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A study on the Driving factors of Foreign Institutional Investment in Indian Stock Market (BSE)

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Abstract

India's stock market is essential to the country's economic progress. The market for stocks is an assembly point where investors, including residents and non-residents, may invest or withdraw money in the hope of seeing a capital increase. The stock market is an essential actor in the financial industry because it gives users and suppliers of financial resources a place to invest in company stocks. Examine the FII's link with the stock market of India's average monthly return. Monthly statistics were gathered for six years, from the beginning of 2016 to the end of 2021, to assess the impact of FII on the comeback of stock market of India. The relationship between the return of stocks and these variables was investigated using economic analysis.

Every factor, such as the Sensex (BSE), and FII (both dependent and independent) are included in the analysis to check the stationary before being employed in the econometric analysis. The ADF test was used to assess the validity of the unit root test. The preceding study demonstrates that there is a causal link between the FII and the Sensex has been studied using correlation and the Granger causality test.

Keywords: FII, BSE, ADF, Granger Causality

1 INTRODUCTION:

Due to the fast changes in the Indian economy, the Indian market has attracted the interest of global investors brought on by liberal economic policies and the globalization of the economy. In this era of globalization, businesses frequently aim for high volumes of commerce. One of the most obvious effects of globalization is trade flows. A significant factor driving global economic integration is international investment. Investments made by people of one nation in the financial resources and assets of another are referred to as FIIs. Large productivity is facilitated and persuaded, and the balance of payments is shaped as a result.

To enhance the extent, coverage, and quality of FII flows into India, FII registration requirements have been loosened, delays associated with procedures have been cut, costs have been decreased, and tougher disclosure requirements have been mandated. India has thus as one of the most appealing destinations for FII flows in the developing market sector today, supported also by her solid economic fundamentals. The fact that the net amount (gross purchases fewer gross sales) can be used to quantify the expanding influence of a variety of reform endeavors on flows of FII as time passed. Due to the rising dominance of foreign investors in the Indian, Studies the impact of FII flows on India's stock market have often been necessary.

Although FII flows enhance local savings and stimulate domestic investment without increasing recipient nations' foreign debt. When compared to other types of capital flows, FII flows—often referred to as "hot money" since they are excessively short-term and speculative—have a very volatile nature.

A foreign institutional investor is an organization created or established outside of India that intends to invest in India. Good news regarding the Indian economy and a rapidly expanding market have made India a desirable location for global institutional investors.

1.1 LATEST DEVELOPMENTS

Following are some recent and important FII/FPI developments:

- According to Records of depositories, during the first week of January 2022 in India, Foreign portfolio investors (FPIs) made investments of Rs. 3,202 crores (US$ 428.03 million).

- FDI stock inflows to India were Between October and December 2021, and US$12.021 billion are expected. Foreign direct investment inflows were US$43.17 billion in FY22 (till December 2021). As per a UN report, in 2020, as world's fifth-largest recipient of inflows, india would recive US$ 64 billion FDIs

- fiscal year 22, India's NSE had a total market value of US$3.337 trillion, standing sixth worldwide.

- Diplomatic Business Park, the country's first registered REIT and one of the continent's largest in terms of acreage introduced a new investment in December 2020 that it had successfully raised an institutional placement of units yielded Rs. 36.8 billion (US$ 501 million).

- Investors gained significantly from India's stock boom of Inr.72 lakhs crores (the United States $962.22 bn). In the calendar year 2021, On October 18th, 2021, the index known as the Sensex broke beyond the 50,000 threshold for the first time, hitting a life-high of 61,765.59.

- Amazon India introduced the United States $ 250 million "Amazon Sambhav Venture Fund" (also known as the startup fund). in April 2021 to encourage technological developments in digitalization, agriculture, and healthcare.

2.0 REVIEW OF LITERATURE

Kavya and Himachalpathy (2010) The Influence of macroeconomic conditions regarding FII in India was explained. The factors evaluated in the study covered, Exchange rate, IIP, Inflation rate, foreign exchange reserve, and Index return. are all factors to consider. The analysis relied on underlying data collected Between 2000 and 2015, a period of 15 years. The article extrapolates that the primary determinants influencing FII inflows included the IIP, rate of exchange, and Forex reserve.

Dasgupta's (2012) ADF tests, Johansen and Juselius developed a co-integration test, descriptive statistics, and Granger causality test, were used to investigate short and long-term correlations between macroeconomic variables as well as the BSE Sensex of the Indian economy. All factors are combined. Johansen and Juselius generated a co-integration test that identified Not less than one of the cointegration vectors for long-time connections. The Granger causality test reveals that there are no short-run unilateral or bilateral causal linkages between the Sensex at the Bombay Stock Exchange and the macroeconomic factors. As a consequence, it was found that the national stock market lacked efficiency in terms of information.

Naik Pramod & Padhi Puja (2012) There was a two-way relationship between industrial production and stock prices, as well as directly causally from the supply of money to the price of stocks, the price of stocks rising, the interest rate to prices of stocks. The researchers discover that economic indicators at macro level and the value of the stock market are inextricably linked, indicating a long-term healthy equilibrium relationship.

Ray (2013) The correlation between economic circumstances and the price of stock was studied. Industrial production is a metric of a country's total growth in the economy and impacts stock prices through its effect on anticipated future inflow of cash. As a result, a rise in IIP is projected to be favorably associated with the stock price. For the period 1990-1991 to 2010-11The causal link between production by Industries and prices of stock in India is being explored. According to the data, there is no substantial causal association between price of share in India and industrial output. Of course, result of regression implies there is probability of having favorable correlation of stock prices and actual industrial production. Higher production in industries can drive up stock values, and converse.

(Ryakala, 2017) Foreign institutional investors supplement the funding sources for the Indian stock market, ultimately strengthening the economy. They serve as a bridge between local savings and investment without growing foreign currency debt. Thus, the growing effect of international institutional investors in the Indian stock market must be properly investigated

to achieve sustainable development. Many economists and researchers have researched the link of both FIIs and the stock Exchange market of India over wide variety of durations and goals.

(Tripathi, 2017) Studied the mega extent causes of FII pours into the country of India using empirical data from Jan 1994 – Dec 2016 and discovered dual-direction causation Between net FII flows and the Bombay securities exchange Sensex. The study tried to understand the circumstances and end outcomes of FIIs net flows into the Indian economy using experimental data From SEBI's official websites, RBI, and BSE from January 1994 to December 2016. Initially, Correlation coefficient analysis was used to explore the link within Foreign institutional investors' net flows and other chosen factors. The data was then evaluated using pairwise Granger Causality tests. Because the data were in the form of a time series, the selected variables were checked for stationary behavior using Augmented Dickey-Fuller (ADF) test. The results validated bidirectional causality test.

3.0 RESEARCH METHODOLOGY

Recent study is built by secondary data and analytic. Supplementary data are gathered from different government publications such as the Reserve Bank of India, websites, yearly reports, SEBI, Economic Times, World Bank reports, DIPP, research studies, and so on. The present study considers 6 years of monthly data starting from 2016 to 2021. To have an empirical idea about the status of FII's in India trend analysis and its causal link with Indian Stock Market (BSE). The study conducted is empirical and hence descriptive research has been conducted.

3.1OBJECTIVES OF STUDY:

a) To study the recent trends of FIIs flow in India.
b) To study the stationary test of both variables (Sensex and FII)
c) To study and analyze the causal relationship between:

I. FIIs & Sensex (BSE)

INDEPENDENT VARIABLE: FIIs
DEPENDENT VARIABLE: Sensex (BSE)

.3.6 HYPOTHESIS

- **Null Hypothesis (Ho):** There is no relationship between FIIs and Indian Stock Market (Sensex)
- **Alternative Hypothesis (Ha):** There is a significant relationship between FIIs and Indian Stock Market (Sensex)

3.2 Analytical Tools & Technique

E view and the SPSS technique were used to analyze the obtained data. To study the Concept of Stationary and non-stationary series including ADF Test (Unit Root Test) method has been used. Granger causality test has endured in investigate causal link two variables.

4.0 TRENDS OF FIIs ON INDIAN STOCK MARKET

The increased presence of institutional investors in market has both merits and disadvantages. On the good side, practically all stock purchases are made based on fundamentals. So, it is critical to have the knowledge to assess, so research becomes crucial, and this leads to increased pressure on corporations to be more open and provide more information. This will result in a decrease in the information asymmetries that have long plagued Indian markets. If we look at the amount of FII flows, we can see that it is growing year after year, except for a few years when global issues impacted the Indian market as well.

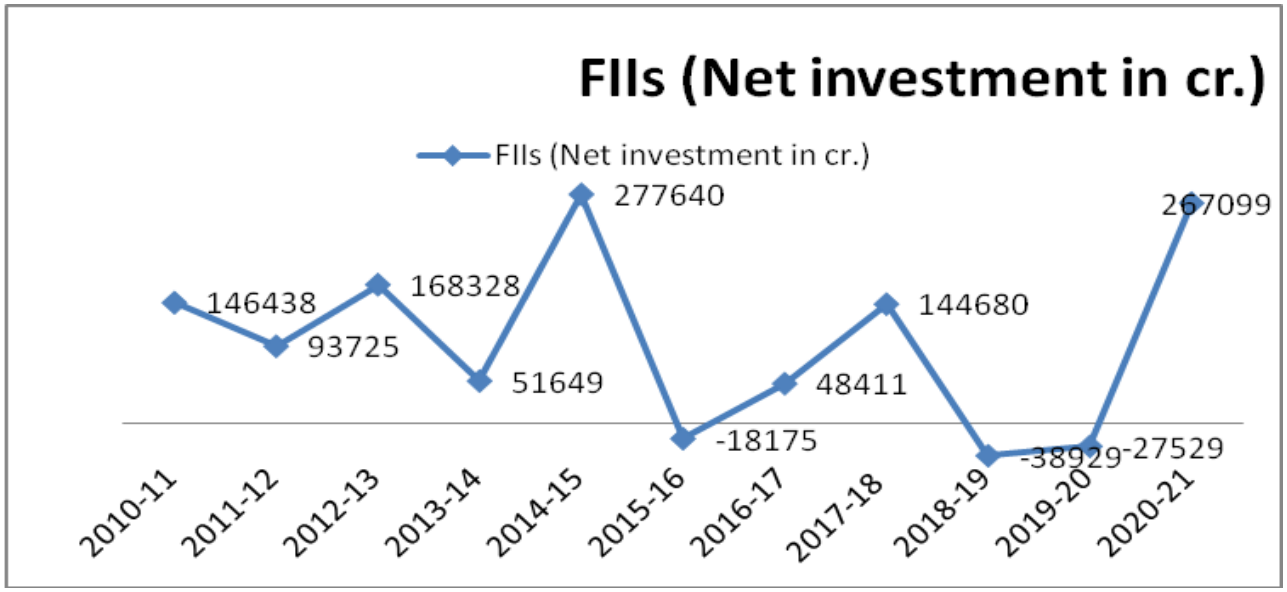
4.1 NET INVESTMENT BY FII (IN CRORE)

Year	FIIs (Net investment in cr.)
2010-11	146438
2011-12	93725
2012-13	168328
2013-14	51649
2014-15	277640
2015-16	-18175
2016-17	48411

2017-18	**144680**
2018-19	**-38929**
2019-20	**-27529**
2020-21	**267099**

Source: NSDL

Table 4.1 http://www.nsdlindia.com/publications/FIIreports.html



* The data given above is collected from reports filed to SEBI by custodians and represents FII trades undertaken on and up to the preceding trading day(s).

4.2 Companies with the greatest amount of foreign institutional investor (FII) ownership in the BSE

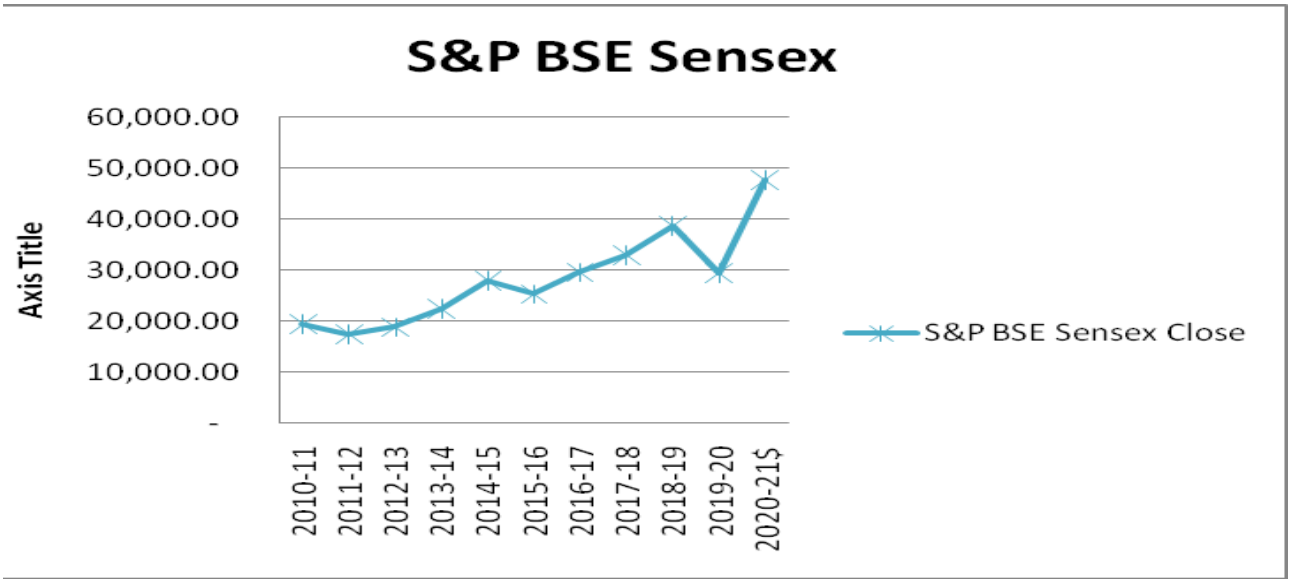
No	Company Name	Industry	FII (%)
1	Housing Development Finance Corporation	Finance	78.03
2	Shriram Transport Finance Company	Finance	52.34
3	Zee Entertainment Enterprises	Entertainment	50.84
4	IDFC	Finance	47.62
5	Axis Bank	Finance	47.60
6	UPL	Chemicals	46.53
7	YES Bank	Finance	46.30
8	IndusInd Bank	Finance	43.20
9	Infosys	Computers	42.67
10	Housing Development & Infrastructure	Construction	42.54

Source: DALAL STREET INVESTMENT JOURNAL Table no-2

4.3 BOMBAY STOCK EXCHANGE (SENSEX)

YEAR	No. of Companies Traded	Market Capitalisation (₹ crore)	S&P BSE Sensex		
			High	Low	Close
2010-11	2,933	6,839,083.61	21,108.64	15,960.15	19,445.22
2011-12	2,977	6,214,940.99	19,811.14	15,135.86	17,404.20
2012-13	2,867	6,387,887.00	20,204.00	15,749.00	18,836.00
2013-14	2,841	7,415,296.09	22,467.21	17,448.71	22,386.27
2014-15	2,818	10,149,289.97	30,024.74	22,197.51	27,957.49
2015-16	2,721	9,475,328.34	29,094.61	22,494.61	25,341.86
2016-17	2,948	12,154,525.46	29,824.62	24,523.20	29,620.50
2017-18	4,053	14,224,996.97	36,443.98	29,241.48	32,968.68
2018-19	4,086	15,108,711.01	38,989.65	32,972.56	38,672.91
2019-20	4,089	11,348,756.59	42,273.87	25,638.90	29,468.49
2020-21$	3,880	18,803,518.60	47,896.97	27,500.79	47,751.33

Source: BSE **$ up to December 31, 2020** Table no-3



4.4 STATIONARY TEST OF BOTH VARIABLES

Statistical Analysis Stationary Test:
In time series analysis it is important to check whether the data is stationary or not. This will ensure that the statistical properties of the time series do not change over time. For checking stationary, Augmented Dickey–Fuller test (ADF) test is applied to check for the presence of unit root. This test is a check on the stationary of the individual time series

a) Sensex (BSE)

Null Hypothesis: D (SENSEX) has a unit root Exogenous: Constant Lag Length: 5 (Automatic -based on SIC, maxtag=23)			
		Prob	t-Statistics
Augmented Dickey-Fuller test Statistic		0.000	-15.63561
Test Critical Values	Level 1%		-3.434570
	Level 5%		-2.863291
	Level 10%		-2.567751
*MacKinnon(1996) one-sided P values. Augmented Dickey-Fuller Test Equation Dependent Variable: D(SENSEX,2)			

Table no-4 Source: E views

Concept of Stationary and non-stationary series including ADF Test (Unit Root Test)

- As the above data analysis depicts that b=1, signifies that every lag value reflects in the current value, and the impact is constant enough. This also implies that there is a link within current and lag values which will stay allover in sample study. which also implies that our series variable **(SENSEX)is stationary at 1st difference, but not at the level test.** series has a unit root b=1

- ***"Yt= bY (t-1) + e", here if b is below 1, then series is explosive (stationary)***

***"D (Yt) = a + C*Y(t-1) +e*" (with Intercept)**

- **ADF, Unit root test (with Intercept) clearly analysis that:**

Ho (Null hypothesis) which is SENSEX has a unit test

As our p-value i.e. 0.94 is above 0.05 (5% sig level) it means to accept the Null hypothesis which indicates our Series (SENSEX) is a non-stationary one. But as we are conducting again this test on 1st difference this shows a P value that is less than 0.05%, which implies our Variable Sensex is a Stationary one.

The above Data analysis clearly shows that our dependent variable SENSEX **is stationary**, It means:

- It does have a constant mean
- It does have a constant variance

b) FII STATIONARY TEST

Null Hypothesis: FII has a unit root Exogenous: Constant Lag Length: 4 (Automatic -based on SIC, maxtag=23)			
		Prob	t-Statistics
Augmented Dickey-Fuller test Statistic		0.000	-10.31308
Test Critical Values	Level 1%		-3.434564
	Level 5%		-2.863288
	Level 10%		-2.567749
*MacKinnon(1996) one-sided P values. Augmented Dickey-Fuller Test Equation Dependent Variable: D(FII)			

Table no-5 Source: E views

Concept of Stationary and nonstationary series including ADF Test (Unit Root Test)

- As the above data analysis depicts that b is less than 1, It means that each lag value will fade away, and the link between current and lag values will be lost. This also implies that our series **variable (FII)is stationary**. Series has a unit root (b is less than 1)

- ***"Yt= bY (t-1) + e", here if b is less than 1, then the series is nonexplosive (stationary)***

***"D (Yt) = a + C*Y(t-1) +e"* (with Intercept)**

- Unit Root Test of ADF (with Intercept) clearly analysis that

Ho (Null hypothesis) which is FII has a unit test
As our p-value i.e. 0.00 which is below 0.05 (5% sig level), it means to reject Null hypothesis and accept the Alternative Hypothesis, which indicates our Series **(FII) is stationary. (level test)**

The above Data analysis clearly shows that our independent variable FII **(Foreign Institutional Investors) is stationary**, It means:

- It has a constant mean
- It has a constant variance

ADF test results with EViews are shown in a table. Since with a p-value of (0.01), we reject the null hypothesis and conclude that the NIFTY, net DII, and net FII data series have no unit root., implying that data series are stable. net DII, net FII are level stationary, but SENSEX is the first difference stationary. As a result, the data chosen for the investigation are stationary and acceptable for further analysis in the study context.

4.4 GRANGER CAUSALITY TEST

Variable		Result of Pair wise granger Causality Test			
X	Y	F statistic	Critical Value	Null Hypothesis	Result
FII	SENSEX	22.19	0.0003	Rejected	FII granger cause SENSEX
SENSEX	FII	14.83	0.0004	Rejected	SENSEX granger cause FII

Pairwise Granger Causality Tests
Date: 01/29/22 Time: 23:00
Sample: 1/01/2016 12/30/2021
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
FII does not Granger Cause SENSEX	1482	22.1957	3.E-10
SENSEX does not Granger Cause FII		14.8311	4.E-07

Table no -6

- FII does not guarantee cause SENSEX as its p-value is below 0.05 So the relationship is a significant one. On the other hand, SENSEX does not ganger cause FII also stands as a significant one as its pvalue is also below 0.05. So, in both cases null hypothesis is rejected and Both variables stand as significant ones as it states that there is a two-way relationship between given two variables.
- Table no. 6 demonstrates Granger causality link within FII and the Stock Market of India, the variables used. The table shows a bidirectional relationship between FII and Sensex. Both F-statistics are bigger than critical values (22.19, 14.83), implying that alternative hypotheses H1 and H2 are accepted. As a result, any changes in the Indian stock exchange (Sensex).

5.0 RESULTS:

For checking stationary, and the presence of unit root, the Augmented Dickey–Fuller test (ADF) test is applied. The above data analysis through E views interprets that our dependent variable SENSEX **is stationary (first difference test)**, Which means the above variable does have constant mean and constant variance on the other hand our independent variable FII **(Foreign Institutional Investors) is stationary (level test)**, It means above variable have constant mean and constant variance. These results have been interpreted by using ADF (Unit Root Method). It is examined that there is a bidirectional relationship between FII & Sensex. The F-statistic for both is greater than its critical values (22.19, 14.83) hence alternate hypotheses H1 and H2 are accepted. So, any changes in the Indian stock market (Sensex).

6.0 CONCLUSION:

Foreign institutional investors (FIIs) have become a powerful force in the growth of the Indian stock market and are increasingly recognized as a significant contributor to stock market volatility. Over the past 20 years, FII has significantly influenced the Indian Capital Market's characteristics. The success of FII investments depends on market performance. The enormous sums that FII has spent in our capital market over the past ten years have favorably impacted the capital market, corporate transparency, and governance standards. The above paper depicts a bidirectional relationship between FII and Sensex, as the Granger Causality Test investigated. Therefore, any changes to the FII or the Indian stock market will eventually have an impact on one another. Thus, it is concluded that FII investments do influence the stock market volatility of India, which can be inferred from the results of volatility on SENSEX by FII flows.

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