ISSN No:-2456-2165

Impact of FII on Indian Economy/Stock Market?

Aditya Vimal

Abstract:- The prosperity and success of a country are represented by the measures of its continuous growth of the economy, which is fueled by investment. Foreign reserves, government revenue, exports as well as the quantity and nature of foreign investment are all very crucial for a nation's well-being. The FIIs have recently risen as significant stakeholders in the capital market of India. They are increasingly becoming one of the primary elements contributing to the expansion of financial markets, particularly in developing nations like India. Through this paper, our foremost goal was to analyze the affect of Foreing institutional investors on the equity market from the period 2011 to 2021. We have used various tests to study the effect. The study's findings suggested that FII investment and Nifty50 were highly influenced by the COVID-19 pandemic, which occurred during the period under study.

- *Problem Statement*

Attracted by the potential in India's primary and secondary markets, FIIs have invested approximately Rs. 31,498 crore (around US$ 4.3 billion) in 2021-22 **(Jain & Nair, n.d.)** and became one of the largest drivers of the financial markets of India. In this paper, we will be analyzing how FIIs influence the Indian Stock Market and will be covering the effect of major events on their investing decisions.

I. INTRODUCTION

Owing to the globalization of financial markets, India gradually shifted its attention away from its stringent conservative macroeconomic policy toward encouraging foreign investments. With adequate controls, foreign investors were given oppurtunisty to invest in the capital markets (both primary as well as secondary of the country) from September 14, 1992, and foreign funds began pouring in, in the year 1993. Foreign investments are regulated by the FDI policy of our government and the FEMA, 1999 (Foreign Exchange Management Act). The manner of receiving funds, issuing shares and preference shares, and reporting investments to RBI are all governed by FEMA Regulations. The Reserve bank of India(RBI) monitors the ceiling on foreign investment daily.

Foreign capital inflows raise demand for good stocks, causing stock prices to rise in the equity trading market. However, this simple statement has many complexities hidden behind it. There are a variety of risks involved in any investment, be it from domestic investors or foreign investors. To make the best use of their resources, investors categorize the risk involved further into systematic and unsystematic risk. Like other investors in the market, FIIs also have to use different techniques to minimize the risk involved. Foreign institutional investors calculate profits in international currencies. Hence currency changeover rates attract an additional foreign exchange risk on foreign investments. High volume investments demand heavy-duty analysis behind the scene. However, rudimentary techniques like diversification, and analysis of systematic measurement parameters, like beta, β (a measure of volatility, against a benchmark, like NIFTY50 or SENSEX) & alpha, α (excess return on the investment, after accounting for market volatilities) to make the best use of the dynamic security market line still hold their ground.

SEBI defines "foreign institutional investors" as an organisation based out of India, which wants to invest in securities in India. Foreign Institutional Investor are local/domestic portfolio management company or domestic asset manager that handles assets collected, imported from out of India for investing in India on behalf of a sub-account. The term, 'Foreign Institutional Investor' is commonly used to describe the firms incorporated outside of India which invest in India's financial markets, they do it after registering with Securities & Exchange Board of India (SEBI).

Investments from Foreign Investments are mainly done in the financial markets and are typically short-term **(GARG & BODLA, 2011)**. Several researchers have attempted to establish correlations between foreign investment flows and the market behaviour.

II. LITERATURE REVIEW

(Acharya et al., n.d.) examined the flow of foreign funds to the country & their relation with certain market behaviour indicating parameters, conclusion of the same was while the flows are substantially connected with market returns in India, instead of being the causes of those gains they were primarily the effects. **(Chakraborty, n.d.)** used a time-series of daily data from Jan'99 to May'02 to investigate the correlation between the Indian money market behaviour and foreign investment flows, as well as possible confounders. During the years 2002-04, **(Joo, 2014)** looked into the association between investment by FIIs and stock performance in India. Granger-causality, GARCH, & Cross-correlation techniques were used to investigate the dynamic link between Foreign Institutional investments & Nifty. **(GARG & BODLA, 2011)** analyzed the impact of foreign diversification on the Indian stock market trends, using the Bombay Stock Exchange, three Asian exchanges (Malaysia, Malaysia, & Philippines), and one American exchange (Mexico). The study found that foreign diversification had a long-term effects on the Indian markets and economy, which was influenced by other emerging economies and FII flows. Over the period 2001 to 2009, (**Jain & Nair, n.d.**) examined the relationship between investments from FIIs and Indian economic growth. **(Shrivastav, 2013)** established that FII investments and Sensex movements are highly connected in India and that FIIs have a major influence on the Sensex movement. He came to the conclusion that Foreign Institutional Investors had a substantial impact on the capital market of India (Nifty & BSE Sensex). Though all of the cases (BSE CG, BSE IT, BSE FMCG, & BSE CD) that were studied under the research showed a modest degree of relationship.

The review of literature highlighted the complexities and challenges involved in the analysis of multiple sectors of the financial market. Hence, we decided to adopt the strategy followed by the majority of researchers in the past, and pooled our limited resources towards the analysis of foreign investments in the Secondary Equity Market, as there's a significant stake of Foreign investors in this division of the equity market. For the purpose of this analysis, **Nifty50** (a market value-weighted index comprising the prices of 50 of India's largest stocks trading on the stock exchange) is used as a proxy to benchmark the market trends for the study.

- *FII Response to COVID-19 in India*

A net sell-off by foreign institutional investors (FII) in domestic stocks occurred in April, following six months of inflows. FIIs sold $1.28 billion worth of domestic securities in April, the most since March 2020, according to domestic brokerage and research firm Edelweiss Securities. In the midst of India's massive coronavirus outbreak, the rest of the world relaxed restrictions and increased vaccination coverage, which prompted the exodus. Between October 2020 and March 2021, FPIs invested $26.7 billion in stocks before the outflow last month.

In comparison to the amount of money FIIs have invested in the market since October of last year, the outflows are nothing. FIIs withdrew $1.28 billion from the banking and finance sector stocks. In the oil and gas sector, FIIs sold securities for $465 million, and in the metals sector, they sold securities for $241 million.

The sectors of cement, capital goods, automotive, pharmaceuticals, and logistics all saw a decrease in investment. Banking and finance, along with the insurance sector, accounted for the most FII inflows in the three months ending April 2021. There were $511 million in April outflows, with $788 million in April second-half outflows, according to Edelweiss.

A total of more than $200 million was invested by foreign investors in the FMCG and real estate sectors in April. April's turnaround in the Information Technology sector was also marked by net buyers. In the second half of April, as the number of cases in India rose sharply, the IT sector received the bulk of the inflows. After metals and oil and gas, FIIs increased their holdings in power, capital goods, cement, and logistics in the last three months.

When looking at a rolling 12-month period, the banking and finance sector attracted $9.410 million in foreign funds, followed by FMCG ($5.392 million), Oil & Gas ($2,980 million), and Capital Goods ($2,245,0 million). There is currently $546 billion in FPIs' AUM (Assets Under Management), a decrease from $550 billion in March.

III. RESEARCH METHODOLOGY

The data for the study was gathered from 2011 to 2021 and included monthly FII flow and Nifty50 index data. When collecting FII data, the total amount of net equity investment was taken into account. The information came from the National Stock Exchange and other online data sources. We've represented FIIs in analyses by Gross Sales and Purchases of FII. We will be using some proxy sector returns(Nifty 50) instead of analyzing complete stock market returns.

- *The following analyses were carried out:*

Preliminary time series analysis, Regression analysis, and Correlation analysis to study the dependence of the stock market (here Nifty50 is used as reference) on FII flows. Volatility analysis to study market response due to some major events(here COVID-19).

- *Data Sources and Uses*

Our goal was to investigate the effect of foreign institutional investments on the equity markets and, a unique lead-lag relationship between FII flows and NSE Nifty as well. The dataset for the analysis is made up of monthly/yearly **NSE Nifty** and **Foreign Investments flow data**. During the data collection process, we chose certain criteria. We used data about the equity investment only, for FII flows. This data was collected from the *money control website* and *NSE India website.*

We collected all the data and performed the regression analysis, correlation, and plotted time-series graphs via excel which can be seen below.

- *Data Analysis and Implications*

All our workings can be seen in the following spreadsheet: Nifty 50 analysis

ISSN No:-2456-2165

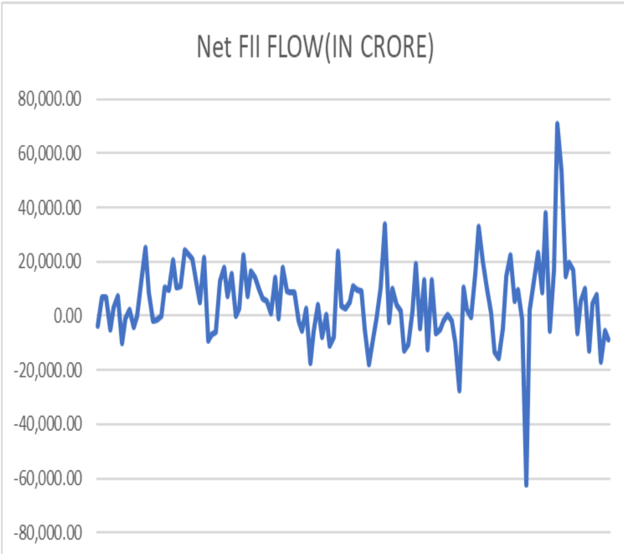

Fig 1: Net Monthly FII Flow (2011-2021)

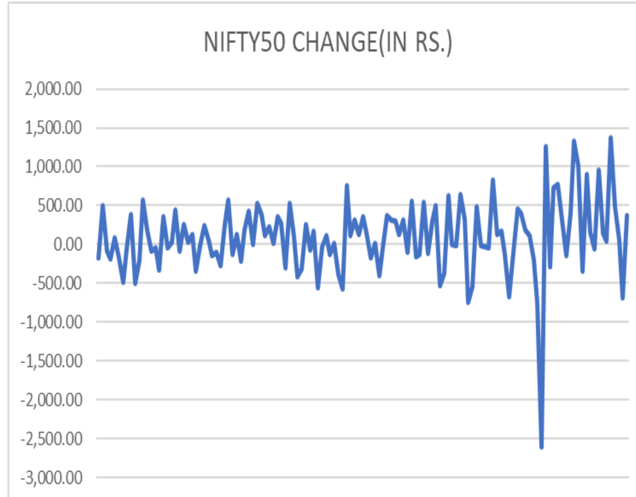

Fig 2: Net Monthly Change in NIFTY50 (2011-2021)

The following time series plots of change in NIFTY50 and Foreign institutional investments show some correlation as both the graphs appear to overlap and move together.

Net Fii Flow			***Nifty 50 Prices***	
Mean	5186.029237		Mean	9085.803053
Standard Error	1289.484406		Standard Error	274.9290234
Median	5145.3		Median	8588.25
Standard Deviation	14758.82361	**Msl310**	Standard Deviation	3146.706499
Sample Variance	217822874.3	**Project**	Sample Variance	9901761.793
Kurtosis	5.728820626		Kurtosis	0.2423388746
Skewness	0.2358343873		Skewness	0.7772737245
Range	133278.14		Range	13047.35
Minimum	-62433.51		Minimum	4624.3
Maximum	70844.63		Maximum	17671.65

Fig 3: Summary Statistics of FII Flow and Nifty50

Table 1: 10 Year correlation and Volatility analysis

Jan11-Dec21	*Nifty 50*	*FII Flow*
Nifty 50	1	
FII Flow	0.6218352363	1
	Volatility(Nifty 50)	3146.706499

According to correlation analysis, the Nifty50 movement was 62.2 percent dependent on FII Flow over a decade.

Table 2: Post covid correlation and Volatility analysis

Jan21-Dec21	*Nifty 50*	*FII Flow*
Nifty 50	1	
FII Flow	0.4485742087	1
	Volatility(Nifty 50)	1433.506619

Post covid high volatility is due to trust shown by foreign investors in the Indian economy even though it hit rock bottom during the first wave. A total of $37.68 Billion was invested in the financial year 20-21.

ISSN No:-2456-2165

Table 3: Correlation and Volatility analysis during covid

Dec19-Dec20	*Nifty 50*	*FII Flow*
Nifty 50	1	
FII Flow	0.821466955	1
	Volatility(Nifty 50)	1466.75398

High volatility can be seen during covid 19 as the investors (both domestic and foreign) as lockdown kept on extending, people were selling their investments which required intensive labor activities.

Table 4: Pre covid correlation and Volatility analysis

Jan18-Dec18	*Nifty 50*	*FII Flow*
Nifty 50	1	
FII Flow	0.485596517	1
t	**Volatility(Nifty 50)**	406.9533844

Table 5-6: Regression analysis test results over last decade

Results	
Adjusted R Square	0.3819246352
Standard Error	367.9982053
Multiple R	0.6218352363
R Square	0.3866790611

Table 6

	Standard Error	P-value	Coefficients	t Stat
Intercept	34.09373375	0.7290712831	-11.83441374	-0.3471140424
X Variable 1	0.002186866553	0	0.01972189168	9.018333404

Table 7-8: Regression analysis test results on data during covid (Jan'20-Dec'20)

Regression Statistics	
Standard Error	593.0060996
Multiple R	0.821466955
Adjusted R Square	0.6477086213
R Square	0.6748079582

Table 8

	Coefficients	Standard Error	t Stat	P-value
Intercept	-221.1084004	175.0947179	-1.262793093	0.2306505923
X Variable 1	0.02673256409	0.005357101197	4.990117437	0.00031447436

IV. RESULTS AND FINDINGS

Our analysis shows that though it appears in preliminary analysis(plot similarity and correlation test) that there is a strong correlation b/w FII Investments and NIFTY50 but this is not the case which gets clear by the conclusion we can draw from regression analysis.

The R square value was seen to be around 39%, which implies that a 39% variation in Nifty50 values was predicted by net FII flows. The value was around 67% during the COVID-19 breakdown, this shows that there 67% variation in Nifty50 values was due to net FII flows. On the other hand, our p-value was seen to be around 0.72 when we considered the 2011-21 data and 0.23 when we analyzed the COVID-19 period's data. Our model was not much significant as the p-values were high, but comparing the two values we can see that our model was considerably more significant during the COVID-19 period in comparison to the 2011-21 period.

The study's findings indicated that while FII investment and NIFTY were influenced by a variety of other macroeconomic factors affecting growth, they did not bear any causal relationship. Even though data analysis shows no evident relationship, the dependence of the Indian stock market on FII can be seen increasing with the years. Indian stock indices have risen by more than 200% during the past 10 years so has the FII Flow which indirectly has been one of the major reasons for the extraordinary performance.

V. LIMITATIONS AND FUTURE SCOPE

As stated previously, our analysis primarily focuses on FII participation in the secondary equity market and excludes other financial markets and instruments. In this respect, the study's scope could be broadened in the future to include the **bond market**, **derivatives market,** and so on to acquire a better understanding of the financial markets' growth and dependence on these institutional investors.

REFERENCES

[1]. Acharya, V. V., Anshuman, V. R., & Kumar, K. K. (n.d.). *FII Flows in Indian Equity Markets: Boon or Curse?* 7.
[2]. Chakraborty, I. (n.d.-a). *Impact of Covid-19 on the Stock Market and Corporate Firms in India*. 32.
[3]. *Impact of the Foreign Institutional Investments on Stock Market: Evidence from India*. (2022). 21.
[4]. Jain, V., & Nair, K. S. (n.d.). *Impact of FII Flows on Indian Capital Market*. 11.
[5]. Joo, B. A. (2014). Impact of FIIs Investment on Volatility of Indian Stock Market: An Empirical Investigation. *Journal of Business*, *1*(2), 9
[6]. *Foreign Institutional Investors*. (n.d.). Retrieved February 4, 2022, from https://www.ibef.org/economy/foreign-institutional-investors.aspx
[7]. GARG, A., & BODLA, B. S. (2011). Impact of the Foreign Institutional Investments on Stock Market: Evidence from India. *Indian Economic Review*, *46*(2), 303–322
[8]. *Reserve Bank of India—Master Circulars*. (n.d.). Retrieved April 1, 2022, from https://www.rbi.org.in/scripts/BS_ViewMasterCirculars.aspx?Id=3630#partI4
[9]. Kidwell, Backwell, Widbee, Sias (n.d.) *Financial Institutions, Markets, & Money* (2012)
[10]. Prof Neeru Choudhary *Lecture Slides, MSL301: Financial Institutions and Markets, IIT Delhi*