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## **CORRELATION BETWEEN FII'S AND INDIAN STOCK INDICES (NSE & BSE) (STUDY OF FIRST QUARTER OF FY 2019-20)**

**Dr. Priyank Gupta**

Assistant Professor

MIT College of Management, Moradabad

### **Abstract**

Since the Globalization of Indian Economic Market in 1991 considerable amount of foreign inflows have been seen in the form of FDI and FII. This paper focuses on FII investment and its Co-relation with Indian Stock Indices i.e. Sensex(BSE) & Nifty(NSE). As Volatility is the level of fluctuation in the stock indices as the result of various internal as well as external factors, it would be ideal to have a correlation of it with the FII purchasing pattern. With a hypothesis in mind that FII purchased and Stock Market Indices have some degree of positive correlation among themselves during first quarter of Financial Year 2019-20; Statistical tools like Co-relation, Standard Deviation are used to find the results.

**Key words :** FII, Co-relation, NSE, BSE, Stock Indices.

### **INTRODUCTION**

#### **BSE (Sensex)**

The S&P BSE SENSEX (S&P Bombay Stock Exchange Sensitive Index), also called the BSE 30 or simply the SENSEX, is a free-float market-weighted stock market index of 30 well-established and financially sound companies listed on Bombay Stock Exchange. The 30 component companies which are some of the largest and most actively traded stocks are representative of various industrial sectors of the Indian economy. Published since 1 January 1986, the S&P BSE SENSEX is regarded as the pulse of the domestic stock markets in India. The base value of the S&P BSE SENSEX is taken as 100 on 1 April 1979 and its base year as 1978–79. On 25 July 2001 BSE launched DOLLEX-30, a dollar-linked version of S&P BSE SENSEX. As of 25th September 2017, the full market capitalisation of S&P BSE SENSEX was about ₹54,637.0878 billion (US\$761 billion) (37% of GDP) while its free-float market capitalisation was ₹30,094.2286 billion (US\$419 billion). During 2008-12, Sensex 30 Index share of BSE market capitalisation fell from 49% to 25% due to the rise of sectoral indices like BSE PSU, Bankex, BSE-Teck, etc.



## **NSE (Nifty)**

The NIFTY 50 index is National Stock Exchange of India's benchmark broad based stock market index for the Indian equity market. Full form of NIFTY is “National Stock Exchange Fifty”. It represents the weighted average of 50 Indian company stocks in 12 sectors and is one of the two main stock indices used in India, the other being the BSE sensex.

Nifty is owned and managed by India Index Services and Products (IISL), which is a wholly owned subsidiary of the NSE Strategic Investment Corporation Limited. IISL had marketing and licensing agreement with Standard & Poor's for co-branding equity indices until 2013. The Nifty 50 was launched 1st April 1996, and is one of the many stock indices of Nifty. NIFTY 50 Index has shaped up as a largest single financial product in India, with an ecosystem comprising: exchange traded funds (onshore and offshore), exchange-traded futures and options (at NSE in India and at SGX and CME abroad), other index funds and OTC derivatives (mostly offshore). NIFTY 50 is the world's most actively traded contract. WFE, IOMA and FIA surveys endorse NSE's leadership position.

The NIFTY 50 covers 12 sectors (as on Oct 7, 2017) of the Indian economy and offers investment managers exposure to the Indian market in one portfolio. During 2008-12, NIFTY 50 Index share of NSE market capitalisation fell from 65% to 29% due to the rise of sectoral indices like NIFTY Bank, NIFTY IT, NIFTY Pharma, NIFTY SERV SECTOR, NIFTY Next 50, etc. The NIFTY 50 Index gives 29.70% weightage to financial services, 0.73% weightage to industrial manufacturing and nil weightage to agricultural sector. The NIFTY 50 index is a free float market capitalisation weighted index. The index was initially calculated on full market capitalisation methodology. From June 26, 2009, the computation was changed to free float methodology. The base period for the CNX Nifty index is November 3, 1995, which marked the completion of one year of operations of National Stock Exchange Equity Market Segment. The base value of the index has been set at 1000 and a base capital of Rs 2.06 trillion.

## **FII**

**FOREIGN INSTITUTIONAL INVESTOR:** The term Foreign Institutional Investor is defined by SEBI as "Means an institution established or incorporated outside India which proposes to make investment in India in securities. Provided that a domestic asset management company or domestic portfolio manager who manages funds raised or collected or brought from outside India for investment in India on behalf of a sub-account, shall be deemed to be a Foreign Institutional Investor.", Foreign Investment refers to investments made by residents of a country in financial assets and production process of another country.

Entities covered by the term 'FII' include “Overseas pension funds, mutual funds, investment trust, asset management company, nominee company, bank, institutional portfolio manager, university funds, endowments, foundations, charitable trusts, charitable societies etc.(fund



having more than 20 investors with no single investor holding more than 10 per cent of the shares or units of the fund” (GOI (2005)).

FII's can invest their own funds as well as invest on behalf of their overseas clients registered as such with SEBI. These client accounts that the FII manages are known as ‘sub-accounts’. The term is used most commonly in India to refer to outside companies investing in the financial markets of India. International institutional investors must register with Securities & Exchange Board of India (SEBI) to participate in the market. One of the major market regulations pertaining to FII involves placing limits on FII ownership in Indian companies. They actually evaluate the shares and deposits in a portfolio.

### **LITERATURE REVIEW**

**Pushkar Dilip Parulekar (2016)** in his paper “Study to Find out Impact of FII and DII Investment on Nifty Monthly Returns January 2008 to October 2014”, stated for a developing country like India, it is important for business to have an established secondary capital market. It is a common belief that Foreign Institutional investors (FII) drive Indian capital markets. It is also believed that FII's and domestic institutional investors (DII's) show negative correlation in terms of their short term investment trends. However this negative correlation could be viewed positively from the point of view of sustainability of Indian capital markets and Indian business which require funding for expansion. This study explores the net monthly investment done by FII's and DII's in Indian capital market and its impact on monthly returns given by Nifty 50 Index. The Nifty covers 23 sectors of the Indian economy and offers investment managers exposure to the Indian market in one portfolio. As per National Stock Exchange (NSE) website the market capitalization of Nifty 50 companies is about 66.85% of the free float market capitalization of the stocks listed on NSE as on June 30, 2014. FII interest is more in case of Nifty 50 companies. As these companies are bigger in size as compared to other listed companies in NSE and offer more liquidity. So Nifty can be taken as a proxy to Indian Capital market. The paper also tries to quantify the relationship between net investment done by FII's and DII's and monthly return given by Nifty using Multiple Regression Analysis

**Priya Kansal (2018)** in his paper “Private Equity Funding: Penetrating Indian Financing Market” stated the significance of PE investments in supporting business creation, innovation and growth cannot be overemphasized. PE has already established itself as a separate asset class not only in developed economies but also in emerging economies as highlighted in some of the recent texts and publications. The PE industry in India is more than 15 years old. The first venture capital fund, TDICI Ltd. (now known as ICICI), was established in 1988. The PE industry provided over USD 50 billion of much needed venture, growth and other forms of capital for the growth of Indian companies. After several years of rapid growth, India's PE industry is at a turning point as funds face up to the challenges generated by the global financial crisis. This paper studies the recent trends and development of PE funding in India. An in-depth



analysis is done to provide the various issues and challenges of PE in our country. The period of study is from 2001 to 2010.

**Stanley Morgan (2002)** has examined that FIIs have played a very important role in building up India's forex reserves, which have enabled a host of economic reforms. Secondly, FIIs are now important investors in the country's economic growth despite sluggish domestic sentiment. The Morgan Stanley report notes that FII strongly influence short-term market movements during bear markets. However, the correlation between returns and flows reduces during bull markets as other market participants raise their involvement reducing the influence of FIIs. Research by Morgan Stanley shows that the correlation between foreign inflows and market returns is high during bear and weakens with strengthening equity prices due to increased participation by other players.

**Agarwal, Chakrabarti (2003)** have found in their research that the equity return has a significant and positive impact on the FII. But given the huge volume of investments, foreign investors could play a role of market makers and book their profits, i.e., they can buy financial assets when the prices are declining thereby jacking-up the asset prices and sell when the asset prices are increasing. Hence, there is a possibility of bi-directional relationship between FII and the equity returns. 3. P. Krishna Prasanna (2008) has examined the contribution of foreign institutional investment particularly among companies included in sensitivity index (Sensex) of Bombay Stock Exchange. Also examined is the relationship between foreign institutional investment and firm specific characteristics in terms of ownership structure, financial performance and stock performance. It is observed that foreign investors invested more in companies with a higher volume of shares owned by the general public. The promoters' holdings and the foreign investments are inversely related. Foreign investors choose the companies where family shareholding of promoters is not substantial. Among the financial performance variables the share returns and earnings per share are significant factors influencing their investment decision.

**Gurucharan Singh (2004)** highlighted that the securities market in India has come a long way in terms of infrastructure, adoption of best international practices and introduction of competition. Today, there is a need to review stock exchanges and improve the liquidity position of various scrips listed on them. A study conducted by the World Bank (1997) reports that stock market liquidity improved in those emerging economies that received higher foreign investments.

## **RESEARCH METHODOLOGY**

### **Objectives of the study**

Researcher wishes to study the following objectives:

1. To understand the Correlation between the FII Trading and Sensex (BSE) index.
2. To understand the Correlation between the FII Trading and Nifty (NSE) index.

### **Hypothesis**

Researcher has devised the following two hypothesis:

$H_{01}$  : The is no correlation between the FII purchase and Sensex(BSE) index.

$H_{a1}$  : There is Positive correlation between FII Trading and Sensex (BSE) Index.

$H_{02}$  : The is no correlation between the FII purchase and Nifty (NSE) index.

$H_{a2}$  : There is Positive correlation between FII Trading and Nifty (NSE) Index.

### **Data Collection**

Secondary data was collected for this research work. Mainly the historical data of Sensex(BSE) and Nifty(NSE) for the first quarter of FY 2019-20 was taken from the respective sites of BSE and NSE; where as the FII trading data was compiled from [www.moneycontrol.com](http://www.moneycontrol.com).

### **Data analysis**

Following is the table representing the FII Trading, NSE and BSE Index values for the first quarter of FY 2019-20:

Table 1: FII Trading, NSE & BSE Index on given dates for Forst Quarter of FY 2019-20

Date	NET FII Trading	NSE Index	BSE Index
28-Jun-19	-568.84	11824.3	39515.58
27-Jun-19	45.92	11858.65	39637.01
26-Jun-19	200	11811.28	39491.27
25-Jun-19	2,419.91	11735.71	39250.89
24-Jun-19	56.67	11712.41	39151.23
21-Jun-19	-1,001.83	11771.19	39385.5
20-Jun-19	-179.24	11740.99	39304.25
19-Jun-19	-22.58	11715.88	39151.54
18-Jun-19	66.12	11684.23	39035.53
17-Jun-19	-322.78	11754.49	39231.77
14-Jun-19	-183.79	11860.74	39603.11
13-Jun-19	8.41	11884.09	39670.7
12-Jun-19	-643.57	11924.36	39834.16
11-Jun-19	301.72	11957.54	39919.31



10-Jun-19	320.43	11926.1	39792.83
7-Jun-19	-384.88	11850.71	39545.06
6-Jun-19	-1,565.88	11938.4	39826.64
4-Jun-19	136	12043.84	40155.67
3-Jun-19	2,351.08	12016.36	40023.6
31-May-19	993.81	11947.83	39802.42
30-May-19	2,072.63	11909.79	39706.18
29-May-19	-101.49	11883.9	39601.19
28-May-19	4,670.79	11927.64	39710.67
27-May-19	2,933.82	11887.45	39598.66
24-May-19	391.98	11777.3	39203.06
23-May-19	1,439.86	11803.5	39294.93
22-May-19	-741.37	11733.26	39087.34
21-May-19	1,560.43	11784.78	39218.96
20-May-19	1,606.81	11729.26	39009.11
17-May-19	-1,127.35	11338.76	37710.42
16-May-19	-924.2	11215.59	37285.96
15-May-19	-1,047.60	11213.11	37315.37
14-May-19	-1,958.01	11194.19	37248.48
13-May-19	-952.72	11208.18	37291.38
10-May-19	-1,248.57	11297.48	37546.93
9-May-19	-549.4	11309.21	37623.17
8-May-19	-767.72	11416.05	38006.24
7-May-19	2,810.66	11572.73	38540.95
6-May-19	308.24	11601.99	38637.2
3-May-19	-89.76	11726.28	39016.44
2-May-19	545.03	11734.79	39022.72
30-Apr-19	-912.33	11727.26	38986.95
25-Apr-19	3,854.61	11699.64	38939.71
24-Apr-19	840.1	11661.84	38848.42
23-Apr-19	-166.9	11599.91	38671.76
22-Apr-19	107.91	11658.13	38886.82
18-Apr-19	1,084.76	11800.9	39282.73
16-Apr-19	1,011.34	11766.46	39179.77
15-Apr-19	385.84	11677.55	38867.01
12-Apr-19	605.6	11623.11	38708.21
11-Apr-19	1,016.42	11586.63	38584.71
10-Apr-19	1,282.55	11620.74	38744.17
9-Apr-19	1,229.57	11634.4	38811.97
8-Apr-19	121.25	11642.06	38814.09
5-Apr-19	669.91	11650.88	38840.35
4-Apr-19	-204.42	11619.99	38785.22
3-Apr-19	-832.27	11692.35	39035.22
2-Apr-19	473.97	11702.49	39003.47
1-Apr-19	9,551.80	11679.3	38913.77





Max NSE Index= 12043.8375

Min NSE Index= 11194.1875

Max BSE Index= 40155.665

Min BSE Index= 37248.4775

Max FII = 9551.8 (Purchased)

Min FII = -1958.01(Sold)

Mean FII = 525.0584746

Mean NSE Index= 11699.45614

Mean BSE Index= 38998.43551

SD FII= 1752.421842

SD NSE Index= 204.9453518

SD BSE Index= 715.9556086

Corelation FII and NSE Index= 0.281490048

Corelation FII and BSE Index= 0.258920965

### ***Testing Hypothesis 1***

H<sub>01</sub> : The is no correlation between the FII purchase and Sensex(BSE) index.

H<sub>a1</sub> : There is Positive correlation between FII Trading and Sensex (BSE) Index.

With the above statistics we get the correlation (r) between FII trading and BSE index to be 0.281490048. That means that there is low degree of positive correlation between FII trading and BSE Index for the given time period of first quarter of FY 2019-20. Hence, we reject Null Hypothesis and accept Alternate hypothesis.

### ***Testing Hypothesis 2***

H<sub>02</sub> : The is no correlation between the FII purchase and Nifty (NSE) index.

H<sub>a2</sub> : There is Positive correlation between FII Trading and Nifty (NSE) Index.

With the above statistics we get the correlation (r) between FII trading and NSE index to be 0.258920965. That means that there is low degree of positive correlation between FII trading and NSE Index for the given time period of first quarter of FY 2019-20. Hence, we reject Null Hypothesis and accept Alternate hypothesis



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## **CONCLUSION**

By looking at the analysis above we have successfully proven that there is some degree of positive correlation between the FII trading and the National stock Indices (BSE & NSE) for the first quarter of FY 2019-20. This correlation may change depending upon various known and unknown factors. The study further has the scope to derive a predictive pattern with the help of regression equation between the FII trading and National stock Indices, so as to enable the market players in predicting the FII and its future impact on BSE and NSE Index.

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