A Project Report on FII and Indian StockMarket- An Empirical Analysis Using Excel

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ABSTRACT

India being a developing country attracts a large sum of FII every year, which has a great impact on the Indian economy. The Indian stock market is one of the indicators of the economic status of a country that is affected by foreign investments. This study is made to validate the impact of foreign institutional investment on the stock market.

Foreign Direct investment has become the increasing measure of the economic development of the country in developed as well as developing countries.FDI and FII thus have become the major instruments for such development in the country. Along with the generation of additional income and generating employment in the country, it also helps in the inflow of advanced technology into the country. Since the initiation of the liberalization process in the country in the year 1991, there are radical changes in FII investments(through the stock market)from the foreign investors through the listed companies. A favorable business environment has been created by the Government of India after 1991, which attracted direct investments through foreign institutional investors.

Generally, FII investment flows into the secondary market, with the main aim of providing effect in increasing the capital availability in general, then to a particular enterprise in which the investors play a key role in the success of the market-guided economic system. Indian Stock market was introduced to Foreign Institutional Investors on 14th September 1992. FII inflow to increased production depends on the decisions taken by the local investors who have to explore the plans drawn upon the additional capital made available through FII. This paper focuses on FII investment along with the correlation through Microsoft Excel in the Indian stock indices.

Key Words: *FII, Co-relation, Stock Indices*

CHAPTER-1: INTRODUCTION

SEBI has termed the Foreign Institutional investor as an institution incorporated outside India that proposes to invest in India, provided that domestic asset manager of portfolio who manages the funds raised from another country for the purpose of investing in India on behalf of a sub-account, shall be deemed to be a Foreign Institutional Investor.

Foreign Institutional Investors(FII) are those investors who invest in the assets belonging to a different country rather than the organization based. Market regulator SEBI has over 1450 FII's registered with it.

Foreign Investment refers to investments made by residents of a country in the financial assets and production process of another country.

FII's include Mutual funds, asset management companies, investment trusts, banks, Nominee Company, university funds, institutional portfolio managers, foundations, charitable trusts, charitable societies,endowments, etc.

The client accounts that are managed by FII on behalf of their overseas clients registered with SEBI are called "sub-accounts." All the investors internationally have to register with the Securities and Exchange Board of India(SEBI) to participate in the stock market. It puts limits on FII ownership in domestic companies and they decide the shares and deposits in a portfolio.

FOREIGN PORTFOLIO INVESTMENT(FPI):

Grouping of assets like stocks, cash equivalents, and bonds is called a foreign portfolio investment. It is the entry of funds into a country where the investors of other countries or foreigners deposit money in a country's bank account or make purchases in other country's stock and bond markets, sometimes for speculation.

Foreign portfolio investment can include stocks, global depository receipts, or American depository receipts of company's headquartered outside the nation.

Foreign portfolio flows refer to capital flows created by investors seeking to create an internationally diversified portfolio which is the simplest way to reduce the overall portfolio risk and earn even higher returns. Developing countries like India will have relatively low correlations when compared to those of

developed countries for strengthening the portfolio by the purchase of equity shares or stocks. The performance of FII is determined by the stocks of the countries where the investors want to invest in the world markets.

NEED FOR THE STUDY:

The study is intended to understand the impact of FII on the companies that are listed under the stock exchange, as many of the investors withdraw the money from the stock market when FIIs withdraw.

OBJECTIVES OF THE STUDY:

1.To measure the risk and return associated with the investment of FII's in the securities marketregarding NSE.

2. To find out the relationship between the FIIs investment and DIIs.

3.To Measure the impact of FIIs investment on the Stock Market.

SCOPE OF THE STUDY:

The Scope of the study discusses the NSE Sensex Values and their variations in the period of study from 2016-2021. The study mainly focuses on the behavioral pattern of FII investments in India to NSE Sensex.

RESEARCH METHODOLOGY:

Descriptive research has been conducted on the study based on the Secondary data available through the Stock market(NSE) websiteand other government websites and the data would be dependent on the values provided by SEBI. The study is intended to research through statistical tools such as Correlation, Risk, and Return through Excel for a period of five years from 2016-2021. The sample data includes the monthly data taken from 2016-2021 from the NSE website.This research is done based on the data available on the internet from NSE websites and the data is dependent on the values provided by SEBI.

PERIOD OF THE STUDY:

The period of the study is considered from the year 2016-2021 to study the behavioral conduct of FII in India. The frequency of data used is on the monthly basis for the period of 2016-2021.

VARIABLES OF THE STUDY:

Opening price

Closing price

Net FIIs

STATISTICAL TOOLS TO BE USED:

Variance

Standard Deviation

Correlation through Excel

LIMITATIONS:

- This study mainly focuses on the data collected from various websites(i.e Secondary data). The stocks listed under NSE are only considered for the study.
- The time frame considered for the study is Five years i.e from 2016-2021 considering which we cannot judge the exact impact of FIIs on the stock market.

CHAPTER-II: REVIEW OF LITERATURE

1.According to **Pushkar DilipParulekar**(2016)" in the direction to search out Impact of FII and DII Investment on Monthly returns of Nifty from January 2008 to October 2014" stated that for a country like India, it is necessary to establish the secondary market for the successful running of the industry. His study explores the monthly investment done by FIIs and DIIs and its impact on the Nifty 50 Index. It is also believed that FIIs and DIIs havea negative correlation in terms of short-term investments. As per the NSE website, the market capitalization of Nifty 50 companies is about 66.85% of the free-float market capitalization of the stocks listed on the NSE as of June 30,2014. This paper quantified the relationship between FIIs and the DIIs of nifty by using Multiple Regression Analysis.

2.**Bikramaditya Ghosh & Padma Srinivasam**(2014) states that this study is done to measure the impact of fii on the stock market in a mathematical way, to know whether they are exact actual market movers. To measure the impact of the two most important cashflow generators in the Indian stock market a comparative study has been made and it is done to avoid unnecessary sentiment-based or event-driven periodsapart from the global credit crisis in 2008.

3.**Sultana and Pardhasaradhi**(2014) studied the impact of the flow of FDI and FIIs on the stock market by analyzing the impact of Sensex and Nifty. This study concluded that there is a high degree of positive correlation between the Indian stock market and foreign capital flows. FIIs investment has a significant effect on the liquidity of the market. Data for the period of 11 years from 2001 to 2011 has been used to calculate multiple regression and correlation analysis.

4.**Pramod Kumar Naik & Puja padhi**(2014) studied that there is a dynamic interaction between the Indian stock market and institutional investment in the three-factor vector autoregression framework(VAR) and found that fund flows significantly influence the stock market.

5.**Anubha**(2013) analyzed the authority of FIIs investment through daily FIIs investments and daily returns of Sensex and Nifty for a period from 2001 to 2010. The study has been made through correlation and regression techniques and observed that there is a positive impact on major stock indices but varies from sector to sector.

6.**J. Loomba**(2012) testified the behavior of FII trading on the stock market. He with the intentionthat in the case of capital market liberalization, foreign capital has become an important source for institutional investors in developing country. He also observed that there are significant developments in the last 15 years on par with the developed markets.

7.**Kishore B and Shrikanth, M** (2012) this paper investigated the cause and effect relationship between the capital market and FII. The main objective of FIIs is minimizing risk and maximizing returns while keeping the liquidity of the investment intact.

8.**A Kotishwar**(2012) has studied the factors that are being responsible for the movement of Sensex. The author has concluded that stock market movements do not depend wholly on foreign capital but also on the country's economy.

9.**Shukla, K.Rajeev, etal**(2011), revealed that India hosts the largest number of listed companies after the United States and is striving for the preferred destination of asset. Indians working in foreign countries have now sidetracked their savings to stocks and they also concluded that FIIs have a major impact on the share prices of the Midcap & small-cap companies but a periodic shift in the behavior of the market that leads to volatility.

10.**Bohra, N.Singh and Dutt, Akash.**(2011) has studied the behavioral pattern of FII in India and puzzled out the explanations for unconcerned responses of BSE Sensex due to FII inflows. They concluded that there is a positive correlation between the stock market and FIIs investment from the year 2005 to 2008.

11.**RajnarayanGupta**(2010) has studied the factors responsible for Sensex movements. He analyzed the data using the empirical estimation model and unit root test and from the analysis, he concluded that the market movements partially depend on the foreign capital and its performance.

12.**ManjinderKaur and Dhillon, S.Sharanjit** (2010)have observed that stock market turnover and market capitalization of India has a significant positive influence in the short run but has a negative impact onthe inflows of FIIs into India. They also observed that macroeconomic factors have a significant impact only in longrun like Inflation.

13.**Anand Bansal and J.S.Parischa**(2009) examined the market opening impact to FIIs on the Indian stock market. They analyzed the change of market return and volatility after the entry of FIIs into the Indian capital market. Volatility has gradually reduced after India unlocked its stock market to foreign investors through liberalization.

14.**Arvind**(2008)observed that when the FIIs have withdrawn the money from the market, the domestic investors have also withdrawn the amount from the market due to the fear of losses, for which the FII impact is so high in the domestic market.

15.**Douma, S.Kabir, and Rejie,G.**(2006)investigated the impact of FII performance on emerging market firms and observed that there is a positive correlation between foreign ownership on firm performance.

16.**Gordon and Gupta,** (2002)observed that FIIs act as market makers and arbitrages the investment, and there is a contradictory relationship between FII net inflows and stock market capitalization.

17.**Kumar,S.S** (2002) analyzed the effect of FII inflows on the Indian stock market and inferred that FII investments are mostly driven by fundamentals and do not respond to short-term changes in the stock market.

18.**Paramita and Suchismita Bose** (2002) investigated the relationship of FIIs to the Indian equity market based on a time series of daily data for the period between Jan 1999 to May 2002.

19.**Rajesh Chakraborty** (2001) in his research paper stated that FII has gained its significance ever since the liberalization and analyzed the relationship between the flow of money and other variables. He found that FIIs are the major players in the Indian stock market and their impact on the domestic market is increasing.

CHAPTER-III: INDUSTRY PROFILE

NSE's identity crafted in the nineties has for the last 25 years, stood for reliability, expertise, innovation, and trust. In the last 25 years, the Indian economy and technology landscape has changed dramatically. So has NSE.

NSE's new identity reflects its multi-dimensional nature: multiple asset classes, multiple customer segments, and its multiple roles including, exchange, regulator, index provider, data and analytics, IT services, educator, and market developer.

The new identity depicts growth with a modern representation of a blooming flower. The multiple colors capture the multi-faceted nature of the business. The red denotes NSE's strong foundation, the yellow and orange are inspired by the flower for prosperity and auspicious ventures the marigold, and the blue triangle is a compass, always future-oriented and helping us find our true North.

The sharp edges indicate technology, precision, and efficiency. The shape also amplifies NSE's tradition of collaboration. The internal vectors depict NSE's DNA of continuously pushing boundaries.

VALUES:

- Integrity
- Customer-focused culture
- Trust
- Respect and care for the individual
- Passion for excellence
- Teamwork

NATIONAL STOCK EXCHANGE:

The National Stock Exchange of India has incorporated in the year 1992 and is India's largest financial market. Later, it has developed into a sophisticated electronic market, which ranked fourth in the world by equity trading volume. Earlier, trading has commenced in the year 1994 withthe launching of the wholesale debt market and a cash market segment thereof.

At present, the National Stock Exchange of India Limited(NSE) does the transactions in the wholesale debt, equity, and derivative markets. The Nifty 50 Index, tracks the largest assets in the Indian equity market.

NSE was the first exchange in India to provide modern, fully automated electronic trading to bring greater transparency to the Indian capital market by setting up a group of Indian financial institutions.

NIFTY:

The **NIFTY 50**is a benchmark of the Indian stock market that represents the weighted average of 50 of the largest Indian companies listed on the NSE.

Nifty 50 is owned and managed by NSE Indices (previously known as India Index Services & Products Limited), which is a wholly-owned subsidiary of the NSE Strategic Investment Corporation Limited.

SECURITIES AND EXCHANGE BOARD OF INDIA(SEBI):

It was first established in the year 1988 with more limited powers. It supplanted the Controller of Capital Issues, which had regulated the securities markets under the Capital Issues (Control) Act of 1947, passed just months before India gained independence from the British. The Securities and Exchange Board of India was established in its current incarnation in April 1992.

The most important regulator of the securities market in India is the Securities and Exchange Board of India(SEBI). It is the Counterpart of the Securities and Exchange Commission(SEC) which is located in the U.S. The main objective of SEBI is "to protect the interests of investors in securities and to promote the development of and to regulate the securities market and for the matters connected therewith. It has wide-ranging, regulatory, investigative, and enforcement powers, including the ability to impose fines on violators.

The SEBI headquarters is located in the Bandra-Kula, a business district in Mumbai. It also has regional offices in the cities of New Delhi, Ahmedabad, Chennai, Kolkatta, and more than 12 local offices in cities including Jaipur, Chandigarh,Patna, Kochi, Bangalore, and Guwahati.

FII:

Foreign Institutional Investors (FIIs) are those institutional investors which invest in the assets belonging to a different country other than that where these organizations are based.

CHAPTER-IV:DATA ANALYSIS AND INTERPRETATION

Table Number-1: Calculation of Risk and Return of Nifty 50

Nifty 50						
Date & Year	**Open**	**Close**	**Return(Close-Open) –R**	**Average Return-r**	**Deviations(R-r)**	**Sqr.Dev(R-r)2**
Apr-16	7844.25	7849.8	5.55	-22.31	27.86	776.1796
May-16	8209.85	8160.1	-49.75	-22.31	-27.44	752.9536
Jun-16	8260.25	8287.75	27.5	-22.31	49.81	2481.0361
Jul-16	8668.3	8638.5	-29.8	-22.31	-7.49	56.1001
Aug-16	8754.05	8786.2	32.15	-22.31	54.46	2965.8916
Sep-16	8581.5	8611.15	29.65	-22.31	51.96	2699.8416
Oct-16	8672.35	8625.7	-46.65	-22.31	-24.34	592.4356
Nov-16	8172.15	8224.5	52.35	-22.31	74.66	5574.1156
Dec-16	8119.65	8185.8	66.15	-22.31	88.46	7825.1716
Jan-17	8629.45	8561.3	-68.15	-22.31	-45.84	2101.3056
Feb-17	8898.95	8879.6	-19.35	-22.31	2.96	8.7616
Mar-17	9158.9	9173.75	14.85	-22.31	37.16	1380.8656
Apr-17	9340.95	9304.05	-36.9	-22.31	-14.59	212.8681
May-17	9636.55	9621.25	-15.3	-22.31	7.01	49.1401
Jun-17	9478.5	9520.9	42.4	-22.31	64.71	4187.3841
Jul-17	10034.7	10077.1	42.4	-22.31	64.71	4187.3841
Aug-17	9905.7	9917.9	12.2	-22.31	34.51	1190.9401
Sep-17	9814.3	9788.6	-25.7	-22.31	-3.39	11.4921
Oct-17	10364.9	10335.3	-29.6	-22.31	-7.29	53.1441
Nov-17	10332.7	10226.55	-106.15	-22.31	-83.84	7029.1456
Dec-17	10492.35	10530.7	38.35	-22.31	60.66	3679.6356
Jan-18	11018.8	11027.7	8.9	-22.31	31.21	974.0641
Feb-18	10488.95	10492.85	3.9	-22.31	26.21	686.9641
Mar-18	10143.6	10113.7	-29.9	-22.31	-7.59	57.6081
Apr-18	10705.75	10739.35	33.6	-22.31	55.91	3125.9281
May-18	10670.1	10736.15	66.05	-22.31	88.36	7807.4896
Jun-18	10612.85	10714.3	101.45	-22.31	123.76	15316.5376
Jul-18	11311.05	11356.5	45.45	-22.31	67.76	4591.4176
Aug-18	11675.85	11680.5	4.65	-22.31	26.96	726.8416
Sep-18	11008.1	10930.45	-77.65	-22.31	-55.34	3062.5156

Oct-18	10209.55	10386.6	177.05	-22.31	199.36	39744.4096
Nov-18	10892.1	10876.75	-15.35	-22.31	6.96	48.4416
Dec-18	10913.2	10862.55	-50.65	-22.31	-28.34	803.1556
Jan-19	10690.55	10830.95	140.4	-22.31	162.71	26474.5441
Feb-19	10865.7	10792.5	-73.2	-22.31	-50.89	2589.7921
Mar-19	11625.45	11623.9	-1.55	-22.31	20.76	430.9776
Apr-19	11748.75	11748.15	-0.6	-22.31	21.71	471.3241
May-19	11999.8	11922.8	-77	-22.31	-54.69	2990.9961
Jun-19	11861.15	11788.85	-72.3	-22.31	-49.99	2499.0001
Jul-19	11034.05	11118	83.95	-22.31	106.26	11291.1876
Aug-19	10987.8	11023.25	35.45	-22.31	57.76	3336.2176
Sep-19	11491.15	11474.45	-16.7	-22.31	5.61	31.4721
Oct-19	11890.45	11877.45	-13	-22.31	9.31	86.6761
Nov-19	12146.2	12056.05	-90.15	-22.31	-67.84	4602.2656
Dec-19	12247.1	12168.45	-78.65	-22.31	-56.34	3174.1956
Jan-20	12100.4	11962.1	-138.3	-22.31	-115.99	13453.6801
Feb-20	11382	11201.75	-180.25	-22.31	-157.94	24945.0436
Mar-20	8529.35	8597.75	68.4	-22.31	90.71	8228.3041
Apr-20	9753.5	9859.9	106.4	-22.31	128.71	16566.2641
May-20	9422.2	9580.3	158.1	-22.31	180.41	32547.7681
Jun-20	10382.6	10302.1	-80.5	-22.31	-58.19	3386.0761
Jul-20	11139.5	11073.45	-66.05	-22.31	-43.74	1913.1876
Aug-20	11777.55	11387.5	-390.05	-22.31	-367.74	135232.7076
Sep-20	11244.45	11247.55	3.1	-22.31	25.41	645.6681
Oct-20	11678.45	11642.4	-36.05	-22.31	-13.74	188.7876
Nov-20	13012.05	12968.95	-43.1	-22.31	-20.79	432.2241
Dec-20	13970	13981.75	11.75	-22.31	34.06	1160.0836
Jan-21	13946.6	13634.6	-312	-22.31	-289.69	83920.2961
Feb-21	14888.6	14529.15	-359.45	-22.31	-337.14	113663.3796
Mar-21	14811.85	14690.7	-121.15	-22.31	-98.84	9769.3456
		Total	-1338.8			628792.63

Source: Computed from the Secondary data collected through NSE.

Total Number of days(n) = 60

Total returns = -1338.8

Average returns (r)= Total returns/Total number of days

= -1338.8/60

=-22.31

Variance**(ϭ2)** =∑(R-r)2*1/(n-1)

=628792.63/(60-1)

=628792.63/59

=10657.50

Standard Deviation=√ϭ2

=√10657.50

=103.23

Standard deviation(risk) = 103.23

Interpretation: The total returns of Nifty 50 are -1338.8 and the number of days is 60.Hence, the average return is -22.31.Here, the average return is -0.223% and the Standard deviation is 1.03%.

Table Number-2: Calculation of Risk and Return of FIIs

FIIs						
Date & Year	**Gross Purchase**	**Gross Sales**	**Return (Sales-purchases)-R**	**Average Return-r**	**Deviations(R-r)**	**Sqr.Dev(R-r)2**
Apr-16	69963.65	67027.37	-2936.28	-536.033	-2400.247	5761185.661
May-16	97116.2	97077.81	-38.39	-536.033	497.643	247648.5554
Jun-16	89373.04	85415.09	-3957.95	-536.033	-3421.917	11709515.95
Jul-16	91989.79	81867.1	-10122.69	-536.033	-9586.657	91903992.44
Aug-16	110195.16	101416.89	-8778.27	-536.033	-8242.237	67934470.76
Sep-16	101165.89	97836.27	-3329.62	-536.033	-2793.587	7804128.327
Oct-16	72661.2	78431.39	5770.19	-536.033	6306.223	39768448.53
Nov-16	110863.2	130845.57	19982.37	-536.033	20518.403	421004861.7
Dec-16	74545.48	85870.76	11325.28	-536.033	11861.313	140690746.1
Jan-17	76909.72	78811.04	1901.32	-536.033	2437.353	5940689.647
Feb-17	107722.25	99017.79	-8704.46	-536.033	-8168.427	66723199.65
Mar-17	153101.24	126628.07	-26473.17	-536.033	-25937.137	672735075.8
Apr-17	81594.59	88222.15	6627.56	-536.033	7163.593	51317064.67
May-17	123004.66	123457.2	452.54	-536.033	988.573	977276.5763
Jun-17	99619.25	103670.68	4051.43	-536.033	4587.463	21044816.78
Jul-17	104497.69	103032.84	-1464.85	-536.033	-928.817	862701.0195
Aug-17	95588.51	111584.14	15995.63	-536.033	16531.663	273295881.5
Sep-17	95431.19	119401.16	23969.97	-536.033	24506.003	600544183

Oct-17	103827.67	111654.2	7826.53	-536.033	8362.563	69932459.93
Nov-17	132245.68	145760.46	13514.78	-536.033	14050.813	197425346
Dec-17	96087.52	102499.09	6411.57	-536.033	6947.603	48269187.45
Jan-18	134222.01	124654.01	-9568	-536.033	-9031.967	81576427.89
Feb-18	101881.52	120500.67	18619.15	-536.033	19155.183	366921035.8
Mar-18	118876.79	110971.94	-7904.85	-536.033	-7368.817	54299463.98
Apr-18	92062.09	101682.65	9620.56	-536.033	10156.593	103156381.4
May-18	120914.92	133274.63	12359.71	-536.033	12895.743	166300187.5
Jun-18	109343.1	119592.27	10249.17	-536.033	10785.203	116320603.8
Jul-18	97483.65	100252.4	2768.75	-536.033	3304.783	10921590.68
Aug-18	101173.63	103402.16	2228.53	-536.033	2764.563	7642808.581
Sep-18	113805.99	123274.67	9468.68	-536.033	10004.713	100094282.2
Oct-18	111037.68	140238.88	29201.2	-536.033	29737.233	884303026.5
Nov-18	101299.44	96365.33	-4934.11	-536.033	-4398.077	19343081.3
Dec-18	82545.46	83648.83	1103.37	-536.033	1639.403	2687642.196
Jan-19	101801.24	101673.57	-127.67	-536.033	408.363	166760.3398
Feb-19	109909.66	96345.09	-13564.57	-536.033	-13028.537	169742776.4
Mar-19	143577.58	111206.15	-32371.43	-536.033	-31835.397	1013492502
Apr-19	102562.51	89812.96	-12749.55	-536.033	-12213.517	149169997.5
May-19	131468.97	133604.82	2135.85	-536.033	2671.883	7138958.766
Jun-19	98712.03	99400.53	688.5	-536.033	1224.533	1499481.068
Jul-19	92246.74	109116.87	16870.13	-536.033	17406.163	302974510.4
Aug-19	108529.84	123358.6	14828.76	-536.033	15364.793	236076863.9

Sep-19	103760.72	110384.77	6624.05	-536.033	7160.083	51266788.57
Oct-19	116236.18	107640.52	-8595.66	-536.033	-8059.627	64957587.38
Nov-19	149792.41	136867.48	-12924.93	-536.033	-12388.897	153484768.9
Dec-19	99178.1	98483.98	-694.12	-536.033	-158.087	24991.49957
Jan-20	107812.65	113172.16	5359.51	-536.033	5895.543	34757427.26
Feb-20	114891.5	127575.55	12684.05	-536.033	13220.083	174770594.5
Mar-20	154904.51	220721.21	65816.7	-536.033	66352.733	4402685177
Apr-20	122483.01	127691.51	5208.5	-536.033	5744.533	32999659.39
May-20	155977.41	142062.92	-13914.49	-536.033	-13378.457	178983111.7
Jun-20	155215.8	149722.85	-5492.95	-536.033	-4956.917	24571026.14
Jul-20	113501.55	111011.36	-2490.19	-536.033	-1954.157	3818729.581
Aug-20	131434.85	115684.99	-15749.86	-536.033	-15213.827	231460532
Sep-20	127201.38	138612.07	11410.69	-536.033	11946.723	142724190.4
Oct-20	136822.19	122284.79	-14537.4	-536.033	-14001.367	196038277.9
Nov-20	259779.42	194462.29	-65317.13	-536.033	-64781.097	4196590529
Dec-20	182528.47	134304.53	-48223.94	-536.033	-47687.907	2274136474
Jan-21	168241.42	159260.61	-8980.81	-536.033	-8444.777	71314258.58
Feb-21	223030.67	180986.21	-42044.46	-536.033	-41508.427	1722949512
Mar-21	190759.51	189514.29	-1245.22	-536.033	-709.187	502946.201
Total			-32161.99			20547757843

Source: Calculated from the Secondary data collected through NSE.

Total number of days(n) = 60

Total Returns = -32161.99

Average Returns(r) = Total Returns/Total No.of days

= -32161.99/60

=-536.03

Variance**(ϭ2)**=∑**(**R-r)2*1/(n-1)

= 20547757843*1/(60-1)

= 20547757843/59

= 348267082.08

Standard Deviation=√ϭ2

= √348267082.08

= 18661.91

Standard deviation (risk) = 18661.91

Interpretation: The total return of FII's is -32161.99 and the number of days is 60. Hence, the average return is -536.03 and the Standard deviation is 18661.91. Therefore, the average return is -5.36% and the standard deviation is 186.61%.

Table Number-3: Calculation of risk and return of DIIs

DIIs						
Date & Year	**Gross Purchase**	**Gross Slaes**	**Return(Sales-purchases)-R**	**Average Return-r**	**Deviations(R-r)**	**Sqr.Dev(R-r)2**
Apr-16	24467.25	27021.61	2554.36	-3545.96	6100.32	37213904.1
May-16	38877.32	32119.24	-6758.08	-3545.96	-3212.12	10317714.89
Jun-16	35927.95	38101.5	2173.55	-3545.96	5719.51	32712794.64
Jul-16	38640.08	44694.68	6054.6	-3545.96	9600.56	92170752.31
Aug-16	45174.03	49580.34	4406.31	-3545.96	7952.27	63238598.15
Sep-16	51440.2	49440.98	-1999.22	-3545.96	1546.74	2392404.628
Oct-16	45294.51	37388.16	-7906.35	-3545.96	-4360.39	19013000.95
Nov-16	66379.78	48102.75	-18277.03	-3545.96	-14731.07	217004423.3
Dec-16	42473.11	33337.02	-9136.09	-3545.96	-5590.13	31249553.42
Jan-17	50855.74	46351.8	-4503.94	-3545.96	-957.98	917725.6804
Feb-17	61116.21	60180.95	-935.26	-3545.96	2610.7	6815754.49
Mar-17	65535.41	69931.02	4395.61	-3545.96	7941.57	63068534.06
Apr-17	60188.82	50941.39	-9247.43	-3545.96	-5701.47	32506760.16
May-17	69117.29	64840.23	-4277.06	-3545.96	-731.1	534507.21
Jun-17	60330.87	53654.76	-6676.11	-3545.96	-3130.15	9797839.023
Jul-17	67911.76	63125.39	-4786.37	-3545.96	-1240.41	1538616.968
Aug-17	70219.04	54013.82	-16205.22	-3545.96	-12659.26	160256863.7
Sep-17	79160.5	58134.97	-21025.53	-3545.96	-17479.57	305535367.4
Oct-17	74713.94	64623.03	-10090.91	-3545.96	-6544.95	42836370.5
Nov-17	89605.94	80362.73	-9243.21	-3545.96	-5697.25	32458657.56
Dec-17	76814.06	68671.18	-8142.88	-3545.96	-4596.92	21131673.49
Jan-18	93029.54	92630.81	-398.73	-3545.96	3147.23	9905056.673
Feb-18	82216.56	64403.55	-17813.01	-3545.96	-14267.05	203548715.7
Mar-18	79303.18	72609.27	-6693.91	-3545.96	-3147.95	9909589.203
Apr-18	70705.51	62041.63	-8663.88	-3545.96	-5117.92	26193105.13
May-18	87103.11	72048.63	-15054.48	-3545.96	-11508.52	132446032.6

Jun-18	78930.3	64784.15	-14146.15	-3545.96	-10600.19	112364028
Jul-18	74731.75	70885.88	-3845.87	-3545.96	-299.91	89946.0081
Aug-18	75784.39	72961.67	-2822.72	-3545.96	723.24	523076.0976
Sep-18	82989.11	70485.07	-12504.04	-3545.96	-8958.08	80247197.29
Oct-18	100992.39	74958.49	-26033.9	-3545.96	-22487.94	505707445.4
Nov-18	65526.96	64217.49	-1309.47	-3545.96	2236.49	5001887.52
Dec-18	64671.03	64295.48	-375.55	-3545.96	3170.41	10051499.57
Jan-19	76616.16	74469.29	-2146.87	-3545.96	1399.09	1957452.828
Feb-19	67192.45	67758.34	565.89	-3545.96	4111.85	16907310.42
Mar-19	74638.29	88568.54	13930.25	-3545.96	17476.21	305417916
Apr-19	66294.61	70514.07	4219.46	-3545.96	7765.42	60301747.78
May-19	85285.17	79968.83	-5316.34	-3545.96	-1770.38	3134245.344
Jun-19	58637.91	54994.6	-3643.31	-3545.96	-97.35	9477.0225
Jul-19	92650.09	72255.57	-20394.52	-3545.96	-16848.56	283873974.1
Aug-19	87205.37	66271.78	-20933.59	-3545.96	-17387.63	302329677
Sep-19	84873.73	72382.92	-12490.81	-3545.96	-8944.85	80010341.52
Oct-19	81036.58	76278.1	-4758.48	-3545.96	-1212.52	1470204.75
Nov-19	76227.97	84198.26	7970.29	-3545.96	11516.25	132624014.1
Dec-19	65743.09	66483.85	740.76	-3545.96	4286.72	18375968.36
Jan-20	91361.34	90287.85	-1073.49	-3545.96	2472.47	6113107.901
Feb-20	93843.52	76910.49	-16933.03	-3545.96	-13387.07	179213643.2
Mar-20	157856.93	102261.75	-55595.18	-3545.96	-52049.22	2709121303
Apr-20	75066.03	75183.03	117	-3545.96	3662.96	13417275.96
May-20	87531.66	75238.47	-12293.19	-3545.96	-8747.23	76514032.67
Jun-20	100174.07	97739.67	-2434.4	-3545.96	1111.56	1235565.634
Jul-20	89373.83	99381.71	10007.88	-3545.96	13553.84	183706578.7
Aug-20	77599.64	88646.42	11046.78	-3545.96	14592.74	212948060.7
Sep-20	91029.48	90919.18	-110.3	-3545.96	3435.66	11803759.64
Oct-20	69356.56	86675	17318.44	-3545.96	20864.4	435323187.4
Nov-20	71778.07	120097.24	48319.17	-3545.96	51865.13	2689991710
Dec-20	84739.8	122033.33	37293.53	-3545.96	40839.49	1667863943

Jan-21	105747.49	117718.03	11970.54	-3545.96	15516.5	240761772.3
Feb-21	104175.16	120533.26	16358.1	-3545.96	19904.06	396171604.5
Mar-21	113745.81	108541.39	-5204.42	-3545.96	-1658.46	2750489.572
		Total	-212757.81			12312047759

Source: Calculated from the Secondary data collected through NSE.

Total number of days(n) = 60

Total Returns = -212757.81

Average return(r) = Total returns/n

= -212757.81/60

= -3545.96

Variance**(ϭ2)**=∑(R-r)2*1/(n-1)

= 12312047759*1/(60-1)

= 12312047759/59

= 208678775.57

Standard Deviation = √ϭ2

= √208678775.57

= 14445.72

Standard deviation(risk) = 14445.72

Interpretation: The total returns of DII's are -212757.81 and the number of days is 60. Hence, the average return is -3545.96, Standard deviation is 14445.72. Therefore, the average return of DII's is -35.45% and the Standard deviation is 14.45%.

Table Number-4: Calculation of Covariance and Correlation Coefficient- Nifty50 and FIIs

	Nifty 50			FII ' S			
Date & Year	Returns	Average returns	dx(R-r)	Returns	Average returns	dy(R-r)	dx.dy
16-Apr	5.55	-22.31	27.86	-2936.3	-536.03	-2400.2	-66871
16-May	-49.75	-22.31	-27.44	-38.39	-536.03	497.643	-13655
16-Jun	27.5	-22.31	49.81	-3958	-536.03	-3421.9	-170446
16-Jul	-29.8	-22.31	-7.49	-10123	-536.03	-9586.7	71804.1
16-Aug	32.15	-22.31	54.46	-8778.3	-536.03	-8242.2	-448872
16-Sep	29.65	-22.31	51.96	-3329.6	-536.03	-2793.6	-145155
16-Oct	-46.65	-22.31	-24.34	5770.19	-536.03	6306.22	-153493
16-Nov	52.35	-22.31	74.66	19982.4	-536.03	20518.4	1531904
16-Dec	66.15	-22.31	88.46	11325.3	-536.03	11861.3	1049252
17-Jan	-68.15	-22.31	-45.84	1901.32	-536.03	2437.35	-111728
17-Feb	-19.35	-22.31	2.96	-8704.5	-536.03	-8168.4	-24179
17-Mar	14.85	-22.31	37.16	-26473	-536.03	-25937	-963824
17-Apr	-36.9	-22.31	-14.59	6627.56	-536.03	7163.59	-104517
17-May	-15.3	-22.31	7.01	452.54	-536.03	988.573	6929.9
17-Jun	42.4	-22.31	64.71	4051.43	-536.03	4587.46	296855
17-Jul	42.4	-22.31	64.71	-1464.9	-536.03	-928.82	-60104
17-Aug	12.2	-22.31	34.51	15995.6	-536.03	16531.7	570508
17-Sep	-25.7	-22.31	-3.39	23970	-536.03	24506	-83075
17-Oct	-29.6	-22.31	-7.29	7826.53	-536.03	8362.56	-60963
17-Nov	-106.15	-22.31	-83.84	13514.8	-536.03	14050.8	-1E+06
17-Dec	38.35	-22.31	60.66	6411.57	-536.03	6947.6	421442
18-Jan	8.9	-22.31	31.21	-9568	-536.03	-9032	-281888
18-Feb	3.9	-22.31	26.21	18619.2	-536.03	19155.2	502057
18-Mar	-29.9	-22.31	-7.59	-7904.9	-536.03	-7368.8	55929.3
18-Apr	33.6	-22.31	55.91	9620.56	-536.03	10156.6	567855
18-May	66.05	-22.31	88.36	12359.7	-536.03	12895.7	1139468
18-Jun	101.45	-22.31	123.76	10249.2	-536.03	10785.2	1334777
18-Jul	45.45	-22.31	67.76	2768.75	-536.03	3304.78	223932

18-Aug	4.65	-22.31	26.96	2228.53	-536.03	2764.56	74532.6
18-Sep	-77.65	-22.31	-55.34	9468.68	-536.03	10004.7	-553661
18-Oct	177.05	-22.31	199.36	29201.2	-536.03	29737.2	5928415
18-Nov	-15.35	-22.31	6.96	-4934.1	-536.03	-4398.1	-30611
18-Dec	-50.65	-22.31	-28.34	1103.37	-536.03	1639.4	-46461
19-Jan	140.4	-22.31	162.71	-127.67	-536.03	408.363	66444.7
19-Feb	-73.2	-22.31	-50.89	-13565	-536.03	-13029	663022
19-Mar	-1.55	-22.31	20.76	-32371	-536.03	-31835	-660903
19-Apr	-0.6	-22.31	21.71	-12750	-536.03	-12214	-265155
19-May	-77	-22.31	-54.69	2135.85	-536.03	2671.88	-146125
19-Jun	-72.3	-22.31	-49.99	688.5	-536.03	1224.53	-61214
19-Jul	83.95	-22.31	106.26	16870.1	-536.03	17406.2	1849579
19-Aug	35.45	-22.31	57.76	14828.8	-536.03	15364.8	887470
19-Sep	-16.7	-22.31	5.61	6624.05	-536.03	7160.08	40168.1
19-Oct	-13	-22.31	9.31	-8595.7	-536.03	-8059.6	-75035
19-Nov	-90.15	-22.31	-67.84	-12925	-536.03	-12389	840463
19-Dec	-78.65	-22.31	-56.34	-694.12	-536.03	-158.09	8906.62
20-Jan	-138.3	-22.31	-115.99	5359.51	-536.03	5895.54	-683824
20-Feb	-180.25	-22.31	-157.94	12684.1	-536.03	13220.1	-2E+06
20-Mar	68.4	-22.31	90.71	65816.7	-536.03	66352.7	6018856
20-Apr	106.4	-22.31	128.71	5208.5	-536.03	5744.53	739379
20-May	158.1	-22.31	180.41	-13914	-536.03	-13378	-2E+06
20-Jun	-80.5	-22.31	-58.19	-5493	-536.03	-4956.9	288443
20-Jul	-66.05	-22.31	-43.74	-2490.2	-536.03	-1954.2	85474.8
20-Aug	-390.05	-22.31	-367.74	-15750	-536.03	-15214	5594733
20-Sep	3.1	-22.31	25.41	11410.7	-536.03	11946.7	303566
20-Oct	-36.05	-22.31	-13.74	-14537	-536.03	-14001	192379
20-Nov	-43.1	-22.31	-20.79	-65317	-536.03	-64781	1346799
20-Dec	11.75	-22.31	34.06	-48224	-536.03	-47688	-2E+06
21-Jan	-312	-22.31	-289.69	-8980.8	-536.03	-8444.8	2446367
21-Feb	-359.45	-22.31	-337.14	-42044	-536.03	-41508	1.4E+07
21-Mar	-121.15	-22.31	-98.84	-1245.2	-536.03	-709.19	70096
						Total	36696341

Source: Calculated from Secondary data Collected through NSE.

Covariance = $\sum dx.dy/n$

= 36696341/60

= 611605.68

Standard deviation of Nifty 50 (ϭ1) = 103.23

Standard deviation of FIIs (ϭ2) = 18661.91

Coefficient of Correlation = Covariance/(ϭ1)*(ϭ2)

= 611605.68/(103.23)*(18661.91)

= 611605.68/1926468.969

= 0.317

Interpretation: Here, the Standard deviation of Nifty 50 is 103.23 whereas the Standard deviation of FIIs is 18661.91. The Calculated Covariance for the equities of Nifty 50 and FIIs is 611605.68 and the Correlation Coefficient between them is 0.317.

Table Number-5: Calculation of Covariance and Correlation Coefficient- FIIs and DIIs:

	FIIs			DIIs			
Date & Year	Returns	Avg.returns	Dx	Returns	Avg.returns	Dy	dx.dy
Apr-16	-2936.28	-536.033	-2400.25	2554.36	-3545.96	6100.32	-14642274.78
May-16	-38.39	-536.033	497.643	-6758.08	-3545.96	-3212.12	-1598489.033
Jun-16	-3957.95	-536.033	-3421.92	2173.55	-3545.96	5719.51	-19571688.5
Jul-16	-10122.69	-536.033	-9586.66	6054.6	-3545.96	9600.56	-92037275.73
Aug-16	-8778.27	-536.033	-8242.24	4406.31	-3545.96	7952.27	-65544494.03
Sep-16	-3329.62	-536.033	-2793.59	-1999.22	-3545.96	1546.74	-4320952.756
Oct-16	5770.19	-536.033	6306.223	-7906.35	-3545.96	-4360.39	-27497591.71
Nov-16	19982.37	-536.033	20518.4	-18277.03	-3545.96	-14731.1	-302258030.9
Dec-16	11325.28	-536.033	11861.31	-9136.09	-3545.96	-5590.13	-66306281.64
Jan-17	1901.32	-536.033	2437.353	-4503.94	-3545.96	-957.98	-2334935.427
Feb-17	-8704.46	-536.033	-8168.43	-935.26	-3545.96	2610.7	-21325312.37
Mar-17	-26473.17	-536.033	-25937.1	4395.61	-3545.96	7941.57	-205981589.1
Apr-17	6627.56	-536.033	7163.593	-9247.43	-3545.96	-5701.47	-40843010.58
May-17	452.54	-536.033	988.573	-4277.06	-3545.96	-731.1	-722745.7203
Jun-17	4051.43	-536.033	4587.463	-6676.11	-3545.96	-3130.15	-14359447.31
Jul-17	-1464.85	-536.033	-928.817	-4786.37	-3545.96	-1240.41	1152113.895
Aug-17	15995.63	-536.033	16531.66	-16205.22	-3545.96	-12659.3	-209278620.1
Sep-17	23969.97	-536.033	24506	-21025.53	-3545.96	-17479.6	-428354394.9
Oct-17	7826.53	-536.033	8362.563	-10090.91	-3545.96	-6544.95	-54732556.71

Nov-17	13514.78	-536.033	14050.81	-9243.21	-3545.96	-5697.25	-80050994.36
Dec-17	6411.57	-536.033	6947.603	-8142.88	-3545.96	-4596.92	-31937575.18
Jan-18	-9568	-536.033	-9031.97	-398.73	-3545.96	3147.23	-28425677.5
Feb-18	18619.15	-536.033	19155.18	-17813.01	-3545.96	-14267.1	-273287953.6
Mar-18	-7904.85	-536.033	-7368.82	-6693.91	-3545.96	-3147.95	23196667.48
Apr-18	9620.56	-536.033	10156.59	-8663.88	-3545.96	-5117.92	-51980630.45
May-18	12359.71	-536.033	12895.74	-15054.48	-3545.96	-11508.5	-148410916.2
Jun-18	10249.17	-536.033	10785.2	-14146.15	-3545.96	-10600.2	-114325201
Jul-18	2768.75	-536.033	3304.783	-3845.87	-3545.96	-299.91	-991137.4695
Aug-18	2228.53	-536.033	2764.563	-2822.72	-3545.96	723.24	1999442.544
Sep-18	9468.68	-536.033	10004.71	-12504.04	-3545.96	-8958.08	-89623019.43
Oct-18	29201.2	-536.033	29737.23	-26033.9	-3545.96	-22487.9	-668729111.5
Nov-18	-4934.11	-536.033	-4398.08	-1309.47	-3545.96	2236.49	-9836255.23
Dec-18	1103.37	-536.033	1639.403	-375.55	-3545.96	3170.41	5197579.665
Jan-19	-127.67	-536.033	408.363	-2146.87	-3545.96	1399.09	571336.5897
Feb-19	-13564.57	-536.033	-13028.5	565.89	-3545.96	4111.85	-53571389.86
Mar-19	-32371.43	-536.033	-31835.4	13930.25	-3545.96	17476.21	-556362083.4
Apr-19	-12749.55	-536.033	-12213.5	4219.46	-3545.96	7765.42	-94843089.18
May-19	2135.85	-536.033	2671.883	-5316.34	-3545.96	-1770.38	-4730248.226
Jun-19	688.5	-536.033	1224.533	-3643.31	-3545.96	-97.35	-119208.2876
Jul-19	16870.13	-536.033	17406.16	-20394.52	-3545.96	-16848.6	-293268781.7
Aug-19	14828.76	-536.033	15364.79	-20933.59	-3545.96	-17387.6	-267157335.7
Sep-19	6624.05	-536.033	7160.083	-12490.81	-3545.96	-8944.85	-64045868.42
Oct-19	-8595.66	-536.033	-8059.63	-4758.48	-3545.96	-1212.52	9772458.93
Nov-19	-12924.93	-536.033	-12388.9	7970.29	-3545.96	11516.25	-142673635.1
Dec-19	-694.12	-536.033	-158.087	740.76	-3545.96	4286.72	-677674.7046

Jan-20	5359.51	-536.033	5895.543	-1073.49	-3545.96	2472.47	14576553.2
Feb-20	12684.05	-536.033	13220.08	-16933.03	-3545.96	-13387.1	-176978176.5
Mar-20	65816.7	-536.033	66352.73	-55595.18	-3545.96	-52049.2	-3453607998
Apr-20	5208.5	-536.033	5744.533	117	-3545.96	3662.96	21041994.6
May-20	-13914.49	-536.033	-13378.5	-12293.19	-3545.96	-8747.23	117024440.4
Jun-20	-5492.95	-536.033	-4956.92	-2434.4	-3545.96	1111.56	-5509910.661
Jul-20	-2490.19	-536.033	-1954.16	10007.88	-3545.96	13553.84	-26486331.31
Aug-20	-15749.86	-536.033	-15213.8	11046.78	-3545.96	14592.74	-222011421.8
Sep-20	11410.69	-536.033	11946.72	-110.3	-3545.96	3435.66	41044878.34
Oct-20	-14537.4	-536.033	-14001.4	17318.44	-3545.96	20864.4	-292130121.6
Nov-20	-65317.13	-536.033	-64781.1	48319.17	-3545.96	51865.13	-3359880017
Dec-20	-48223.94	-536.033	-47687.9	37293.53	-3545.96	40839.49	-1947549801
Jan-21	-8980.81	-536.033	-8444.78	11970.54	-3545.96	15516.5	-131033382.3
Feb-21	-42044.46	-536.033	-41508.4	16358.1	-3545.96	19904.06	-826186221.5
Mar-21	-1245.22	-536.033	-709.187	-5204.42	-3545.96	-1658.46	1176158.272
					Total		-14751377236

Source: Calculated from the Secondary data Collected through NSE.

Covariance = ∑dx.dy/n

= -14751377236/60

= 245856287.3

Standard deviation of FIIs(ϭ1) = 18661.91

Standard deviation of DIIs(ϭ2) = 14445.72

Coefficient of Correlation = Covariance/ϭ1*ϭ2

= 245856287.3/(18661.91)*(14445.7)

=245856287.3/269584353.3

= 0.912

Interpretation: Here, the Standard deviation of FII's is 18661.91 whereas the Standard deviation of DII's is 14445.72. The Calculated Covariance for the equities of FII's and DII's is 245856287.3 and the Correlation coefficient is 0.912.

Table Number-6: Calculation of Covariance and Correlation Coefficient –Nifty 50 and DIIs

Date & Year	Returns	Avg. returns	Dx	Returns	Avg.returns	Dy	dx. dy
16-Apr	5.55	-22.31	27.86	2554.36	-3545.96	6100.32	169954.92
16-May	-49.75	-22.31	-27.44	-6758.08	-3545.96	-3212.12	88140.573
16-Jun	27.5	-22.31	49.81	2173.55	-3545.96	5719.51	284888.79
16-Jul	-29.8	-22.31	-7.49	6054.6	-3545.96	9600.56	-71908.194
16-Aug	32.15	-22.31	54.46	4406.31	-3545.96	7952.27	433080.62
16-Sep	29.65	-22.31	51.96	-1999.22	-3545.96	1546.74	80368.61
16-Oct	-46.65	-22.31	-24.34	-7906.35	-3545.96	-4360.39	106131.89
16-Nov	52.35	-22.31	74.66	-18277	-3545.96	-14731.1	-1099821.7
16-Dec	66.15	-22.31	88.46	-9136.09	-3545.96	-5590.13	-494502.9
17-Jan	-68.15	-22.31	-45.84	-4503.94	-3545.96	-957.98	43913.803
17-Feb	-19.35	-22.31	2.96	-935.26	-3545.96	2610.7	7727.672
17-Mar	14.85	-22.31	37.16	4395.61	-3545.96	7941.57	295108.74
17-Apr	-36.9	-22.31	-14.59	-9247.43	-3545.96	-5701.47	83184.447
17-May	-15.3	-22.31	7.01	-4277.06	-3545.96	-731.1	-5125.011
17-Jun	42.4	-22.31	64.71	-6676.11	-3545.96	-3130.15	-202552.01
17-Jul	42.4	-22.31	64.71	-4786.37	-3545.96	-1240.41	-80266.931
17-Aug	12.2	-22.31	34.51	-16205.2	-3545.96	-12659.3	-436871.06
17-Sep	-25.7	-22.31	-3.39	-21025.5	-3545.96	-17479.6	59255.742
17-Oct	-29.6	-22.31	-7.29	-10090.9	-3545.96	-6544.95	47712.686
17-Nov	-106.15	-22.31	-83.84	-9243.21	-3545.96	-5697.25	477657.44

17-Dec	38.35	-22.31	60.66	-8142.88	-3545.96	-4596.92	-278849.17
18-Jan	8.9	-22.31	31.21	-398.73	-3545.96	3147.23	98225.048
18-Feb	3.9	-22.31	26.21	-17813	-3545.96	-14267.1	-373939.38
18-Mar	-29.9	-22.31	-7.59	-6693.91	-3545.96	-3147.95	23892.941
18-Apr	33.6	-22.31	55.91	-8663.88	-3545.96	-5117.92	-286142.91
18-May	66.05	-22.31	88.36	-15054.5	-3545.96	-11508.5	-1016892.8
18-Jun	101.45	-22.31	123.76	-14146.2	-3545.96	-10600.2	-1311879.5
18-Jul	45.45	-22.31	67.76	-3845.87	-3545.96	-299.91	-20321.902
18-Aug	4.65	-22.31	26.96	-2822.72	-3545.96	723.24	19498.55
18-Sep	-77.65	-22.31	-55.34	-12504	-3545.96	-8958.08	495740.15
18-Oct	177.05	-22.31	199.36	-26033.9	-3545.96	-22487.9	-4483195.7
18-Nov	-15.35	-22.31	6.96	-1309.47	-3545.96	2236.49	15565.97
18-Dec	-50.65	-22.31	-28.34	-375.55	-3545.96	3170.41	-89849.419
19-Jan	140.4	-22.31	162.71	-2146.87	-3545.96	1399.09	227645.93
19-Feb	-73.2	-22.31	-50.89	565.89	-3545.96	4111.85	-209252.05
19-Mar	-1.55	-22.31	20.76	13930.25	-3545.96	17476.21	362806.12
19-Apr	-0.6	-22.31	21.71	4219.46	-3545.96	7765.42	168587.27
19-May	-77	-22.31	-54.69	-5316.34	-3545.96	-1770.38	96822.082
19-Jun	-72.3	-22.31	-49.99	-3643.31	-3545.96	-97.35	4866.5265
19-Jul	83.95	-22.31	106.26	-20394.5	-3545.96	-16848.6	-1790328
19-Aug	35.45	-22.31	57.76	-20933.6	-3545.96	-17387.6	-1004309.5
19-Sep	-16.7	-22.31	5.61	-12490.8	-3545.96	-8944.85	-50180.609
19-Oct	-13	-22.31	9.31	-4758.48	-3545.96	-1212.52	-11288.561
19-	-90.15	-22.31	-67.84	7970.29	-3545.96	11516.25	-781262.4

Nov							
19-Dec	-78.65	-22.31	-56.34	740.76	-3545.96	4286.72	-241513.8
20-Jan	-138.3	-22.31	-115.99	-1073.49	-3545.96	2472.47	-286781.8
20-Feb	-180.25	-22.31	-157.94	-16933	-3545.96	-13387.1	2114353.8
20-Mar	68.4	-22.31	90.71	-55595.2	-3545.96	-52049.2	-4721384.7
20-Apr	106.4	-22.31	128.71	117	-3545.96	3662.96	471459.58
20-May	158.1	-22.31	180.41	-12293.2	-3545.96	-8747.23	-1578087.8
20-Jun	-80.5	-22.31	-58.19	-2434.4	-3545.96	1111.56	-64681.676
20-Jul	-66.05	-22.31	-43.74	10007.88	-3545.96	13553.84	-592844.96
20-Aug	-390.05	-22.31	-367.74	11046.78	-3545.96	14592.74	-5366334.2
20-Sep	3.1	-22.31	25.41	-110.3	-3545.96	3435.66	87300.121
20-Oct	-36.05	-22.31	-13.74	17318.44	-3545.96	20864.4	-286676.86
20-Nov	-43.1	-22.31	-20.79	48319.17	-3545.96	51865.13	-1078276.1
20-Dec	11.75	-22.31	34.06	37293.53	-3545.96	40839.49	1390993
21-Jan	-312	-22.31	-289.69	11970.54	-3545.96	15516.5	-4494974.9
21-Feb	-359.45	-22.31	-337.14	16358.1	-3545.96	19904.06	-6710454.8
21-Mar	-121.15	-22.31	-98.84	-5204.42	-3545.96	-1658.46	163922.19
					Total		31601946

Source: Calculated from the Secondary data collected through NSE.

Covariance = $\sum dx.dy/n$

= -31601946/60

= 526699.1

Standard deviation of Nifty 50 ($\sigma 1$) = 103.23

Standard deviation of DIIs(ϭ2) = 14445.72

Coefficient of Correlation = Covariance/ϭ1*ϭ2

= 526699.1/103.23*14445.72

= 526699.1/1491231.676

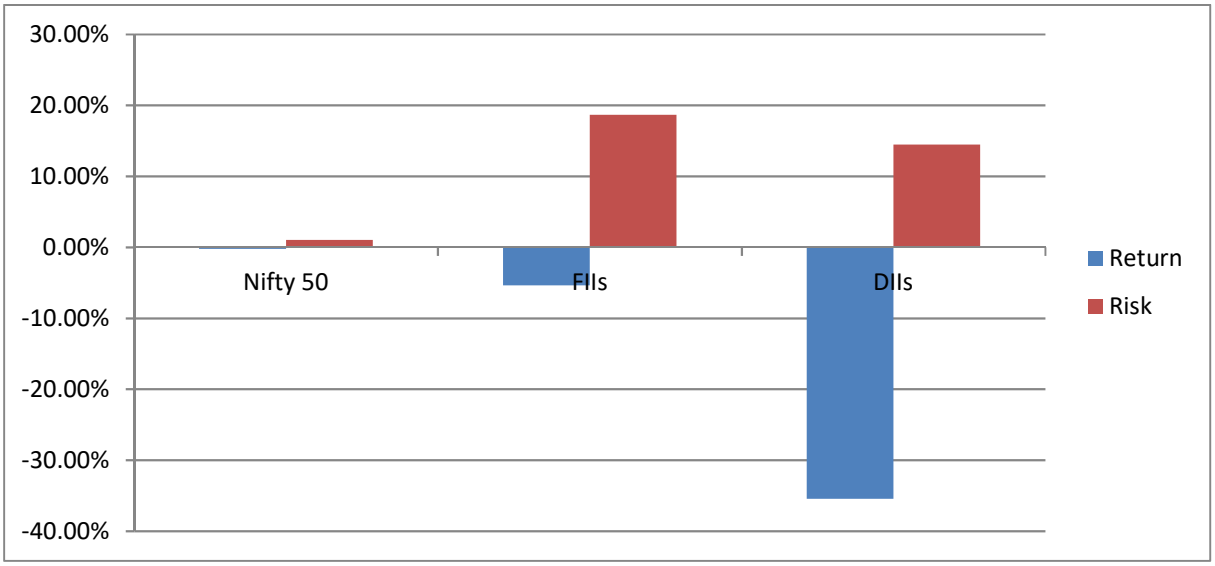
= 0.353

Interpretation: Here, the Standard deviation of Nifty 50 is 103.23 whereas the Standard deviation of DIIs is 14445.72. The Calculated Covariance for the equities of Nifty 50 and DIIs is 526699.1 and the Correlation coefficient between them is 0.35.

Table Number-7: Comparison of Risk and Return of Individual Stocks

Stocks	Return	Risk
Nifty 50	-0.223%	1.032%
FIIs	-5.360%	18.661%
DIIs	-35.459%	14.445%

Graph Number-1: Comparison of Risk and Return of Individual Stocks



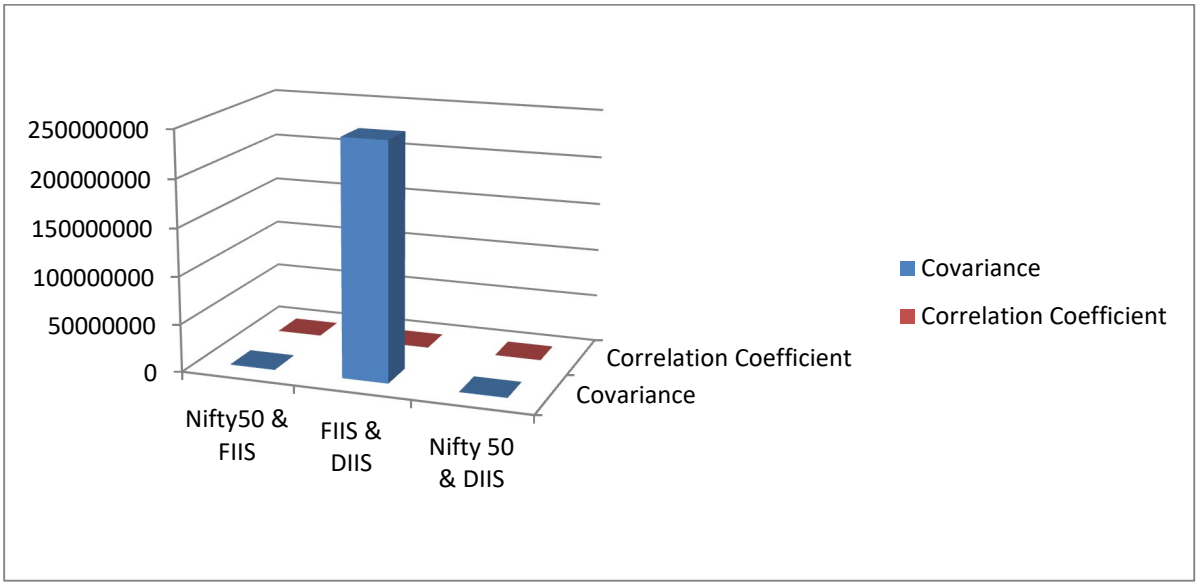
Interpretation: Here, the risk is higher for FIIs i.e18661.91 and risk is lower for Nifty 50 i.e 103.23. Whereas the return is Higher for Nifty 50 i.e -22.31 and lower for DIIs -3545.96.

Table Number-8: Comparison of Covariance and Correlation Coefficients

Stocks	Covariance	Correlation Coefficient
Nifty50 & FIIS	611605.68	0.317
FIIS & DIIS	245856287.3	0.912
Nifty 50 & DIIS	526699.1	0.353

Interpretation: There is a higher Covariance between FIIs and DIIs, and lower between Nifty50 and DIIs. Whereas the Correlation Coefficient is higher for FIIs and DIIs i.e 0.912 and lower for Nifty 50 and FIIs i.e 0.317.

Graph Number-2: Comparison of Covariance and Correlation Coefficients



CHAPTER-V: FINDINGS, SUGGESTIONS, AND CONCLUSIONS

Findings:

1. It is Observed that there is a negative return for all the stocks, but among all the stocks, the Nifty 50 has the Least negative returns compared to FIIs and DIIs.

2. It is observed that there is a higher risk for FIIsi.e 18.661%.

3. There is a lower risk for Nifty 50 i.e 1.032%.

4. Hence, FIIs have a higher risk, when compared to Nifty 50 and DIIs to trade on the stock market.

5. There is a higher positive correlation between FIIs and DIIs i.e 0.912.

6. It is identified that there is a lower correlation between Niftty50 and FIIs i.e 0.317.

7. Hence, FIIs and DIIs have a higher correlation compared to other stock combinations such as Nifty50and FIIs, Nifty50, and DIIs.

8. It is found that there is a direct relationship between FII's and DII's.

Suggestions:

1. It is suggested for the investors to observe and analyze the data before investing in the stock market, to trace out which stock is providing good returns with lower risk.

2. For the domestic investors, it is suggested that it is better to hold the investments for a certain period rather than withdrawing the investment amount whenever FIIs withdraw.

3. When Compared to FIIs, it is good to invest in DIIs as it has a good return and lower risk.

Conclusion:

On Analyzing and Observing the data collected through the Various website, it is identified that the investment of FIIs on the Indian Stock Market has a positive impact in increasing the returns to some extent because of the risk involved. Many of the Indian Companies withdraw their funds from the Stock Market based on the changes in the Investment or withdrawl of FIIs from the Stock market. There is a Direct relationship between FIIs and Nifty 50, and also between FIIs and DIIs in measuring the risk and return associated with it.

BIBLIOGRAPHY

Ravi Akula, (2011), "An overview of foreign institutional investment in India", Indian Journal of Commerce & Management Studies, Vol: 2, Issue: 1, January 2011, pp: 100-104.

International journal of research in finance and marketing(IJRFM), Vol.7 Issue 5, May-2017.

JOURNALS:

A Study to search out Impact of FII and DII Investment on Monthly returns of Nifty from January 2008 to October 2014; SFIMAR Research review,volume 10,Issue 2, 2015,J-gate, i- scholar database, peer Reviewed.

Dr. Syed Tabassum Sultana, Prof. S Pardhasaradhi. "Impact of Flow of FDI & FII on Indian Stock Market", Finance Research, Vol.1 No.3, July 2012, ISSN: 2165-8226.

Anubha, S. (2013). A Study of Influence of FII Flows on Indian Stock Market. GYANPRATHA – ACCMAN Journal of Management, 5(1).

Loomba, J.(2012). Do FIIs Impact Volatility of the Indian Stock Market? International Journal of Marketing, Financial Services & Management Research, 1(7), 80-93

Shrikanth, Maram and Kishore Braj (2012) "Net FII Flows into India: A cause and Effect Study, ASCI Journal of management, Vol.41 (2), pp. 107-112.

ManjinderKaur, Sharanjit S. Dhillon (2010), "Determinants of Foreign Institutional Investors' Investment in India", Eurasian Journal of Business and Economics 2010, 3 (6), 57-70.

AnandBansal, & J. S. Pasricha(2009), Foreign Institutional Investors Impact On Stock Prices in India. Journal of Academics Research in Economics, 1(2), 181-189.

Douma, S., Kabir, R. and Rejie, G. (2006). "Foreign and domestic ownership, business groups and firm performance-Evidence from the large emerging market", Strategic Management Journal, Vol. 27, No. 7, pp. 637-657.

Gordon and Gupta (2002), "Determinants of Foreign Institutional Investment in India", Journal: Journal of Institutional Investors. Vol 15. Publisher: Emerald Group Publishing Limited.

Kumar(2002), Parischa, J.S. and Umesh C.Singh, "Foreign Institutional Investors and Stock Market Volatility". The Indian Journal of Commerce, Vol.54,No.3,July-September,2002.

Paramita Mukherjee, Suchismita Bose, DipankorCoondoo, Indian Statistical Institute, New Delhi - Economic Research Unit, Foreign Institutional Investment in the Indian Equity Market An Analysis of Daily Flows during January 1999-May 2002, Money & Finance, Vol. 2, No. 9-10, April-September 2002.

Rajesh Chakraborty(2001) "FII Flows to India:Nature and Causes", Journal of stock market volatility, Vol:34, Publisher:MCB UP Ltd.

Websites:

https://www.researchgate.net/profile/Vaibhav-Bhansali/publication/330832645_Impact_of_FIIs_on_Indian_Stock_Market/links/5c55d15692851c22a3a3da4e/Impact-of-FIIs-on-Indian-Stock-Market.pdf

http://www.sebi.gov.in/

http://www.rbi.org.in/

www.moneycontrol.com/

https://www.researchgate.net/publication/333718814_FII_and_DII_in_Indian_Stock_Market_A_behavioural_Study

https://www.worldwidejournals.com/paripex/recent_issues_pdf/2016/August/fiis-flows-on-indian-stock-market_August_2016_9326010295_5611606.pdf

http://www.iosrjournals.org/iosrjbm/papers/Conf.17016-2017/Volume%201/5.%2029-32.pdf

http://proceeding.conferenceworld.in/BIT_30_Mar_2019/116BZBJxP52bB475.pdf