Investigating effect of FII on Indian Stock Market – A study in Indian Diaspora

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ABSTRACT

Any economy's capital market is thought to be critical to its growth. In the case of a developing country like India, domestic capital is insufficient to meet the economy's needs. Therefore, overseas funds are necessary to maintain the economy on track and run in a proper and efficient manner, so foreign funds are quite vital, and foreign capital plays a critical role. There are two types of foreign capital: FDI and FII. In comparison to FII, FDI is seen to be a more stable kind of foreign capital.

FII in flows and out flows, on the other hand, have a direct influence on the stock market. As a result, FIIs have become major players in the Indian stock market. This paper focuses on the percentage of foreign institutional investors in the Indian market from various countries, as well as their most preferred shares to invest in the Indian market, as well as the behaviour of those stocks and their volatility on indices, and how the Indians to ck market behaves and how it relates to the nation's growth.

Keywords: DII, FII, Nifty, Sensex, Volatility.

INTRODUCTION

The economic development of a country is dependent on investment flows and opportunties, which play a critical role in the country's growth in terms of technology, infrastructure, education, and many other aspects, and foreign investments are the main source of economic grow than dare more responsible for shaping the Indian stock market. Foreign investments are classified into two types: foreign direct investment (FDI) and foreign institutional investors(FII). Foreign direct investment is a medium to long-term investment in direct production activities, whereas FII is a short-term investment in financial markets.

The general perception of FIIs is that they are speculators that invest for the sake of short-term gains.

Under the Economic Liberalization Act of 1991, the government placed a strong emphasis on three areas: liberalisation, privatisation, and globalisation. As a result, India's Economic Reforms of 1991 are frequently referred to as the country's LPG policy. After the liberalisation policy in the 1990s, which caused a drastic change in the Indian stock market and increased FII funds as of 2003, the Indian stock market has reached high heights and more volatility in markets, on parallelly rise in the global market increased Indian stock market expectations for the increase foreign portfolio investments, as from cross border capital flows makes the Indian stock market more significantly depend. As a result of cross-border capital flows, any effect on any part of the globe gradually affects other stock markets, as funds flowing into the Indian economy has significantly increased, creating huge volatility in the long term and affecting the performance of the domestic equity markets in terms of both the magnitude of the immediate impact as well as the permanence of the impact and The nation's investment and economic development are mostly dependent on foreign financial circumstances, with short-term expectations based primarily on market sentiments. FIIs held 20.7 percent of the BSE500 in the fourth quarter of 2021, indicating a significant interest in the Indian stock market and a high level of volatility.

By evaluating the 2019-2020 timeframe, the Indian stock market saw a dramatic down turn and subsequent anxiety, resulting in high volatility. This created market uncertainty, which resulted in significant market outflows. According to NSDL statistics, Foreign Portfolio Investors (FPIs) withdrew a total of $247.76 billion from stock markets and 140.50 billion from debt markets in just 13 days, from March 1 to March 13, 2020. The National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) suspended trade using a circuit breaker on 13 March and 23 March 2020, respectively two times within 15days (Economic Times, 2020)), resulting in a 38 percent drop in the nifty. After the pandemic it ended, FIIs turned into investors, causing DIIs to start profit booking, causing the nifty to reach 17500 within the next financial year. After the lockdown was lifted due to heavy investment, stock indices shot up again, exemplifying that the Indian stock market is heavily dependent on foreign investors to enhance the market situations.

Risk: As the risk in the domestic market rises, foreign investors will begin to withdraw their funds to their home country, resulting in a fund shortage in the domestic market. To entice foreign investment, the domestic interest rate will rise, restoring the above equality.

Inflation: When inflation is strong, the actual return on fixed-income assets such as bonds and fixed-deposit accounts falls. As are sult, a bond that would provide the maximum returns begins to drop to the point where it is inconsequential. If inflation continues to rise, the real return will fall even lower.

Interest Rates: Increasing the cost of borrowing has a detrimental influence on a company's profit margins. As a result, firms may decide to postpone any investment activity that necessitates borrowing until interest rates are lower in order to reduce their investment costs. The repo rate, reverse repo rate, CRR, and SLR are important in order to keep interest rates stable through out the economy.

Good News/Negative News: If there is some bad news in the country, it will affect the asset price, which will lower the return, and therefore FII will leave from the market. On the other side, if there is positive news, asset values will rise, resulting in a higher return and there fore attracting FII. However, investors' withdrawal sensitivity is larger than their investment sensitivity, implying that they will be more careful while investing than when withdrawing. This is largely due to their risk averse mentality, which causes them to respond more strongly to bad news than to good news. However, we can see that they have just withdrew large sums of money from the Indian market, which would have a negative impact on the country's economy.

Currency fluctuation: Foreign institutional investors(FIIs) convert dollars to rupees in order to invest in Indian markets. FII money arrives in India at high dollar rates. When the dollar falls to low levels, FII money will flow out. As are sult, the new moniker for these FII dollars should be SMARTMONEY, which makes greater money. We'll now see some key points on the Sensex from 2003, ideally with dollar peaks, since this might drive a money flow into India as result the rupee depreciates sharply as a result of the FIIs' withdrawal.

LITERATURE OF REVIEW:

Mahajan etal., (2021) study on domestic investors contribute consistent money to the stock market, where as foreign investors engage in occasional buying and selling overtime, and the cash spent by FIIs is in momentum and speculative trading. In the pre-lockdown era of 2020, FIIs are important instructural in the market, while DIIs influence the market in return, which is referred to as at hug of war.

Parab & Reddy, (2020) study focuses on the impact of market conditions on FIIs, DIIs, and stock market returns before and after demonetization. It found a negative relationship between FIIs and DIIs and stock market indices prior to demonetization, but a significant negative impact on sectorial indices to fall gradually. During the demonetization phase, international investments and domestic investors had a substantial influence. It also indicated the extent to which the government's demonetization policy has influenced foreign institutional investment and domestic institutional investment activity.

Thombare & Chitnis,(2019) Investigated the trend and pattern of FII flow in India FII inflows and outflows have a direct influence on the stock market. are regarded as market movers and shakers in the Indian stock market. There is a positive connection between FII and Sensex, and foreign investor money have surged in the Indian stock market year after year. There is a link between such FII flows and changes in stock market indexes such as the Nifty.

Gahlot (2019) depicts the influence and link between FIIs and DIIs activities on the volatility of the Indian stock market and depicts the utilisation of the Granger causality test and TGARCH. According to the study, FIIs' purchasing and selling actions influence DIIs' behaviour, and a greater impact of FIIs' on Indian stock returns than DIIs.

Dhananjaya .K & Wright R. (2019) investigate the interaction between FIIs' and DIIs' in Indian stock market. DIIs have a detrimental impact on FII flows, but they are unaffected by FII flows. DII investment has a negative impact on FIIs, implying DIIs counterbalance the market withdrawal pressure which is created by FIIs. The net trading activity of FIIs and DIIs would promote stability to the equity market as they use diverse trading tactics in the market which depicts relation between creating strong DIIs and acting as a cushion against the destabilizing tendency of FIIs flow.

Dr Sathyanarayana et al., (2018). Depicts the empirical link between inflation and stock market performance using data of worldwide stock exchanges. Based on 17 years of monthly data Researchers, observed a negative coefficient in certain of the nation stock markets, including India, Austria, Belgium, Canada, Chile, China, France, and Ireland. Brazil, Indonesia, Japan, Mexico, Spain, and Turkey, on the other hand, recorded a positive coefficient. The researchers demonstrate that data regarding expected and unexpected inflation has a positive influence on market players such as traders, fund managers, and investors making appropriate portfolio decisions. Companies might use it as an indicator to modify their reported earnings by raising prices. According to the study it demonstrates that there is an inverse relationship between stock market returns and inflation.

Agarwal, (2016) depicts that foreign investment is dependent on real investment in the primary market of an economy's overall financial growth, using GDP as a strong indicator, as GDP depicts the macro economic importance of FIIs into domestic markets. The study found that GDP capacity is far more dominant and predictive than FII investments in IPOs, which are examine dusing Beta value however, which cause positive contribution to the economy at large.

Dr Kapoor et al., (2015) examines the local stock markets are not directly dependent on FIIs and FDIs; rather, they rely on providing opportunities to industries for technological advancement, gaining access to global managerial skills and practices, optimizing utilization of human and natural resources, and gaining a global competitive advantage with greater efficiency. FIIs provide a greater competitive edge for the nation's progress. and the study demonstrates how a weak misperception among overseas investors may have an intentional influence on the home markets of any specification and market trend.

Tripath et al., (2014) elaborates indices of Indian stock market attract foreign investors to invest, which causes volatility in the market, apart from this volatility depends on other criteria such as macro economics and microeconomics of the nations, from the study shows that FII'schase Indian market for high return, as a result volatility index moves higher in the short run, which changes trading behaviour of investors, by this there exit a bi-directional movement of funds in the market.

Ahmad Mi et al., (2014) focuses from 1999 to 2013 explained FII's activities over a period of fifteen years using a monthly time series on NIFTY and SENSEX. It has been determined that the volatility of the NIFTY and SENSEX has grown overtime, although volatility peaked during the financial crisis and then declined. According to their findings, there is a moderately significant relationship between FIIs capital flows and stock market volatility, with the highest monthly volatility occurring in 2010, 2012, and 2013, and the lowest volatility occurring in 1999. Further more, FIIs investment has a statistically significant influence on market volatility, as monitored by the NIFTY and SENSEX. The standard deviation implies that the NIFTY and Net FIIs Flows have varying yearly standard deviations. However, the study may have emphasized and justified which situations and criteria volatility transitions relied on in regards to the link between FII 'severed what plausible grounds volatility has normalised to a tolerable level post financial down turn.

Study on economic liberalization Hemkant kulshrestha, (2014), FII flows to India have grown in importance over the previous several decades. Foreign capital inflows have been identified as a critical source of funds for India's rising economies, which have risen faster than local resources can support. Global financial markets have grown increasingly intertwined as a result. The paper demonstrates that macroeconomic concerns benefit the BSE Sensex and Nifty. It shows that the market rises when FIIs grow and collapses when FIIs withdraw from the market in the absence of any other substantial form of capital inflows, as well as the potential negative consequences of a down turn in FII flows into the Indian economy.

Aswini A. And Kumar, (2014) outlines using descriptive research data, it is demonstrated that the influence of FII flow and rise in Indian stock market index is considerable over a longer period of time rather than a shorter period of time. Ever since India's liberalization, foreign direct funds have expanded dramatically throughout the decades, with a good link between FII inflows and the Indian stock index.

Sultana et al.,(2012) addresses the issue of infrastructure development in bolstering the nation's economic growth. FDI and FII are more important in attracting foreign capital to invest in the Indian economy, with a strong positive correlation between FDI and Sensex and FDI and nifty and a moderate positive correlation between FII and Sensex and FII. Further more, the paper emphasises that FII inflows into a country enhance output, which is dependent on the production decisions of the local investor on the other hand, FDI will provide some stronger management and governance practices.

The existing literature reveals that in India, there is a need to investigate the nature of foreign investors' investments and their contribution to the growth of the Indian stock market and its relationship with the falling market, which results in high volatility as they withdraw funds from the market, in order to determine and investigate the steps taken to control market momentum by domestic investors and to protect the rights of retail investors and the nation's growth.

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RESEARCH OBJECTIVES:

1) To identify the most reliant stock for foreign institutional investors(FIIs) in the Indian stock market.
2) To analyse the impact of foreign institutional investors(FIIs) on the BSE Sensex, Nifty and its impact on the Indian GDP.
3) To evaluate DII's competitiveness with FII's for a stabilized volatility index.

RESEARCH METHODOLOGY:

Study provides an insight at the development and influence of foreign institutional investors (FIIs) on the volatility of the Indian stock market, as well as which stocks are accountable for it. Information gathered from secondary data from various sources, including as economic intelligence, SEBI, websites, journals, and publications, is included in the scope of the study. The Sensex and Nifty have been chosen to represent the Indian stock market as they are widely used indexes by market participants as bench mark and account for the majority of market capitalization of listed companies. Data for these two indices was collected from the Bombay Stock Exchange(BSE) and National Stock Exchange(NSE).

Statistical Tools Used

- Microsoft Excel for the graphs, charts and Test.

Statistical Techniques Used

- Correlation
- ANOVA test for independence.

Analysis and Findings:

1. Demographic Analysis

The FIIs from the United States is around 36%,therefore any economic instability in the United States produces significant upheaval in the Indian stock market. After the United States, Europe accounts for approx. 26% of FIIs (the United Kingdom, Luxembourg, Ireland, and the Canada), which contributes to stock market volatility in India, while Asia accounts for roughly 21% of FIIs (Mauritius, Hong Kong, and Singapore).

Figure1: Percentage of FIIs in Indian Market

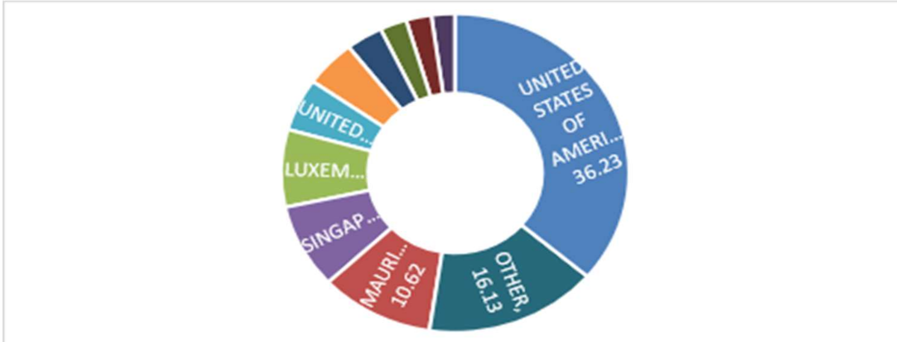


Table 1 represents the monthly data of FII's fiscal year 2021-22, Indian equities has the longest stretch of foreign outflows in five years, curtailing the market's gradual rise from pandemic lows in March 2020. Since September, foreign institutional investors have been net sellers, selling $7.9 billion worth of domestic stocks. According to Bloomberg, the four-month withdrawal run will be the longest sinceJanuary2017. The benchmark S&PBSE Sensex is down roughly 7% after hitting anall-time high in mid-October. In March-22, FII sold $5.38 billion in Indian stocks. This brings the overall selling in the past three months to $14.50 billion, and the total selling in the last six months to over $20 billion, as indicated in the table 1. This was due to FIIs selling heavily in response torisingUS bondrates and crude oil prices.

Table1: Monthly Data of FIIs 2021-22 (NSE website)

Monthly Data	FIIsData	Nifty 50	Sensex
March2022	-43,281.31	17464.75	58568.51
February2022	-45,720.07	16793.9	56247.28
January2022	-41,346.35	17339.85	58014.17
December2021	-35,493.59	17354.05	58253.82
November 2021	-39,901.92	16983.2	57064.87
October2021	-25,572.19	17671.65	59306.93
September2021	913.77	17618.15	59126.36
August2021	-2,568.52	17132.2	57552.39
July2021	-23,193.39	15763.05	52586.84
June2021	-25.89	15721.5	52482.71
May2021	-6,015.34	15582.8	51937.44
April2021	-12,039.43	14631.1	48782.36

Source: NSE Website

2. Statistical Analysis:

a. Correlation:

Table 2: Yearly data of FIIs from 2007- 2022

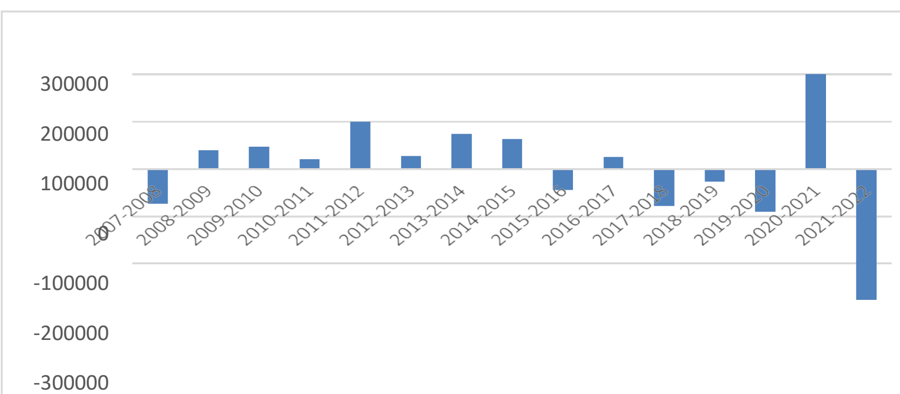
Year	Nifty	Sensex	FII
2007-08	5,249.10	15,644.44	-73229.96
2008-09	3,020.95	9,708.50	39,142.10
2009-10	5,249.10	17,527.77	47,740.84
2010-11	5,833.75	19,445.22	20,774.09
2011-12	5,295.55	17,404.20	1,00,087.84
2012-13	5,682.55	18,835.77	27,665.11
2013-14	6,704.20	22,386.27	74,481.55
2014-15	8,491.00	27,957.49	63,760.56
2015-16	7,738.40	25,341.86	-44,908.94
2016-17	9,173.75	29,620.50	25,361.67
2017-18	10,113.70	32,968.68	-78,531.46
2018-19	11,623.90	38,672.91	-26,002.19
2019-20	8,597.75	29,468.49	-90,043.54
2020-21	14,690.70	49,509.15	2,01,377.26
2021-22	17,464.75	58,568.51	-2,77,679.34

Source: NSE Website

As FII investment grows, the strength of the BSE index also moves higher, and vice versa. According to the analysis mature markets are less volatile and provide greater profits over time. With the exception of India and all other emerging markets saw dismal returns.

The number of funds channelled into India by foreign institutional investors in terms of Indian rupees is shown in graph 1. The flow of cash in the year of 2007 to 2021 from foreign investors, with enormous variations in funds year by year and a mixed pattern of investment inflows from 2007 to 2021.

Graph 1: FIIs net buy/sell from 2007-2021



Hypothesis a1: Correlation analysis between FII's with Sensex and Nifty 50.

Ha_0: The FII activity in the Indian stock market with Sensex and Nifty 50 are independent.

Ha_1: The FII activity in the Indian stock market and Sensex and Nifty 50 are dependent.

Table 3:Correlation Analysis of FIIs with Sensex and Nifty 50(2007-21)

	Nifty	*Sensex*	*FII*
Nifty	1		
Sensex	0.998991	1	
FII	-0.35979	-0.3492	1

From the correlation analysis it derives that from 14 years of data from 2007 to 2021 thereis a negative correlation between the Sensex and FIIs in the market, from table3 indicating a strong negative association exists between the indices and FII's. Hence, failed to reject null hypothesis.

Ananalys is of foreign investors involvement in the Indian market.

From the table4, it depicts that foreign investor have a large stake in the mentioned 16 stocks, which account for 7% of FIIs' overall investment in the Indian stock market. These heavy-weighted stocks with large market capitalizations and satisfactory P/E ratios attract many foreign investors to invest, at present these stocks now have significant foreign investment, and these stocks can lead half of the nifty point stories if foreign investors exert heavy selling and buying pressure on the indices of the Indian stock market.

Table4: Percentage of FII in NIFTY 50 Stocks

APOLLOHOSP	50.81
AXISBANK	46.93
DRREDDY	27.42
EICHERMOT	29.22
HDFC	69.19
HDFCBANK	35.62
HDFCLIFE	29.20
HEROMOTOCO	29.57
ICICIBANK	45.30
INDUSINDBK	46.33
INFY	33.17
KOTAKBANK	42.06
M&M	38.66

POWERGRID	28.19
TATACONSUM	25.67
UPL	34.27

Source: NSE Website

As a consequence, the market becomes extremely volatile and causing indices to fall which prompting domestic investors to invest and resulting in a tug-of-war between FIIs and DIIs. As a result, domestic investors are required to maintain and balance the market. Domestic investors have compensated for large selling of foreign investor money from the Indian stocks market during the financial year 2021-22, “resulting in $14.1 billion in outflows from the Indian market since October 21. This was somewhat offset by $16 billion in DII purchases made over the same time period."

Hypothesis a2: Correlation analysis between market stability and DIIs investment.

Ha0: Market stability is independent of DIIs investment

Ha1: Market stability is dependent on DIIs investment

Table5: FIIs and DIIs Net purchase/Sell for 2021-22

Months	Net Purchase/Sell of FII	Net Purchase/Sellof DII	Nifty 50	Sensex
Mar-22	-43,281.31	39,677.03	17464.75	58568.51
Feb-22	-45,720.07	42,084.07	16793.9	56247.28
Jan-22	-41,346.35	21,928.40	17339.85	58014.17
Dec-21	-35,493.59	31,231.05	17354.05	58253.82
Nov-21	-39,901.92	30,560.27	16983.2	57064.87
Oct-21	-25,572.19	4,470.99	17671.65	59306.93
Sep-21	913.77	5,948.85	17618.15	59126.36
Aug-21	-2,568.52	6,894.69	17132.2	57552.39
Jul-21	-23,193.39	18,393.92	15763.05	52586.84
Jun-21	-25.89	7,043.51	15721.5	52482.71
May-21	-6,015.34	2,067.23	15582.8	51937.44
Apr-21	-12,039.43	11,359.88	14631.1	48782.36

Source-NSE Website

According to table 5 and graph 2, When international investors begin selling in huge volumes, the domestic investors try to handle by buying lots of securities to maintain the market balanced and keep the volatility index low.

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Graph2:FIIs and DIIs Net purchase/Sellfor 2021-22

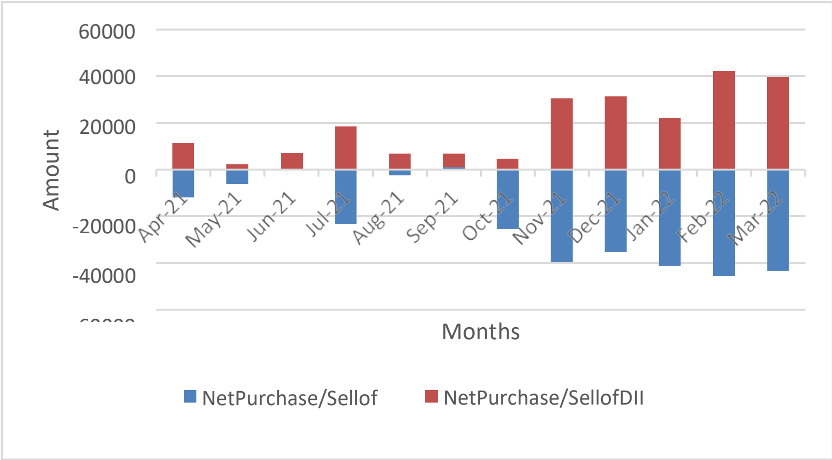
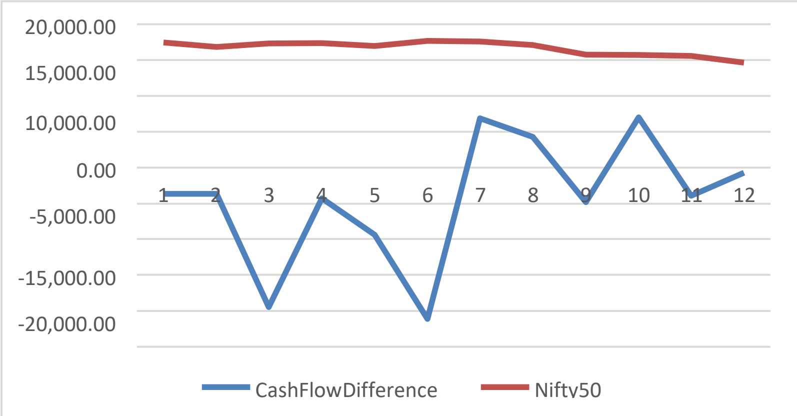


Table 6: Correlation for cash flow of FIIs with Nifty and Sensex

	Cash FlowDifference	*Nifty50*	*Sensex*
Cash Flow Difference	1		
Nifty50	-0.3214	1	
Sensex	-0.31366	0.999698	1

The difference between the cash flow of Net purchase/sell of FIIs and DIIs as compared to index movement, the correlation is $p<0.05$, i.e., -0.3, indicating that both variables increase or decrease is in different directions. Hence, the null hypothesis is rejected, as substantial selling of FIIs might pull the market down on contrary DIIs is extremely necessary to maintain the market intact and steady, thus it is vital to keep the index in steady opposite investment from either side of domestic investors

Graph3: Cash flow momentum of FIIs with Nifty



The Graph 3 illustrates that there is a significant difference between the cash flows of FIIs and DIIs at some points (table:5), the Nifty remains stably attributable to parallel investment by domestic investors. Domestic investors have a strategy to acquire a stock by making large purchases when the Sensex and nifty are at lower levels and fundamentally good stocks are available at low prices when the indices are attempting to reverse their negative trend,

Table 7: ANNOVA Test

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5.75E+09	2	2.87E+09	0.718933	0.49317	3.219942
Within Groups	1.68E+11	42	4E+09			
Total	1.74E+11	44				

whereas foreign institutional investors used to sell their investments at this time. On the other hand, DIIs become net sellers when indexes increase, or they begin to book profits on investments made at lower levels.

While, DIIs cannot influence the stock market's when it is on extreme volatility, they do play a critical role in channelling the savings of individual Indian investors. The buying and selling of DIIs have very little influence on the movement of the Sensex and nifty owing to a lack of finances and constraints.

b. ANNOVA:

Hypothesis b

Hb0: FIIs investment in Indian stock market is associated with the BSE and NSE indicesgrowth.

Hb1: FIIs investment in Indian stock market is not associated with the BSE and NSE indices growth.

For analysing the association between FIIs investment in Indian stock market with BSE and NSE indices growth, ANNOVA one-way analysis is used. As per the result p-value is 0.493 which is approximately to 0.05, hence will accept the null hypothesis Hb0. Which concludes that FII investments into India have an effect on the BSE Sensex and Nifty indexes. Hence, the flow of foreign investment (FII) into India and the change in index points are associated. This illustrates the statistical proof that FIIs have an impact on the stock market when they buy or sell. As a result of FIIs' activity, the stock market either rise or falls.

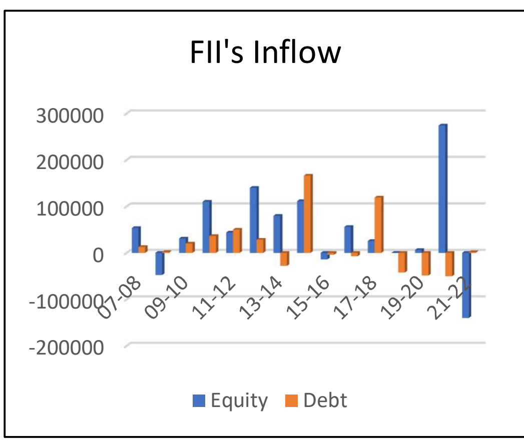
c. FIIs Impact on Indian GDP

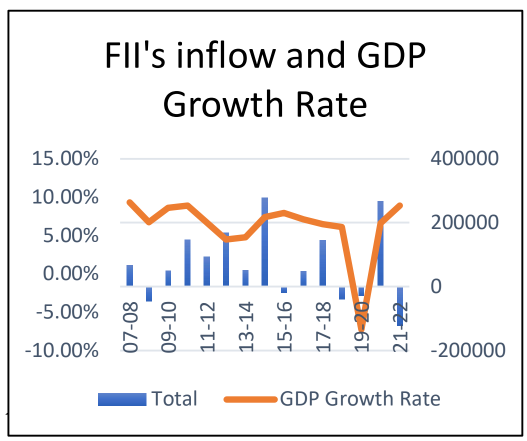
Table 8: FII in flows from 2007-08 to 2021-22

Year	Equity	Debt	Total	GDP Growth Rate
2007-08	53404	12775	66179	9.32%
2008-09	-47706	1895	-45811	6.72%
2009-10	30877	20047	50924	8.59%
2010-11	110121	36317	146438	8.91%
2011-12	43738	49988	93726	6.69%
2012-13	140031	28334	168365	4.47%
2013-14	79709	-28060	51649	4.74%
2014-15	111333	166127	277461	7.40%
2015-16	-14172	-4004	-18176	7.93%
2016-17	55703	-7292	48411	7.11%
2017-18	25635	119036	144682	6.50%
2018-19	-88	-42357	-38930	6.10%
2019-20	6153	-48710	-27528	-7.25%
2020-21	274032	-50443	267101	6.60%
2021-22	-140010	1628	-122242	8.90%

Source - NSE website

Graph 4: FII's Inflow **Graph 5**: FII's Inflow and GDP Growth Rate





period, from2008 to 2022. FIIs inflow was high in various years, including 2010-11, 2012-13, 2014-15,2017-18 and 2020-21. Simultaneously, with increased in FII inflow, their significant rise in growth rate of a GDP. However, because to the global covid-19 pandemic, there was a significant drop in the years 2018-19 and 2019-20. Despite the fact that GDP has fallen sharply, the GDP growth rate has been retained for the consecutive years.

India is the world's fastest-growing major economy in the world, according to the International Monetary Fund's GDP growth projections of 8.2 percent for Fiscal Year (FY) 2022. The IMF forecasts India's growth to be "quite robust" in 2022, making it the world's fastest-growing major economy, nearly twice as fast as China's 4.4 percent. India's balance of payments has nearly strengthened since liberalization, mainly to a significant contribution of FII flows.

Due to the influence of the Great Recession, a deteriorating US economy, and a deepening debt crisis in Europe, as well as the Covid-19 pandemic, the Indian stock market had a negative return of 52 percent, 24 percent and 12.9 percent in the year of2008, 2011, and2020respectively. Because FII had prolonged out the money for all of these years, the result was a currency depreciation and inflation. This reveals that the Indian market is dominated by foreign investors.

d. Karl Pearson's coefficient of Correlation

Table 9: Karl Pearson's coefficient of Correlation

Years	Sensex Value (X)	Deviation 27537.26(dx)	Standard Deviation	FII (Y)	Deviation 666.37 (dy)	Standard deviation	dxdy
2007-08	15,644.44	-11,892.82	141439167.6	-73229.96	-73,896.33	5460667587	878835751.4
2008-09	9,708.50	-17,828.76	317864683.1	39,142.10	38,475.7	1480381799	-685974556
2009-10	17,527.77	-10,009.49	100189890.1	47,740.84	47,074.47	2216005726	-471191437
2010-11	19,445.22	-8,092.04	65481111.36	20,774.09	20,107.72	404320403.6	-162712475
2011-12	17,404.20	-10,133.06	102678905	1,00,087.84	99,421.47	9884628697	-1007443721
2012-13	18,835.77	-8,701.49	75715928.22	27,665.11	26,998.74	728931961.6	-234929266
2013-14	22,386.27	-5,150.99	26532697.98	74,481.55	73,815.18	5448680798	-380221254
2014-15	27,957.49	420.23	176593.2529	63,760.56	63,094.19	3980876812	26514071.46
2015-16	25,341.86	-2,195.40	4819781.16	-44,908.94	-45,575.31	2077108882	100056035.6
2016-17	29,620.50	2,083.24	4339888.898	25,361.67	24,695.30	609857842.1	51446236.77
2017-18	32,968.68	5,431.42	29500323.22	-78,531.46	-79,197.83	6272296277	-430156678
2018-19	38,672.91	11,135.65	124002700.9	-26,002.19	-26,668.56	711212092.5	-296971750
2019-20	29,468.49	1,931.23	3729649.313	-90,043.54	-90,709.91	8228287772	-175181699
2020-21	49,509.15	21,971.89	482763950.2	2,01,377.26	2,00,710.89	40284861365	4409997597
2021-22	58,568.51	31,031.25	962938476.6	-2,77,679.34	-2,78,345.71	77476334275	-8637415313
Total	4,13,059.76	0.00	2442173747	9995.59	0.00	165264452289.69	-7015348457

$$\mathbf{r} = \frac{\Sigma(dx.\ dy)}{n\sqrt{\frac{\Sigma d^2x}{n} . \frac{\Sigma d^2y}{n}}}$$

$$\mathbf{r} = \frac{(-7015348457)}{15\sqrt{\frac{244217347}{15} . \frac{16526452289}{15}}}$$

r = - 0.17

The BSE Sensex and the foreign institutional investment have a close association, shows a perfect negative correlation (-1.00), indicating that both variables are related but in distinct ways, i.e., Sensex momentum and foreign institutional investments.

RESULTS & FINDINGS:

1) The correlation analysis in the research indicates that, FII investment is critical for the development and strengthening of the Indian stock market year after year and has significant relationship with environmental and geopolitical factors based on funds to invest in Indian stock market.
2) FIIs are large-scale investors in companies with high development potential, and their withdrawal of assets from those equities can cause significant market volatility. Their investments effect the movement of markets upward or downward and the as cent of Indian stock indexes has yielded in FII selling worth $14billion.
3) The hypothesis suggests that excessive selling of foreign investments can be compensated by parallel injections of cash into the market, and DIIs play a key role in ensuring market stability, and they are highly dependent on Indian markets.
4) The growth of the Indian economy and GDP changes significantly depending on total cross-border investments and equity and debt rates. In 2008 and 2020, there has been a substantial devaluation of the Indian currency and inflation due to the withdrawal of foreign portfolio investors.
5) The largest number of foreign institutional investors comes from the United States, and they are highest investors in market. Any crisis in global markets has a direct impact on the Indian market.
6) It is perceptible that Foreign institutional investors have a greater influence on the Sensex movement. therefore, it is clear that when there are positive FII inflows, the Sensex increases, whereas when there are negative FII

inflows, the Sensex drops based on Karl Pearson correlation and Statistical Analysis**.**

CONCLUSION:

In the last 22 years, the flow of FIIs has increased exponentially. Foreign investors come to India in two forms: FDI and FII, and plays a significant role in the growth of the Indian stock market. We concluded from the analysis that foreign investments and the movements of the BSE, Sensex and CNX nifty are highly connected. The findings suggest that foreign institutional investors have a high influence on the movement of the Indian stock market which is evidently proved in the alternative hypothesis. The impact of FIIs on the BSE Sensex and Nifty is significant which has negative dependency on them. There are other macroeconomic factors, such as inflation which impacts the stock markets, including FIIs. There is substantially a huge investment by the foreign investors in some companies, such as HDFC, AXIS bank, Apollo hospitals, and ICICI banks which causes market to move in either way which shows that companies stocks will substantial effected by FII investments account for the majority of indexes, and any shift in investments causes market volatility. Which depicts those markets rise with the inflow of FIIs in the market and fall when they out flow the funds. On contrary As FIIs start to sell, domestic investors should infuse the capital to keep the market stable. Huge investors come from the United States and Europe, there fore any complications in those nations have an impact on the Indian market.

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