 June	-151.6	-176.85
11 June	320.3	296.07
12 June	227.8	64.88
13 June	282.4	-60.58
16 June	272.3	20.62
17 June	258.5	301.08
18 June	-15.8	-274.59
19 June	-99.7	-334.32
20 June	215.6	-516.7
23 June	36.5	-277.97
24 June	211.3	-186.74
25 June	324.7	113.49
26 June	276	201.75
27 June	4.2	-619.6
30 June	290.7	-340.62
1 July	-193.5	-499.92
2 July	299.4	702.94
3 July	241.6	-570.51
4 July	-65.8	359.89
7 July	44.2	71.99
8 July	181.7	-176.34
9 July	204.7	614.61
10 July	-198.4	-38.02
11 July	119.9	-456.39
14 July	17.7	-139.34
15 July	-108.2	-654.32
16 July	31.5	-100.39
17 July	-6.9	536.05
18 July	-129.8	523.55
21 July	-201.3	214.64
22 July	373.9	254.16
23 July	334.5	838.08
24 July	-270.4	165.27
25 July	-32.9	502.07
28 July	203.5	74.17
29 July	-249.4	-557.57
30 July	690.3	495.67
31 July	188.9	68.54
1 August	226.4	300.94

Date	Mutual fund investment	Increase or decrease in sensex points
4 August	-304	-78.82
5 August	196.8	383.2
6 August	-383.3	112.47
7 August	-22	43.71
8 August	-131.3	50.57
11 August	454.8	336.1
12 August	-266.5	-291.79
13 August	-174.6	-119.01
14 August	-415.7	-368.94
18 August	-52.3	-78.52
19 August	-92.9	-101.93
20 August	78.6	134.5
21 August	-97.5	-434.5
22 August	181.1	157.76
25 August	13.5	48.86
26 August	87.1	31.87
27 August	-6.7	-185.43
28 August	-58.6	-248.45
29 August	398.4	516.19
1 September	-80.7	-66.02
2 September	105.9	551.35
4 September	134.1	-150.76
5 September	-98.6	-415.27
8 September	99.7	461.14
9 September	-214.1	-44.21
10 September	115.4	-238.15
11 September	-50.7	-338.32
12 September	236.9	-323.48
15 September	130.9	-469.54
16 September	242.1	-12.47
17 September	433.8	-255.9
18 September	939.5	52.7
19 September	160.8	726.72
22 September	-331.8	-47.36
23 September	-226.2	-424.65
24 September	15.8	122.21
25 September	379.3	-145.34
26 September	-66.7	-445
29 September	-34.8	-506.43
30 September	0	264.68
1 October	147.8	195.24
3 October	-342.8	-529.35
6 October	-231.1	-724.62

Date	Mutual fund investment	Increase or decrease in sensex points
7 October	-306.8	-106.46
8 October	-118.5	-366.88
10 October	315.2	-800.51
13 October	520.5	781.24
14 October	-263.1	174.31
15 October	-382.9	-674.28
16 October	431.6	-227.63
17 October	112.7	-606.14
20 October	206.4	247.74
21 October	602.2	460.3
22 October	17.5	-513.49
23 October	-60	-398.2
24 October	-318.6	-1070.63
27 October	503.5	-191.51
28 October	20.9	498.52
29 October	620	36.43
31 October	-42.9	743.55

$$r=0.156808$$

INTERPRETATION: In the above table 'r' is positive. Positive correlation implies that both the variables are related on each other which means that if the Mutual Fund investment decreases then there is a decrease in the sensex points, as well when Mutual Fund investment increases then the Sensdex will also increase.

Table 5.3. FII & Increase or decrease in Sensex points w. r. t. T+1 settlement:

Date	FII investment	Increase or decrease in sensex points
1 January	797.9	80.04
2 January	142.3	13.72
3 January	-244.5	164.59
4 January	725.1	-120.1
7 January	508.8	341.69
8 January	-80.9	125.76
9 January	1053.4	60.68
10 January	274.6	-3.55
11 January	-630.8	-287.7
14 January	113.7	245.37
15 January	174.4	-99.4
16 January	225.8	-476.96
17 January	-2279.6	-382.98
18 January	-2186	-167.29
21 January	-1356.1	-687.12
22 January	-2425.7	-1408.35
23 January	-2256.2	-875.41
24 January	-2499.9	864.13
25 January	-1351.2	-372.33
28 January	669.1	1139.92
29 January	-1513.4	-208.88
30 January	-285.1	-60.84
31 January	-611.4	-333.3
1 February	-3393.4	-109.93
4 February	1034.3	593.87
5 February	3810.7	417.74
6 February	576.9	2.84
7 February	-528.2	-523.67
8 February	-168.4	-612.56
11 February	0	-62.04
12 February	-1845.6	-833.98
13 February	-115.1	-22.9
14 February	349	341.13
15 February	-1183.1	817.49
18 February	1147.5	348.62
19 February	-115.9	-67.2
20 February	1585.1	27.61
21 February	56.7	-458.06
22 February	285.6	117.08

Date	FII investment	Increase or decrease in sensex points
25 February	-453.8	-385.61
26 February	738.5	301.5
27 February	85.4	155.62
28 February	396.4	19.8
29 February	0	-1.51
3 March	-244.1	-245.76
4 March	-683.5	-900.84
5 March	-472.8	-337.99
7 March	-129.7	202.19
10 March	1106.9	-566.56
11 March	-1137.6	-51.8
12 March	-172.4	199.43
13 March	143.6	4.83
14 March	-172.5	-770.63
17 March	-128.8	403.17
18 March	-632.4	-951.03
19 March	-687.7	23.97
24 March	537.2	161.37
25 March	324.1	294.57
26 March	1345.3	928.09
27 March	557.6	-130.66
28 March	430.7	-71.27
31 March	-114.3	355.73
1 April	10.8	-726.85
2 April	-1188.2	-17.82
3 April	-20.2	123.78
4 April	-543	82.15
7 April	1364.6	-489.43
8 April	376.7	413.96
9 April	148.7	-169.46
10 April	-172.3	202.89
11 April	-314.8	-95.41
15 April	-31.3	112.54
16 April	80.9	346.02
17 April	4.1	90.53
21 April	699	237.01
22 April	277.4	258.13
23 April	392.4	44.54
24 April	-263.1	-85.83
25 April	-526.1	23.04
28 April	348.8	404.9
29 April	81.2	-110.02

Date	FII investment	Increase or decrease in sensex points
30 April	345.4	362.5
2 May	-84.7	-91.14
5 May	720	312.81
6 May	-306.7	-109.22
7 May	-728.8	-117.89
8 May	325.1	-33.7
9 May	-402.5	-258.66
12 May	-370.5	-343.58
13 May	-125.4	123.83
14 May	186.3	-108.04
15 May	258.1	225.49
16 May	729.9	375.19
20 May	57	81.4
21 May	-319.8	-204.76
22 May	-611.4	12.98
23 May	-550.7	336.05
26 May	-500.5	-257.47
27 May	-1115	-301.14
28 May	-354.1	-72.91
29 May	-733.9	249.78
30 May	-1083.9	-209.11
2 June	254.6	99.31
3 June	-349.3	-352.39
4 June	-952.3	-100.62
5 June	-825.2	-447.77
6 June	-1419	254.93
9 June	307	-197.54
10 June	-1341.8	-506.08
11 June	-844	-176.85
12 June	-151.5	296.07
13 June	-1141.7	64.88
16 June	-51.8	-60.58
17 June	-532.8	20.62
18 June	372.4	301.08
19 June	-449.8	-274.59
20 June	-352.6	-334.32
23 June	-952.5	-516.7
24 June	-620.8	-277.97
25 June	274.1	-186.74
26 June	-103.6	113.49
27 June	-469	201.75
30 June	-746.2	-619.6
1 July	-227.1	-340.62

Date	FII investment	Increase or decrease in sensex points
2 July	174.3	-499.92
3 July	-350.4	702.94
4 July	-702.5	-570.51
7 July	532.6	359.89
8 July	-319.9	71.99
9 July	168.5	-176.34
10 July	-287.7	614.61
11 July	-345.9	-38.02
14 July	-310.3	-456.39
15 July	-212.3	-139.34
16 July	-680.4	-654.32
17 July	-210.4	-100.39
18 July	535.8	536.05
21 July	589.2	523.55
22 July	-111.9	214.64
23 July	-390.5	254.16
24 July	1635.6	838.08
25 July	556.3	165.27
28 July	-546.3	502.07
29 July	-609.3	74.17
30 July	-332.3	-557.57
31 July	-391.9	495.67
1 August	597	68.54
4 August	-342.2	300.94
5 August	-400.6	-78.82
6 August	64.1	383.2
7 August	1628.6	112.47
8 August	-19	43.71
11 August	79.1	50.57
12 August	409.7	336.1
13 August	-384.3	-291.79
14 August	-646.3	-119.01
18 August	-396.3	-368.94
19 August	0	-78.52
20 August	-1135.8	-101.93
21 August	-285.4	134.5
22 August	-278.1	-434.5
25 August	-113.8	157.76
26 August	93.9	48.86
27 August	-506	31.87
28 August	279.9	-185.43
29 August	143.8	-248.45
1 September	-257	516.19

Date	FII investment	Increase or decrease in sensex points
2 September	-171.7	-66.02
4 September	1337.4	551.35
5 September	-399.1	-150.76
8 September	-1736.8	-415.27
9 September	758.1	461.14
10 September	-186.2	-44.21
11 September	-870.1	-238.15
12 September	-1410.5	-338.32
15 September	-856.4	-323.48
16 September	-629.3	-469.54
17 September	-1240.6	-12.47
18 September	-1333.5	-255.9
19 September	-598.7	52.7
22 September	1167.9	726.72
23 September	111.4	-47.36
24 September	-867.7	-424.65
25 September	-174.4	122.21
26 September	-703.8	-145.34
29 September	604.1	-445
30 September	387	-506.43
1 October	84.5	264.68
3 October	-284.2	195.24
6 October	-1046	-529.35
7 October	-1121.4	-724.62
8 October	-548.1	-106.46
10 October	-847.7	-366.88
13 October	-2323.2	-800.51
14 October	-842.2	781.24
15 October	-189.1	174.31
16 October	-840.7	-674.28
17 October	-1911.3	-227.63
20 October	-867.6	-606.14
21 October	-840.1	247.74
22 October	113.9	460.3
23 October	-272.9	-513.49
24 October	-347.4	-398.2
27 October	-1178	-1070.63
28 October	0	-191.51
29 October	-1010.9	498.52
31 October	-1074.9	36.43

$$r = 0.419276$$

INTERPRETATION: In the above table 'r' is positive. Positive correlation implies that both the variables are dependent on each other which means that if the FII investment decreases then there is a decrease in the Sensex points as well when FII investment increase the Sensex will increase.

Table 5. 4. Mutual Fund & Increase or decrease in Sensdex points w. r. t. T+1 settlement:

Date	Mutual Fund investment	Increase or decrease in Sensdex points
1 January	183.5	80.04
2 January	295.2	13.72
3 January	490	164.59
4 January	616.6	-120.1
7 January	30	341.69
8 January	12.5	125.76
9 January	-201.2	60.68
10 January	46.3	-3.55
11 January	-274.2	-287.7
14 January	-551.4	245.37
15 January	-519.5	-99.4
16 January	-59.5	-476.96
17 January	460.9	-382.98
18 January	-271.2	-167.29
21 January	2001.8	-687.12
22 January	1195.1	-1408.35
23 January	874.4	-875.41
24 January	350.1	864.13
25 January	221.2	-372.33
28 January	368.8	1139.92
29 January	-117.7	-208.88
30 January	416.3	-60.84
31 January	2134.5	-333.3
1 February	100	-109.93
4 February	818.9	593.87
5 February	-297.5	417.74
6 February	-212.2	2.84
7 February	-78.4	-523.67
8 February	-293.5	-612.56
11 February	-570.8	-62.04
12 February	-99.9	-833.98
13 February	7.7	-22.9
14 February	296.3	341.13
15 February	161.9	817.49
18 February	-45.1	348.62
19 February	-326.8	-67.2
20 February	-191.3	27.61
21 February	-226.8	-458.06

Date	Mutual Fund investment	Increase or decrease in Sensex points
22 February	-163.6	117.08
25 February	-140.5	-385.61
26 February	525.9	301.5
27 February	192.5	155.62
28 February	600.7	19.8
29 February	456.4	-1.51
3 March	-452.9	-245.76
4 March	-151.4	-900.84
5 March	-280.1	-337.99
7 March	-51.5	202.19
10 March	335.8	-566.56
11 March	318.4	-51.8
12 March	-494.3	199.43
13 March	-380.8	4.83
14 March	-321.1	-770.63
17 March	-102.4	403.17
18 March	65.1	-951.03
19 March	-291.5	23.97
24 March	-469.8	161.37
25 March	534.5	294.57
26 March	-431	928.09
27 March	-52.2	-130.66
28 March	344.2	-71.27
31 March	-90.3	355.73
1 April	-285	-726.85
2 April	-127.9	-17.82
3 April	-68.6	123.78
4 April	-162.5	82.15
7 April	-40	-489.43
8 April	89.8	413.96
9 April	214.4	-169.46
10 April	349.4	202.89
11 April	172.8	-95.41
15 April	121.8	112.54
16 April	-256.8	346.02
17 April	-86.3	90.53
21 April	99.6	237.01
22 April	-96.7	258.13
23 April	95.1	44.54
24 April	33.1	-85.83
25 April	-73.4	23.04
28 April	-199.6	404.9
29 April	381.5	-110.02

Date	Mutual Fund investment	Increase or decrease in sensex points
30 April	-272.2	362.5
2 May	-76.2	-91.14
5 May	141.7	312.81
6 May	-26.5	-109.22
7 May	-23	-117.89
8 May	-83.4	-33.7
9 May	-335.3	-258.66
12 May	-64.8	-343.58
13 May	-305.4	123.83
14 May	133.1	-108.04
15 May	309.9	225.49
16 May	227	375.19
20 May	-488.7	81.4
21 May	-44.5	-204.76
22 May	-92.2	12.98
23 May	18.6	336.05
26 May	51.8	-257.47
27 May	-94.5	-301.14
28 May	363.9	-72.91
29 May	0.9	249.78
30 May	451.1	-209.11
2 June	-165.2	99.31
3 June	124.1	-352.39
4 June	202	-100.62
5 June	546.9	-447.77
6 June	59.3	254.93
9 June	-41.1	-197.54
10 June	-151.6	-506.08
11 June	320.3	-176.85
12 June	227.8	296.07
13 June	282.4	64.88
16 June	272.3	-60.58
17 June	258.5	20.62
18 June	-15.8	301.08
19 June	-99.7	-274.59
20 June	215.6	-334.32
23 June	36.5	-516.7
24 June	211.3	-277.97
25 June	324.7	-186.74
26 June	276	113.49
27 June	4.2	201.75
30 June	290.7	-619.6
1 July	-193.5	-340.62

Date	Mutual Fund investment	Increase or decrease in sensex points
2 July	299.4	-499.92
3 July	241.6	702.94
4 July	-65.8	-570.51
7 July	44.2	359.89
8 July	181.7	71.99
9 July	204.7	-176.34
10 July	-198.4	614.61
11 July	119.9	-38.02
14 July	17.7	-456.39
15 July	-108.2	-139.34
16 July	31.5	-654.32
17 July	-6.9	-100.39
18 July	-129.8	536.05
21 July	-201.3	523.55
22 July	373.9	214.64
23 July	334.5	254.16
24 July	-270.4	838.08
25 July	-32.9	165.27
28 July	203.5	502.07
29 July	-249.4	74.17
30 July	690.3	-557.57
31 July	188.9	495.67
1 August	226.4	68.54
4 August	-304	300.94
5 August	196.8	-78.82
6 August	-383.3	383.2
7 August	-22	112.47
8 August	-131.3	43.71
11 August	454.8	50.57
12 August	-266.5	336.1
13 August	-174.6	-291.79
14 August	-415.7	-119.01
18 August	-52.3	-368.94
19 August	-92.9	-78.52
20 August	78.6	-101.93
21 August	-97.5	134.5
22 August	181.1	-434.5
25 August	13.5	157.76
26 August	87.1	48.86
27 August	-6.7	31.87
28 August	-58.6	-185.43
29 August	398.4	-248.45
1 September	-80.7	516.19

Date	Mutual Fund investment	Increase or decrease in Sensex points
2 September	105.9	-66.02
4 September	134.1	551.35
5 September	-98.6	-150.76
8 September	99.7	-415.27
9 September	-214.1	461.14
10 September	115.4	-44.21
11 September	-50.7	-238.15
12 September	236.9	-338.32
15 September	130.9	-323.48
16 September	242.1	-469.54
17 September	433.8	-12.47
18 September	939.5	-255.9
19 September	160.8	52.7
22 September	-331.8	726.72
23 September	-226.2	-47.36
24 September	15.8	-424.65
25 September	379.3	122.21
26 September	-66.7	-145.34
29 September	-34.8	-445
30 September	0	-506.43
1 October	147.8	264.68
3 October	-342.8	195.24
6 October	-231.1	-529.35
7 October	-306.8	-724.62
8 October	-118.5	-106.46
10 October	315.2	-366.88
13 October	520.5	-800.51
14 October	-263.1	781.24
15 October	-382.9	174.31
16 October	431.6	-674.28
17 October	112.7	-227.63
20 October	206.4	-606.14
21 October	602.2	247.74
22 October	17.5	460.3
23 October	-60	-513.49
24 October	-318.6	-398.2
27 October	503.5	-1070.63
28 October	20.9	-191.51
29 October	620	498.52
31 October	-42.9	36.43

$$r = -0.18132$$

INTERPRETATION: In the above table 'r' is negative. Negative correlation implies that both the variables are not dependent on each other which means that if the Mutual Fund investment decreases then it is not necessarily true that there is a decrease in the sensex points.

Table 5.5.FII & Increase or decrease in Sensex points w. r. t. T+2 settlement:

Date	FII investment	Increase or decrease in Sensex points
1 January	797.9	-9.77
2 January	142.3	80.04
3 January	-244.5	13.72
4 January	725.1	164.59
7 January	508.8	-120.1
8 January	-80.9	341.69
9 January	1053.4	125.76
10 January	274.6	60.68
11 January	-630.8	-3.55
14 January	113.7	-287.7
15 January	174.4	245.37
16 January	225.8	-99.4
17 January	-2279.6	-476.96
18 January	-2186	-382.98
21 January	-1356.1	-167.29
22 January	-2425.7	-687.12
23 January	-2256.2	-1408.35
24 January	-2499.9	-875.41
25 January	-1351.2	864.13
28 January	669.1	-372.33
29 January	-1513.4	1139.92
30 January	-285.1	-208.88
31 January	-611.4	-60.84
1 February	-3393.4	-333.3
4 February	1034.3	-109.93
5 February	3810.7	593.87
6 February	576.9	417.74
7 February	-528.2	2.84
8 February	-168.4	-523.67
11 February	0	-612.56
12 February	-1845.6	-62.04
13 February	-115.1	-833.98
14 February	349	-22.9
15 February	-1183.1	341.13
18 February	1147.5	817.49
19 February	-115.9	348.62
20 February	1585.1	-67.2
21 February	56.7	27.61
22 February	285.6	-458.06
25 February	-453.8	117.08

Date	FII investment	Increase or decrease in sensex points
26 February	738.5	-385.61
27 February	85.4	301.5
28 February	396.4	155.62
29 February	0	19.8
3 March	-244.1	-1.51
4 March	-683.5	-245.76
5 March	-472.8	-900.84
7 March	-129.7	-337.99
10 March	1106.9	202.19
11 March	-1137.6	-566.56
12 March	-172.4	-51.8
13 March	143.6	199.43
14 March	-172.5	4.83
17 March	-128.8	-770.63
18 March	-632.4	403.17
19 March	-687.7	-951.03
24 March	537.2	23.97
25 March	324.1	161.37
26 March	1345.3	294.57
27 March	557.6	928.09
28 March	430.7	-130.66
31 March	-114.3	-71.27
1 April	10.8	355.73
2 April	-1188.2	-726.85
3 April	-20.2	-17.82
4 April	-543	123.78
7 April	1364.6	82.15
8 April	376.7	-489.43
9 April	148.7	413.96
10 April	-172.3	-169.46
11 April	-314.8	202.89
15 April	-31.3	-95.41
16 April	80.9	112.54
17 April	4.1	346.02
21 April	699	90.53
22 April	277.4	237.01
23 April	392.4	258.13
24 April	-263.1	44.54
25 April	-526.1	-85.83
28 April	348.8	23.04
29 April	81.2	404.9
30 April	345.4	-110.02
2 May	-84.7	362.5

Date	FII investment	Increase or decrease in sensex points
5 May	720	-91.14
6 May	-306.7	312.81
7 May	-728.8	-109.22
8 May	325.1	-117.89
9 May	-402.5	-33.7
12 May	-370.5	-258.66
13 May	-125.4	-343.58
14 May	186.3	123.83
15 May	258.1	-108.04
16 May	729.9	225.49
20 May	57	375.19
21 May	-319.8	81.4
22 May	-611.4	-204.76
23 May	-550.7	12.98
26 May	-500.5	336.05
27 May	-1115	-257.47
28 May	-354.1	-301.14
29 May	-733.9	-72.91
30 May	-1083.9	249.78
2 June	254.6	-209.11
3 June	-349.3	99.31
4 June	-952.3	-352.39
5 June	-825.2	-100.62
6 June	-1419	-447.77
9 June	307	254.93
10 June	-1341.8	-197.54
11 June	-844	-506.08
12 June	-151.5	-176.85
13 June	-1141.7	296.07
16 June	-51.8	64.88
17 June	-532.8	-60.58
18 June	372.4	20.62
19 June	-449.8	301.08
20 June	-352.6	-274.59
23 June	-952.5	-334.32
24 June	-620.8	-516.7
25 June	274.1	-277.97
26 June	-103.6	-186.74
27 June	-469	113.49
30 June	-746.2	201.75
1 July	-227.1	-619.6
2 July	174.3	-340.62
3 July	-350.4	-499.92

Date	FII investment	Increase or decrease in sensex points
4 July	-702.5	702.94
7 July	532.6	-570.51
8 July	-319.9	359.89
9 July	168.5	71.99
10 July	-287.7	-176.34
11 July	-345.9	614.61
14 July	-310.3	-38.02
15 July	-212.3	-456.39
16 July	-680.4	-139.34
17 July	-210.4	-654.32
18 July	535.8	-100.39
21 July	589.2	536.05
22 July	-111.9	523.55
23 July	-390.5	214.64
24 July	1635.6	254.16
25 July	556.3	838.08
28 July	-546.3	165.27
29 July	-609.3	502.07
30 July	-332.3	74.17
31 July	-391.9	-557.57
1 August	597	495.67
4 August	-342.2	68.54
5 August	-400.6	300.94
6 August	64.1	-78.82
7 August	1628.6	383.2
8 August	-19	112.47
11 August	79.1	43.71
12 August	409.7	50.57
13 August	-384.3	336.1
14 August	-646.3	-291.79
18 August	-396.3	-119.01
19 August	0	-368.94
20 August	-1135.8	-78.52
21 August	-285.4	-101.93
22 August	-278.1	134.5
25 August	-113.8	-434.5
26 August	93.9	157.76
27 August	-506	48.86
28 August	279.9	31.87
29 August	143.8	-185.43
1 September	-257	-248.45
2 September	-171.7	516.19
4 September	1337.4	-66.02

Date	FII investment	Increase or decrease in sensex points
5 September	-399.1	551.35
8 September	-1736.8	-150.76
9 September	758.1	-415.27
10 September	-186.2	461.14
11 September	-870.1	-44.21
12 September	-1410.5	-238.15
15 September	-856.4	-338.32
16 September	-629.3	-323.48
17 September	-1240.6	-469.54
18 September	-1333.5	-12.47
19 September	-598.7	-255.9
22 September	1167.9	52.7
23 September	111.4	726.72
24 September	-867.7	-47.36
25 September	-174.4	-424.65
26 September	-703.8	122.21
29 September	604.1	-145.34
30 September	387	-445
1 October	84.5	-506.43
3 October	-284.2	264.68
6 October	-1046	195.24
7 October	-1121.4	-529.35
8 October	-548.1	-724.62
10 October	-847.7	-106.46
13 October	-2323.2	-366.88
14 October	-842.2	-800.51
15 October	-189.1	781.24
16 October	-840.7	174.31
17 October	-1911.3	-674.28
20 October	-867.6	-227.63
21 October	-840.1	-606.14
22 October	113.9	247.74
23 October	-272.9	460.3
24 October	-347.4	-513.49
27 October	-1178	-398.2
28 October	0	-1070.63
29 October	-1010.9	-191.51
31 October	-1074.9	498.52

$r = 0.309091$

INTERPRETATION: In the above table 'r' is positive. Positive correlation implies that both the variables are dependent on each other which means that if the FII investment decreases then there is a decrease in the sensex points ,as well when FII investment increases then sensex will also increase.

Table 5.6. Mutual Fund & Increase or decrease in Sensex points w. r. t. T+2 settlement:

Date	Mutual fund investment	Increase or decrease in sensex points
1 January	183.5	-9.77
2 January	295.2	80.04
3 January	490	13.72
4 January	616.6	164.59
7 January	30	-120.1
8 January	12.5	341.69
9 January	-201.2	125.76
10 January	46.3	60.68
11 January	-274.2	-3.55
14 January	-551.4	-287.7
15 January	-519.5	245.37
16 January	-59.5	-99.4
17 January	460.9	-476.96
18 January	-271.2	-382.98
21 January	2001.8	-167.29
22 January	1195.1	-687.12
23 January	874.4	-1408.35
24 January	350.1	-875.41
25 January	221.2	864.13
28 January	368.8	-372.33
29 January	-117.7	1139.92
30 January	416.3	-208.88
31 January	2134.5	-60.84
1 February	100	-333.3
4 February	818.9	-109.93
5 February	-297.5	593.87
6 February	-212.2	417.74
7 February	-78.4	2.84
8 February	-293.5	-523.67
11 February	-570.8	-612.56
12 February	-99.9	-62.04
13 February	7.7	-833.98
14 February	296.3	-22.9
15 February	161.9	341.13
18 February	-45.1	817.49
19 February	-326.8	348.62
20 February	-191.3	-67.2
21 February	-226.8	27.61

Date	Mutual fund investment	Increase or decrease in sensex points
22 February	-163.6	-458.06
25 February	-140.5	117.08
26 February	525.9	-385.61
27 February	192.5	301.5
28 February	600.7	155.62
29 February	456.4	19.8
3 March	-452.9	-1.51
4 March	-151.4	-245.76
5 March	-280.1	-900.84
7 March	-51.5	-337.99
10 March	335.8	202.19
11 March	318.4	-566.56
12 March	-494.3	-51.8
13 March	-380.8	199.43
14 March	-321.1	4.83
17 March	-102.4	-770.63
18 March	65.1	403.17
19 March	-291.5	-951.03
24 March	-469.8	23.97
25 March	534.5	161.37
26 March	-431	294.57
27 March	-52.2	928.09
28 March	344.2	-130.66
31 March	-90.3	-71.27
1 April	-285	355.73
2 April	-127.9	-726.85
3 April	-68.6	-17.82
4 April	-162.5	123.78
7 April	-40	82.15
8 April	89.8	-489.43
9 April	214.4	413.96
10 April	349.4	-169.46
11 April	172.8	202.89
15 April	121.8	-95.41
16 April	-256.8	112.54
17 April	-86.3	346.02
21 April	99.6	90.53
22 April	-96.7	237.01
23 April	95.1	258.13
24 April	33.1	44.54
25 April	-73.4	-85.83
28 April	-199.6	23.04
29 April	381.5	404.9

Date	Mutual fund investment	Increase or decrease in sensex points
30 April	-272.2	-110.02
2 May	-76.2	362.5
5 May	141.7	-91.14
6 May	-26.5	312.81
7 May	-23	-109.22
8 May	-83.4	-117.89
9 May	-335.3	-33.7
12 May	-64.8	-258.66
13 May	-305.4	-343.58
14 May	133.1	123.83
15 May	309.9	-108.04
16 May	227	225.49
20 May	-488.7	375.19
21 May	-44.5	81.4
22 May	-92.2	-204.76
23 May	18.6	12.98
26 May	51.8	336.05
27 May	-94.5	-257.47
28 May	363.9	-301.14
29 May	0.9	-72.91
30 May	451.1	249.78
2 June	-165.2	-209.11
3 June	124.1	99.31
4 June	202	-352.39
5 June	546.9	-100.62
6 June	59.3	-447.77
9 June	-41.1	254.93
10 June	-151.6	-197.54
11 June	320.3	-506.08
12 June	227.8	-176.85
13 June	282.4	296.07
16 June	272.3	64.88
17 June	258.5	-60.58
18 June	-15.8	20.62
19 June	-99.7	301.08
20 June	215.6	-274.59
23 June	36.5	-334.32
24 June	211.3	-516.7
25 June	324.7	-277.97
26 June	276	-186.74
27 June	4.2	113.49
30 June	290.7	201.75
1 July	-193.5	-619.6

Date	Mutual fund investment	Increase or decrease in sensdex points
2 July	299.4	-340.62
3 July	241.6	-499.92
4 July	-65.8	702.94
7 July	44.2	-570.51
8 July	181.7	359.89
9 July	204.7	71.99
10 July	-198.4	-176.34
11 July	119.9	614.61
14 July	17.7	-38.02
15 July	-108.2	-456.39
16 July	31.5	-139.34
17 July	-6.9	-654.32
18 July	-129.8	-100.39
21 July	-201.3	536.05
22 July	373.9	523.55
23 July	334.5	214.64
24 July	-270.4	254.16
25 July	-32.9	838.08
28 July	203.5	165.27
29 July	-249.4	502.07
30 July	690.3	74.17
31 July	188.9	-557.57
1 August	226.4	495.67
4 August	-304	68.54
5 August	196.8	300.94
6 August	-383.3	-78.82
7 August	-22	383.2
8 August	-131.3	112.47
11 August	454.8	43.71
12 August	-266.5	50.57
13 August	-174.6	336.1
14 August	-415.7	-291.79
18 August	-52.3	-119.01
19 August	-92.9	-368.94
20 August	78.6	-78.52
21 August	-97.5	-101.93
22 August	181.1	134.5
25 August	13.5	-434.5
26 August	87.1	157.76
27 August	-6.7	48.86
28 August	-58.6	31.87
29 August	398.4	-185.43
1 September	-80.7	-248.45

Date	Mutual fund investment	Increase or decrease in sensex points
2 September	105.9	516.19
4 September	134.1	-66.02
5 September	-98.6	551.35
8 September	99.7	-150.76
9 September	-214.1	-415.27
10 September	115.4	461.14
11 September	-50.7	-44.21
12 September	236.9	-238.15
15 September	130.9	-338.32
16 September	242.1	-323.48
17 September	433.8	-469.54
18 September	939.5	-12.47
19 September	160.8	-255.9
22 September	-331.8	52.7
23 September	-226.2	726.72
24 September	15.8	-47.36
25 September	379.3	-424.65
26 September	-66.7	122.21
29 September	-34.8	-145.34
30 September	0	-445
1 October	147.8	-506.43
3 October	-342.8	264.68
6 October	-231.1	195.24
7 October	-306.8	-529.35
8 October	-118.5	-724.62
10 October	315.2	-106.46
13 October	520.5	-366.88
14 October	-263.1	-800.51
15 October	-382.9	781.24
16 October	431.6	174.31
17 October	112.7	-674.28
20 October	206.4	-227.63
21 October	602.2	-606.14
22 October	17.5	247.74
23 October	-60	460.3
24 October	-318.6	-513.49
27 October	503.5	-398.2
28 October	20.9	-1070.63
29 October	620	-191.51
31 October	-42.9	498.52

$$r = -0.1272$$

INTERPRETATION: In the above table 'r' is negative. Negative correlation implies that both the variables are not dependent on each other which means that if the Mutual Fund investment decreases then it is not necessarily true that there is a decrease in the sensex points also.

INTERPRETATION FROM THE CORRELATION ANALYSIS:

From the above tables it is inferred that there is positive correlation between FII investment and increase or decrease in Sensex points in all the three cases, which means that the market is hugely dependent on the FII activity. If FII purchase or sell in the market, there is a follow an action on the same direction by the other participants in the market. this is a 'leading' indicator of the market behaviour. where as in the case of Mutual fund investment it is not so ,the market does not necessarily follow the Mutual funds this inferred because there is a negative correlation between the mutual fund investment and increase or decrease in Sensex points.

4.5. Trends in FII Investment

The business transacted by the FII from the period of January –October 2008 helps in getting the net FII investments for January –October 2008 which will help in understanding the FII's stand in the Sensex.

The trend in FII investments is shown below to ascertain the net investment done by the FII in the yr January 2008-october 2008.

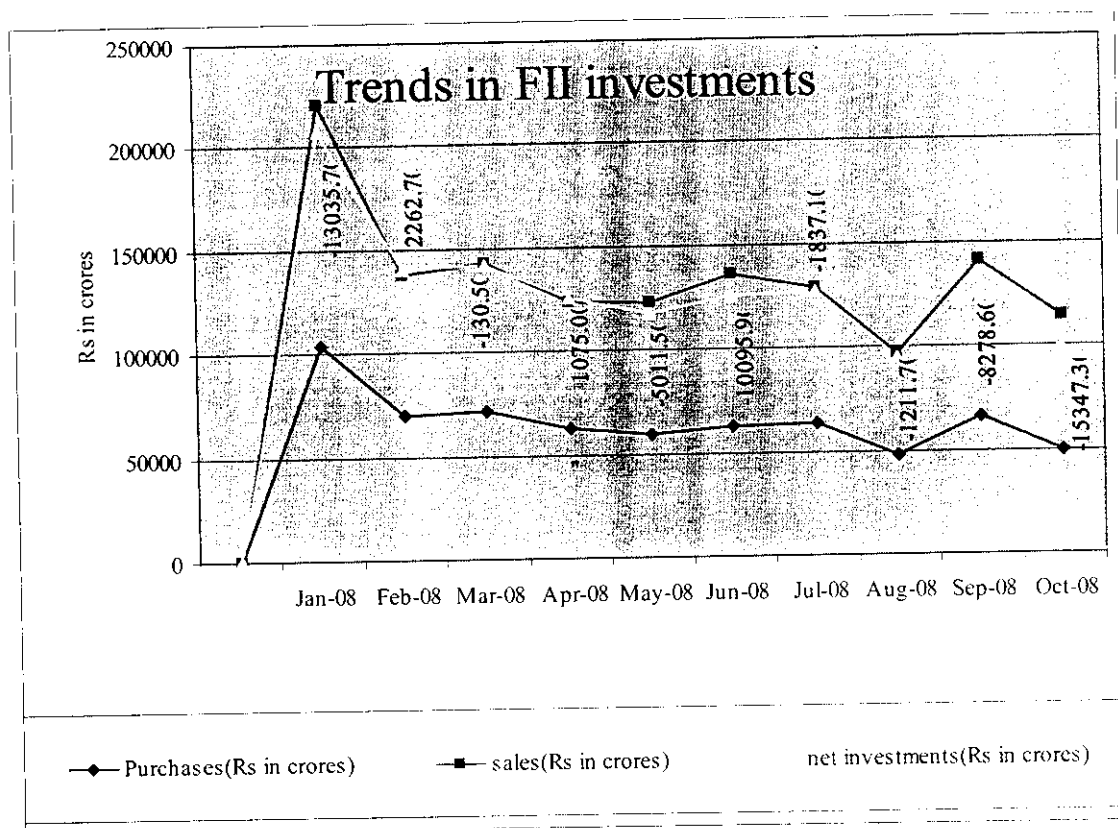
Table 6: Trends in FII Investment

Month	Purchases(Rs in crores)	Sales(Rs in crores)	Net investments(Rs in crores) in 2008	Sensex
Jan-08	103678.20	116713.90	-13035.70	17,648.71
Feb-08	70121.00	67858.30	2262.70	17,578.72
Mar-08	71159.40	71289.90	-130.50	15,644.44
Apr-08	62516.00	61441.00	1075.00	17,287.31
May-08	58813.70	63825.20	-5011.50	16,415.57
Jun-08	62840.80	72936.70	-10095.90	13,461.60
Jul-08	63563.30	65400.40	-1837.10	14,355.75
Aug-08	47560.20	48771.90	-1211.70	14,564.53
Sep-08	66496.20	74774.80	-8278.60	12,860.43
Oct-08	49431.30	64778.60	-15347.30	9,788.06

INTERPRETATION:

The negative amount in the net investments shows that the sales done by the FII is more than the purchases done due to which Sensex crashed down to a great extent. When we take the investments in 2008, the net investments are negative. And we know the market is volatile in this year. So we find that there is direct relation between net investments and the Sensex. From this table, we can see that the major falls are accompanied by the withdrawal of investments by FIIs. Take the case for the month of June, 2008, the Sensex lost 2953.97 points. Here, the net sales by FIIs were Rs. 72936.70 Crores. This is a major contributor to the fall on that month.. From this, we can see the effect of FIIs.

Chart 4: Trends in FII investments



The above graph shows a down trend in the FII investments for the period January 2008 to October 2008.

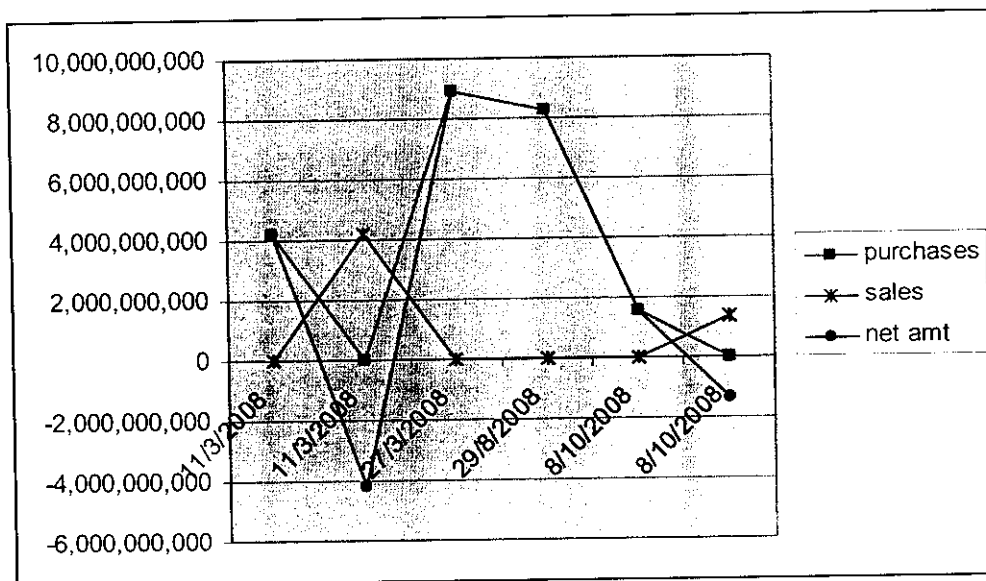
4.6. Bulk Deals:

The bulk deals undertaken by the FII in the 30 Sensex companies are analyzed to find out the demand and supply effects on the net investment by the FII. A fall in the negative value in the net indicates that the supply of Scrips is more and vice-versa.

**Table 5:
Bulk Deal Transaction From 1-1-08 to 22-10-2008**

Date	Company name	Client name	Purchases			Qty	Sales		Net Amount
			Qty	Price	Amount		Price	Amount	
2008	Reliance Infrastructure	Morgan Stanley Mauritius Co Ltd	3,396,161	1,240	4,211,239,640			0	4,211,239,640
2008	Reliance Infrastructure	Merrill Lynch Capital Market Espana S.A.S.V			0	3,397,844	1,240	4,213,326,560	-4,213,326,560
2008	HDFC	Orient Global Tamarind Mauritius Ltd	3,400,000	2,625	8,925,000,000			0	8,925,000,000
2008	Bharti Airtel	Deutsche equities India Ltd	10,173,455	814	8,278,649,006			0	8,278,649,006
2008	Jaiprakash Associates	J P M S L AC Cophall Mauritius investment Ltd	16,400,000	94	1,545,700,000			0	1,545,700,000
2008	Jaiprakash Associates	Morgan stanely Co Ltd			0	14,361,645	94	1,353,585,041	-1,353,585,041
		Total	29,973,455		22,960,588,646	17,759,489		5,566,911,601	17,393,677,045

Chart 5: Bulk Deals by FII



INTERPRETATION:

The above chart shows that there has been an upward trend from March to August 2008. This was when the FII made the maximum purchases after that there is a decline which indicates that FII started their selling pressure after mid August. It also relates to the Sensex where the Sensex points where on a rise and started crashing down after August when the FII started their selling pressure.

4.7. Sectoral Influence of companies on Sensex

A sector wise performance of the 30 companies is also analyzed to find out how much each sector accounts for in the drop of Sensex between January 2008 and October 2008. All the 30 companies were classified based on their sectors for this purpose. The classifications of these companies are also given below along with a table showing the drop in the Sensex.

Table 8: Sector wise classification of companies

Scrip Code	Company name	Sector
500410	ACC Ltd.	Housing Related
500103	Bharat Heavy Electricals Ltd.	Capital Goods
532454	Bharti Airtel Ltd.	Telecom
532868	DLF Ltd.	Housing Related
500300	Grasim Industries Ltd.	Diversified
500010	HDFC	Finance
500180	HDFC Bank Ltd.	Finance
500440	Hindalco Industries Ltd.	Metal, Metal Products & Mining
500696	Hindustan Unilever Ltd.	FMCG
532174	ICICI Bank Ltd.	Finance
500209	Infosys Technologies Ltd.	Information Technology
500875	ITC Ltd.	FMCG
532532	Jaiprakash Associates Ltd.	Housing Related
500510	Larsen & Toubro Limited	Capital Goods
500520	Mahindra & Mahindra Ltd.	Transport Equipments
532500	Maruti Suzuki India Ltd.	Transport Equipments

532555	NTPC Ltd.	Power
500312	ONGC Ltd.	Oil & Gas
500359	Ranbaxy Laboratories Ltd.	Healthcare
532712	Reliance Communications Limited	Telecom
500325	Reliance Industries Ltd.	Oil & Gas
500390	Reliance Infrastructure Ltd.	Power
500376	Satyam Computer Services Ltd.	Information Technology
500112	State Bank of India	Finance
500900	Sterlite Industries (India) Ltd.	Metal ,Metal Products & Mining
532540	Tata Consultancy Services Limited	Information Technology
500570	Tata Motors Ltd.	Transport Equipments
500400	Tata Power Company Ltd.	Power
500470	Tata Steel Ltd.	Metal, Metal Products & Mining
507685	Wipro Ltd.	Information Technology

Company	sector	share prices as on		weightage (%) in sensx as on 31 Dec '08	% drop	sector wise %drop
		9-Jan-08	23-Oct-08			
Bharat Heavy Electricals Ltd.	Capital Goods	2,443.80	1,170.35	3.41	3.871862807	
Larsen & Toubro Limited	Capital Goods	4329.80	834.95	5.96	18.57199183	22.44385463
Grasim Industries Ltd.	Diversified	3450.95	1182.00	1.22	2.468132325	2.468132325
HDFC	Finance	3174.25	1758.10	5.27	6.654318065	
HDFC Bank Ltd.	Finance	1745.10	1072.00	0.90	0.540139308	
ICICI Bank Ltd.	Finance	1310.45	365.55	7.30	6.150244663	
State Bank of India	Finance	2462.80	1324.30	1.59	1.614038326	14.95874036
Hindustan Unilever Ltd.	FMCG	233.85	243.30	5.26	0.044320152	
ITC Ltd.	FMCG	227.95	168.75	6.62	0.349432568	0.305112416
Ranbaxy Laboratories Ltd.	Healthcare	411.60	229.95	0.62	0.100417817	0.100417817
ACC Ltd.	Housing Related	970.05	442.85	0.72	0.338447711	
DLF Ltd.	Housing Related	1168.85	268.15	1.05	0.843243778	
Jaiprakash Associates Ltd.	Housing Related	466.10	67.85	0.86	0.305378122	1.487069611
Infosys Technologies Ltd.	Information Technology	1655.55	1282.75	7.95	2.642571312	
Satyam Computer Services Ltd.	Information Technology	427.90	299.75	1.08	0.123403094	
Tata Consultancy Services Limited	Information Technology	994.10	547.45	1.71	0.681000032	
Wipro Ltd.	Information Technology	490.85	272.25	1.00	0.194909874	3.641884313
Hindalco Industries Ltd.	Metal, Metal Products & Mining	212.50	52.75	3.99	0.568325897	
Sterlite Industries (India) Ltd.	Metal, Metal Products & Mining	1039.75	245.30	5.38	3.810943663	
Tata Steel Ltd.	Metal, Metal Products & Mining	890.50	208.45	1.62	0.985178468	5.364448029
ONGC Ltd.	Oil & Gas	1298.65	776.05	4.18	1.947732768	
Reliance Industries Ltd.	Oil & Gas	3031.95	1215.25	14.16	22.93665875	24.88439152
NTPC Ltd.	Power	277.15	142.90	3.27	0.39142245	
Reliance Infrastructure Ltd.	Power	2565.45	448.15	1.26	2.378683315	
Tata Power Company Ltd.	Power	1565.65	728.25	1.70	1.269303746	4.03940951
Bharti Airtel Ltd.	Telecom	972.55	972.55	6.95	1952.05	
Reliance Communications Limited	Telecom	820.80	230.05	2.40	1.264150136	1.264150136
Mahindra & Mahindra Ltd.	Transport Equipments	807.90	342.30	0.78	0.323810747	
Maruti Suzuki India	Transport Equipments	925.70	592.00	1.10	0.327289879	

CHAPTER –5

CONCLUSIONS

CHAPTER 5

CONCLUSIONS

5.1 SUMMARY OF FINDINGS

Share holding pattern:

The shareholding pattern of the 30 companies for three quarters shows that

- The FIIs were the major shareholders for all the 30 companies of the Sensex
- Any movement in the FIIs would affect the Sensex.
- Sensex & FII movements are directly proportional
- The three quarters taken for calculation were jan-mar 2008, apr –jun 2008, jul-sep 2008.

Correlation:

- The statistical tool used, Correlation helps us to understand the relation between the net sales of FIIs during the period January 2008 to October 2008 and the average closing sensex points.
- There is a positive correlation between the net sales of FIIs during the period January 2008 to October 2008 and the average closing sensex points which points out that the sensex points and the net sales by FII move in the same direction i.e. the FII activity affects the sensex.

Bulk deals:

- The bulk deals transactions carried out by the FII s shows the net investment carried out by the FIIs in the 30 companies of the Sensex. It is found that the FIIs continued buying till august after which they started their selling pressure which brought down the Sensex prices.

- ***Sector wise drop in Sensex:***

The sector wise drop in Sensex shows that the sector which accounts for maximum drop in the Sensex is the oil and gas sector which comprises of ONGC Ltd and Reliance Industries Ltd.

5.2 SUGGESTIONS AND RECCOMENDATIONS

There are several measures that the government and the RBI can implement:

1. Increase dollar liquidity

- Increase the avenues for capital inflows by raising the FII limit on corporate bonds
- Remove restrictions on capital account transactions for NRI's.
- The recent removal of capital controls against PNs was on the right track.
- However, the PN market has collapsed owing to the heightened risk perception of counterparties such as the large investment banks who were the main producers of PNs. As a consequence, the unbanning of PNs will have no impact on dollar flows into India. Now the challenges lies in undertaking deeper reform of the FII framework to make it easier for qualified market participants to directly access the Indian market, and choose to do so instead of going to global venues such as SGX, NYSE, LSE, NASDAQ, etc.

2. Other suggestions

- *Exchange rate policy:* Adjustment by the currency is a shock absorber. When times are good, an INR appreciation is a stabilizing influence, and when times are bad, INR depreciation is a stabilizing influence. By allowing the exchange rate to fluctuate, we reduce the fluctuations of the economy. Conversely, exchange rate rigidity forces the real economy to adjust since the currency market was prevented from adjusted by the central bank.

- Focus more on growth by improving public and private investment continue to take measures for improving liquidity; enhance investor confidence to ensure growth of industry.
- Strengthening domestic institutional investors: The participation of pension funds in the equity market would augment the diversity of views of the market. This would also end the anomaly of the existing situation where foreign pension funds are extensive users of Indian equity market but domestic pension funds are not.

5.3 CONCLUSIONS

Conclusions from the study undertaken

- The study undertaken concludes that the main cause for the Sensex crash is due to the selling pressure by FIIs.
- The various tables, Charts used also drive home the point of the relation between the FII activity & the volatility of the Sensex.
- The withdrawal of FIIs from the Indian stock market has not only pulled down the Sensex but also will result in the depletion of Forex reserves which in turn affects the Indian economy.
- The retail investors' behavior is also affected by the withdrawals of FIIs.
- There have been situations of heavy selling by the FIIs resulting in a chaos among the retail and small investors which ends up in the loss of public confidence on the Sensex & the financial stability.
- The fall of Sensex is also due to the performance of the particular sector. The main sector which has dropped to a great extent in the Sensex is the oil and gas sector which comprises of two companies OIL AND NATURAL GAS CORPORATION LTD and RELIANCE INDUSTRIES LTD.

General Conclusion

From all the above discussions and data analysis, we conclude that FII has a major impact in Indian stock market. The impact is that even the domestic players and MFs also follow a close look on FIIs. So if FIIs are confident in Indian markets, there is a general perception that market is on a song. Furthermore, Depreciation in rupee value has added to the worries of FIIs. Depreciation in currency leads to losses (in dollar terms) for the FIIs, as they have to periodically represent to market value of their investments overseas. Many analysts fear the rupee may depreciate even more against the dollar. If that happens, FIIs will have to report huge losses on the currency account, and hence are pulling out from the domestic markets.

It has also been found that the major (almost 50%) of FIIs' investments are from P-Notes. So it implies that major forces behind the FII investments are anonymous. This has a negative impact on stock market. Because money launders and even terrorists use this facility to pump money to Indian market and their sudden withdrawal causes volatility in markets. Studies showed that though FII has helped to increase the stock prices of selected shares with a chasing tendency, the effect of mutual funds seems to be very positive on the movement of BSE. But it is evident that any disturbance or fluctuation in global politics, economy or business deals-decision for a long time, hugely affects the financial scenario both nation wise and world wide.

APPENDIX-I

WORKING NOTES FOR CORRELATION [TABLE 5

Correlation between FII invt and increase or decrease in senscx points w.r.t.daily
settlement

Date	FII invt(X)	increase or decrease in senscx pts(Y)	XY	X ²	Y ²
1 January	797.9	13.72	10947.188	636644.41	188.2384
2 January	142.3	164.59	23421.157	20249.29	27089.8681
3 January	-244.5	-120.1	29364.45	59780.25	14424.01
4 January	725.1	341.69	247759.419	525770.01	116752.0561
7 January	508.8	125.76	63986.688	258877.44	15815.5776
8 January	-80.9	60.68	-4909.012	6544.81	3682.0624
9 January	1053.4	-3.55	-3739.57	1109651.56	12.6025
10 January	274.6	-287.7	-79002.42	75405.16	82771.29
11 January	-630.8	245.37	-154779.396	397908.64	60206.4369
14 January	113.7	-99.4	-11301.78	12927.69	9880.36
15 January	174.4	-476.96	-83181.824	30415.36	227490.8416
16 January	225.8	-382.98	-86476.884	50985.64	146673.6804
17 January	-2279.6	-167.29	381354.284	5196576.16	27985.9441
18 January	-2186	-687.12	1502044.32	4778596	472133.8944
21 January	-1356.1	-1408.35	1909863.435	1839007.21	1983449.723
22 January	-2425.7	-875.41	2123482.037	5884020.49	766342.6681
23 January	-2256.2	864.13	-1949650.106	5090438.44	746720.6569
24 January	-2499.9	-372.33	930787.767	6249500.01	138629.6289
25 January	-1351.2	1139.92	-1540259.904	1825741.44	1299417.606
28 January	669.1	-208.88	-139761.608	447694.81	43630.8544
29 January	-1513.4	-60.84	92075.256	2290379.56	3701.5056

Date	FII invnt(X)	increase or decrease in senssex pts(Y)	XY	X ²	Y ²
30 January	-285.1	-333.3	95023.83	81282.01	111088.89
31 January	-611.4	-109.93	67211.202	373809.96	12084.6049
1 February	-3393.4	593.87	-2015238.458	11515163.56	352681.5769
4 February	1034.3	417.74	432068.482	1069776.49	174506.7076
5 February	3810.7	2.84	10822.388	14521434.49	8.0656
6 February	576.9	-523.67	-302105.223	332813.61	274230.2689
7 February	-528.2	-612.56	323554.192	278995.24	375229.7536
8 February	-168.4	-62.04	10447.536	28358.56	3848.9616
11 February	0	-833.98	0	0	695522.6404
12 February	-1845.6	-22.9	42264.24	3406239.36	524.41
13 February	-115.1	341.13	-39264.063	13248.01	116369.6769
14 February	349	817.49	285304.01	121801	668289.9001
15 February	-1183.1	348.62	-412452.322	1399725.61	121535.9044
18 February	1147.5	-67.2	-77112	1316756.25	4515.84
19 February	-115.9	27.61	-3199.999	13432.81	762.3121
20 February	1585.1	-458.06	-726070.906	2512542.01	209818.9636
21 February	56.7	117.08	6638.436	3214.89	13707.7264
22 February	285.6	-385.61	-110130.216	81567.36	148695.0721
25 February	-453.8	301.5	-136820.7	205934.44	90902.25
26 February	738.5	155.62	114925.37	545382.25	24217.5844
27 February	85.4	19.8	1690.92	7293.16	392.04
28 February	396.4	-1.51	-598.564	157132.96	2.2801
29 February	0	-245.76	0	0	60397.9776

Date	FII invnt(X)	increase or decrease in senssex pts(Y)	XY	X ²	Y ²
3 March	-244.1	-900.84	219895.044	59584.81	811512.7056
4 March	-683.5	-337.99	231016.165	467172.25	114237.2401
5 March	-472.8	202.19	-95595.432	223539.84	40880.7961
7 March	-129.7	-566.56	73482.832	16822.09	320990.2336
10 March	1106.9	-51.8	-57337.42	1225227.61	2683.24
11 March	-1137.6	199.43	-226871.568	1294133.76	39772.3249
12 March	-172.4	4.83	-832.692	29721.76	23.3289
13 March	143.6	-770.63	-110662.468	20620.96	593870.5969
14 March	-172.5	403.17	-69546.825	29756.25	162546.0489
17 March	-128.8	-951.03	122492.664	16589.44	904458.0609
18 March	-632.4	23.97	-15158.628	399929.76	574.5609
19 March	-687.7	161.37	-110974.149	472931.29	26040.2769
24 March	537.2	294.57	158243.004	288583.84	86771.4849
25 March	324.1	928.09	300793.969	105040.81	861351.0481
26 March	1345.3	-130.66	-175776.898	1809832.09	17072.0356
27 March	557.6	-71.27	-39740.152	310917.76	5079.4129
28 March	430.7	355.73	153212.911	185502.49	126543.8329
31 March	-114.3	-726.85	83078.955	13064.49	528310.9225
1 April	10.8	-17.82	-192.456	116.64	317.5524
2 April	-1188.2	123.78	-147075.396	1411819.24	15321.4884
3 April	-20.2	82.15	-1659.43	408.04	6748.6225
4 April	-543	-489.43	265760.49	294849	239541.7249
7 April	1364.6	413.96	564889.816	1862133.16	171362.8816
8 April	376.7	-169.46	-63835.582	141902.89	28716.6916

Date	FII invnt(X)	increase or decrease in senssex pts(Y)	XY	X ²	Y ²
9 April	148.7	202.89	30169.743	22111.69	41164.3521
10 April	-172.3	-95.41	16439.143	29687.29	9103.0681
11 April	-314.8	112.54	-35427.592	99099.04	12665.2516
15 April	-31.3	346.02	-10830.426	979.69	119729.8404
16 April	80.9	90.53	7323.877	6544.81	8195.6809
17 April	4.1	237.01	971.741	16.81	56173.7401
21 April	699	258.13	180432.87	488601	66631.0969
22 April	277.4	44.54	12355.396	76950.76	1983.8116
23 April	392.4	-85.83	-33679.692	153977.76	7366.7889
24 April	-263.1	23.04	-6061.824	69221.61	530.8416
25 April	-526.1	404.9	-213017.89	276781.21	163944.01
28 April	348.8	-110.02	-38374.976	121661.44	12104.4004
29 April	81.2	362.5	29435	6593.44	131406.25
2 May	-84.7	312.81	-26495.007	7174.09	97850.0961
5 May	720	-109.22	-78638.4	518400	11929.0084
6 May	-306.7	-117.89	36156.863	94064.89	13898.0521
7 May	-728.8	-33.7	24560.56	531149.44	1135.69
8 May	325.1	-258.66	-84090.366	105690.01	66904.9956
9 May	-402.5	-343.58	138290.95	162006.25	118047.2164
12 May	-370.5	123.83	-45879.015	137270.25	15333.8689
13 May	-125.4	-108.04	13548.216	15725.16	11672.6416
14 May	186.3	225.49	42008.787	34707.69	50845.7401
15 May	258.1	375.19	96836.539	66615.61	140767.5361
16 May	729.9	81.4	59413.86	532754.01	6625.96

Date	FII invnt(X)	increase or decrease in senssex pts(Y)	XY	X ²	Y ²
20 May	57	-204.76	-11671.32	3249	41926.6576
21 May	-319.8	12.98	-4151.004	102272.04	168.4804
22 May	-611.4	336.05	-205460.97	373809.96	112929.6025
23 May	-550.7	-257.47	141788.729	303270.49	66290.8009
26 May	-500.5	-301.14	150720.57	250500.25	90685.2996
27 May	-1115	-72.91	81294.65	1243225	5315.8681
28 May	-354.1	249.78	-88447.098	125386.81	62390.0484
29 May	-733.9	-209.11	153465.829	538609.21	43726.9921
30 May	-1083.9	99.31	-107642.109	1174839.21	9862.4761
2 June	254.6	-352.39	-89718.494	64821.16	124178.7121
3 June	-349.3	-100.62	35146.566	122010.49	10124.3844
4 June	-952.3	-447.77	426411.371	906875.29	200497.9729
5 June	-825.2	254.93	-210368.236	680955.04	64989.3049
6 June	-1419	-197.54	280309.26	2013561	39022.0516
9 June	307	-506.08	-155366.56	94249	256116.9664
10 June	-1341.8	-176.85	237297.33	1800427.24	31275.9225
11 June	-844	296.07	-249883.08	712336	87657.4449
12 June	-151.5	64.88	-9829.32	22952.25	4209.4144
13 June	-1141.7	-60.58	69164.186	1303478.89	3669.9364
16 June	-51.8	20.62	-1068.116	2683.24	425.1844
17 June	-532.8	301.08	-160415.424	283875.84	90649.1664
18 June	372.4	-274.59	-102257.316	138681.76	75399.6681
19 June	-449.8	-334.32	150377.136	202320.04	111769.8624
20 June	-352.6	-516.7	182188.42	124326.76	266978.89

Date	FII invnt(X)	increase or decrease in senssex pts(Y)	XY	X ²	Y ²
23 June	-952.5	-277.97	264766.425	907256.25	77267.3209
24 June	-620.8	-186.74	115928.192	385392.64	34871.8276
25 June	274.1	113.49	31107.609	75130.81	12879.9801
26 June	-103.6	201.75	-20901.3	10732.96	40703.0625
27 June	-469	-619.6	290592.4	219961	383904.16
30 June	-746.2	-340.62	254170.644	556814.44	116021.9844
1 July	-227.1	-499.92	113531.832	51574.41	249920.0064
2 July	174.3	702.94	122522.442	30380.49	494124.6436
3 July	-350.4	-570.51	199906.704	122780.16	325481.6601
4 July	-702.5	359.89	-252822.725	493506.25	129520.8121
7 July	532.6	71.99	38341.874	283662.76	5182.5601
8 July	-319.9	-176.34	56411.166	102336.01	31095.7956
9 July	168.5	614.61	103561.785	28392.25	377745.4521
10 July	-287.7	-38.02	10938.354	82771.29	1445.5204
11 July	-345.9	-456.39	157865.301	119646.81	208291.8321
14 July	-310.3	-139.34	43237.202	96286.09	19415.6356
15 July	-212.3	-654.32	138912.136	45071.29	428134.6624
16 July	-680.4	-100.39	68305.356	462944.16	10078.1521
17 July	-210.4	536.05	-112784.92	44268.16	287349.6025
18 July	535.8	523.55	280518.09	287081.64	274104.6025
21 July	589.2	214.64	126465.888	347156.64	46070.3296
22 July	-111.9	254.16	-28440.504	12521.61	64597.3056
23 July	-390.5	838.08	-327270.24	152490.25	702378.0864
24 July	1635.6	165.27	270315.612	2675187.36	27314.1729

Date	FII invt(X)	increase or decrease in sensx pts(Y)	XY	X ²	Y ²
25 July	556.3	502.07	279301.541	309469.69	252074.2849
28 July	-546.3	74.17	-40519.071	298443.69	5501.1889
29 July	-609.3	-557.57	339727.401	371246.49	310884.3049
30 July	-332.3	495.67	-164711.141	110423.29	245688.7489
31 July	-391.9	68.54	-26860.826	153585.61	4697.7316
1 August	597	300.94	179661.18	356409	90564.8836
4 August	-342.2	-78.82	26972.204	117100.84	6212.5924
5 August	-400.6	383.2	-153509.92	160480.36	146842.24
6 August	64.1	112.47	7209.327	4108.81	12649.5009
7 August	1628.6	43.71	71186.106	2652337.96	1910.5641
8 August	-19	50.57	-960.83	361	2557.3249
11 August	79.1	336.1	26585.51	6256.81	112963.21
12 August	409.7	-291.79	-119546.363	167854.09	85141.4041
13 August	-384.3	-119.01	45735.543	147686.49	14163.3801
14 August	-646.3	-368.94	238445.922	417703.69	136116.7236
18 August	-396.3	-78.52	31117.476	157053.69	6165.3904
19 August	0	-101.93	0	0	10389.7249
20 August	-1135.8	134.5	-152765.1	1290041.64	18090.25
21 August	-285.4	-434.5	124006.3	81453.16	188790.25
22 August	-278.1	157.76	-43873.056	77339.61	24888.2176
25 August	-113.8	48.86	-5560.268	12950.44	2387.2996
26 August	93.9	31.87	2992.593	8817.21	1015.6969
27 August	-506	-185.43	93827.58	256036	34384.2849

Date	FII invt(X)	increase or decrease in sensex pts(Y)	XY	X ²	Y ²
28 August	279.9	-248.45	-69541.155	78344.01	61727.4025
29 August	143.8	516.19	74228.122	20678.44	266452.1161
1 September	-257	-66.02	16967.14	66049	4358.6404
2 September	-171.7	551.35	-94666.795	29480.89	303986.8225
4 September	1337.4	-150.76	-201626.424	1788638.76	22728.5776
5 September	-399.1	-415.27	165734.257	159280.81	172449.1729
8 September	-1736.8	461.14	-800907.952	3016474.24	212650.0996
9 September	758.1	-44.21	-33515.601	574715.61	1954.5241
10 September	-186.2	-238.15	44343.53	34670.44	56715.4225
11 September	-870.1	-338.32	294372.232	757074.01	114460.4224
12 September	-1410.5	-323.48	456268.54	1989510.25	104639.3104
15 September	-856.4	-469.54	402114.056	733420.96	220467.8116
16 September	-629.3	-12.47	7847.371	396018.49	155.5009
17 September	-1240.6	-255.9	317469.54	1539088.36	65484.81
18 September	-1333.5	52.7	-70275.45	1778222.25	2777.29
19 September	-598.7	726.72	-435087.264	358441.69	528121.9584
22 September	1167.9	-47.36	-55311.744	1363990.41	2242.9696
23 September	111.4	-424.65	-47306.01	12409.96	180327.6225
24 September	-867.7	122.21	-106041.617	752903.29	14935.2841
25 September	-174.4	-145.34	25347.296	30415.36	21123.7156
26 September	-703.8	-445	313191	495334.44	198025

Date	FII invt(X)	increase or decrease in sensx pts(Y)	XY	X ²	Y ²
29 September	604.1	-506.43	-305934.363	364936.81	256471.3449
30 September	387	264.68	102431.16	149769	70055.5024
1 October	84.5	195.24	16497.78	7140.25	38118.6576
3 October	-284.2	-529.35	150441.27	80769.64	280211.4225
6 October	-1046	-724.62	757952.52	1094116	525074.1444
7 October	-1121.4	-106.46	119384.244	1257537.96	11333.7316
8 October	-548.1	-366.88	201086.928	300413.61	134600.9344
10 October	-847.7	-800.51	678592.327	718595.29	640816.2601
13 October	-2323.2	781.24	-1814976.768	5397258.24	610335.9376
14 October	-842.2	174.31	-146803.882	709300.84	30383.9761
15 October	-189.1	-674.28	127506.348	35758.81	454653.5184
16 October	-840.7	-227.63	191368.541	706776.49	51815.4169
17 October	-1911.3	-606.14	1158515.382	3653067.69	367405.6996
20 October	-867.6	247.74	-214939.224	752729.76	61375.1076
21 October	-840.1	460.3	-386698.03	705768.01	211876.09
22 October	113.9	-513.49	-58486.511	12973.21	263671.9801
23 October	-272.9	-398.2	108668.78	74474.41	158563.24
24 October	-347.4	-1070.63	371936.862	120686.76	1146248.597

Date	FII invt(X)	increase or decrease in sensx pts(Y)	XY	X ²	Y ²
27 October	-1178	-191.51	225598.78	1387684	36676.0801
28 October	0	498.52	0	0	248522.1904
29 October	-1010.9	36.43	-36827.087	1021918.81	1327.1449
31 October	-1074.9	743.55	-799241.895	1155410.01	552866.6025
	50405.5	-8677.72	5835759.672	152151772.3	32495803.99

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}}$$

N = 206

$r = 0.055528$

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