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An Analysis of Impact of FDI on Indian Stock Market: with Special Reference to BSE Sensex and NSE Nifty

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Abstract - FDI (Foreign Direct Investment) is an important monetary source for India's Economic development. India has emerged as one of the most favoured destination for investment in the world. It has been one of the biggest drives of financial market. Volatility of the stock market is influenced by the inflow of FDI. Therefore, the paper attempts to analyse the impact of FDI inflows on two major benchmark indices BSE Sensex and NSE CNX Nifty during the period under study of Pandemic COVID-19. The study is based on 12 months from April 2020 to March 2021. Linear Regression Model and Analysis of Variance and trend analysis are the statistical tools used by the researchers for the analysis. The study concludes that the flow of FDI has significant impact on NSE Nifty movements. Keeping in view the findings of the study suggests that the government and regulatory bodies should attract more FDI for the development of the stock market as well as nation.

Key Words: **FDI, Sensex, Nifty, COVID-19**

I. INTRODUCTION

Originally the concept of Foreign Direct Investment was introduced by Dr. Manmohan Singh in 1991 under the Foreign Exchange Management Act, 1999. FDI is a vital engine of economic growth of any country. Though the FDI India has boost in technical knowhow as well as increase the employment opportunities in India. Due to Corona the government announced lock down from March, 26 2020 to May, 31 2020. Economy was entirely affected and there was many job losses in the country. Despite of COVID 19 Indian Capital Market has been able to attract foreign investors. Volatility of the stock market has been influenced by several macroeconomic variables like GDP, Inflation, and Exchange Rates etc. FDI influences one of them. FDI has been traditionally regarded as a facilitator for the development. Initially some example from countries in the world showed that FDI does indeed contribute significantly to national objectives of growth. Over the years, Many studies focused on the effect of FDI in terms of growth, equity, technology transfer, human capital development to name a few. In this present study we aim to know the impact of FDI on two major benchmark indices BSE Sensex and NSE Nifty as well as to analyse the trend of FDI in pandemic period. The study is organised in four major parts. First Part deals with General nature of FDI in brief. In part two researchers highlight the trend of FDI and indices during study period. In third section researchers have done tested hypothesis and finally in section four researchers concludes and suggest possible improvement in the same.

II. REVIEW OF LITERATURE

1) Honey Gupta (2017) in his research paper analysed the impact of FDI on Indian Stock Market. His study is based on 10 years data from April, 2006 to March, 2016. Linear Regression, Karl Pearson's co efficient of correlation. Analysis of Variance have been used for testing the data. FDI was found significantly correlated with both the markets (BSE Sensex and NSE Nifty). His study concluded that Government of India should try to attract more FDI for development of stock market.

2) Lvis Ramirez, Financial analyst, honours College USA (2018) studied relation between Inward FDI flows and stock market development from emerging economics. Researcher examined the impact of FDI inflows on the size and liquidity of 14 developing country stock market over the period 2007 to 2016. Researcher used panel regression for finding relationship. According to research there is no significant impact of FDI inflows on the size and liquidity of the emerging stock market but there is statistically negative contemporaneous impact of FDI on index returns. He also suggested an alternate methodology (VAR analysis and Garange Causaling) for study the relationship more appropriately.

3) Athanasios Tsagkanos, Costas Siriopolous, Konstantina Vartholomatao (2019) studied FDI and stock

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market development from a new emerging market. The purpose of their study is to examine two novel theories that concern the relationship between stock market development (SMD) and foreign direct investment (FDI). Research focused on Greece for the study period 1988-2014. Integration methods and Malenkov switching regression model were used to test of robustness and relationship. Findings exhibit a weak positive and symmetric long run relationship for study period for first phase (1988-2001) the relationship was strong but in second phase it was not significant empirical methodology leads to study suggested policy that will upgrade the Greek Market for development.

4) Obet Dzomonda (2020) examined the link between Foreign Direct Investment and stock exchange value. The objective of his paper is to analyse the link between FDI and the Malaysian Stock Index value. His study applied quantitative analysis and also used the Augmented Dickey Fuller test and Granger Causality test for analysis. Result revealed that the stock market performance Granger cause FDI, but FDI did not prove to Granger causality all share Index. The findings suggested some economic policy implication for developing countries as well as policy makers should strengthen economic policies for the growth of FDI.

5) Abhishek Saurav, Peter Kusek, Ryan Kvo & Brody Vinay (2020) in their blog, surveyed the impact of COVID-19 on foreign investors evidence from the second round of a global pulse survey. According to their survey Multinational Enterprises have experienced successive and cascading efforts of the COVID-19 Pandemic. Demand and supply should have triggered a global recession. The result has been a sharp decline in global flows of foreign direct investment (FDI). The results was drawn on responses from around 80 MNC affiliates (companies with foreign owners) operating in developing countries, including low income and middle income economics. The result revealed that in the first quarter of 2020 there was a severe impact of COVID-19 on business, in second quarter the result indicated that in order to increase supply chain resilience over held of MNE's (58%) have turned to digital technologies that can help forms optimize capacity and improve the logistics. Overall study presented a mixed picture. On one hand MNE's expect future effects of the pandemic to be less adverse on other hand, firms have already experienced significant negative effects. The study indicated that policy makers in developing countries should not make the environment for foreign investment any more restrictions.

6) Dr. Naveen Kumar Sharma, Dr. Vijay Mohan Vyas, Audhesh Vyas (2020) investigated an empirical assessment of Impact of FDI on Indian stock market with special reference to BSE Sensex. Various statistical tools like coefficient of correlation regression analysis were applied to analyse the study. Data of 17 years 2001-2017 was taken for the study. The findings revealed that there has been a high degree of positive correlation between FDI & BSE Sensex. The study concluded that the behaviour of foreign direct investors has influenced the performance of stock market indices in India. The study also suggests that the government of India along with regulatory bodies should make further effort to attract more and more FDI for rapid development of the stock market.

7) Bhaskar Chhimwal & Varadraj Bapat (2020) examined the impact of foreign and domestic investments in stock market volatility from India. Their study investigated the effect of unexpected DII and FDI flows on the volatility of large cap, mid cap and small cap stocks in Indian markets. The study covered a period from March 2009 to March 2018. Augmented Dickey-Fuller test is used to check the stationary of the data. The result suggested that unexpected FDI flows increase the volatility. It was found the impact of unexpected FDI stock decrease in presence of DIIs in large cap and mid cap stocks. In small cap stocks the unexpected flows of DIIs increases volatility.

III. OBJECTIVES

I. To study the trends of FDI inflows during COVID-19 in India.
II. To analyse the impact of FDI inflows on BSE Sensex and NSE Nifty.

IV. HYPOTHESES

H01: The impact of FDI inflows on the movements of BSE Sensex is statistically insignificant.

H02: The impact of FDI inflows on the movements of NSE Nifty is statistically insignificant.

V. RESEARCH METHODOLOGY

The following methodology is followed in the present study. Descriptive research methodology has been adopted by the researchers.

5.1 Research Design:

The study is empirical in nature and a descriptive research have been adopted by researchers.

5.2 Period of study:

The present study covers the time period of 12 months from April 2020 to March 2021.

5.3 Types of Data & data sources:

The study is based on secondary data relating to FDI, BSE Sensex and NSE Nifty. The data related to FDI inflows has been taken from fact sheet of the Department of Industrial Policy & Promotion, Ministry of Commerce and Industry, Government of India. The data related to Sensex and Nifty have been collected through respective websites of BSE and NSE for the study monthly average closing index value has been used by the researchers. Apart from that the various facts have been derived from the various sources like research journals, articles, papers and magazines. FDI

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inflows included equity inflows, reinvented earnings and other capital.

5.4 Statistical Tools & Techniques:

The simple Linear Regression, Karl Pearson's co efficient correlation, ANOVA, descriptive statistics and trend analysis (curve) have been used for the analysis.

5.5 Limitation of the study:

I. The researcher has taken into consideration only FDI as independent variable but there are many other factors which also affects the stock market.
II. The study has taken only 12 months (especially COVID-19).
III. The study is based on secondary data which was assumed to be reliable.

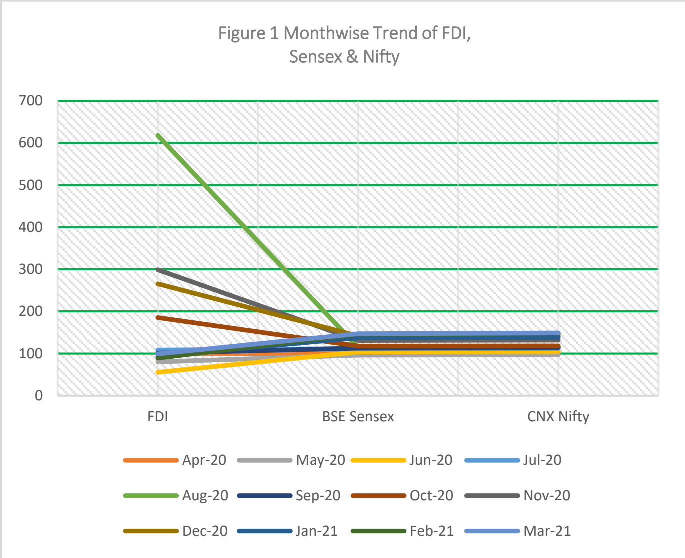
VI. IMPACT OF FDI ON BSE SENSEX & NSE NIFTY

Table 1 Month wise FDI, BSE Sensex & NSE CNX Nifty

Month	**FDI**	**BSE Sensex**	**CNX Nifty**		Trend **FDI**	Trend **BSE Sensex**	Trend **CNX Nifty**
Apr-20	21,133	33717.62	9859.9	Apr-20	100.0	100.0	100.0
May-20	16,951	32424.1	9580.3	May-20	80.2	96.2	97.2
Jun-20	11,736	34915.8	10302.1	Jun-20	55.5	103.6	104.5
Jul-20	22,866	37606.89	11073.45	Jul-20	108.2	111.5	112.3
Aug-20	1,30,576	38628.29	11387.5	Aug-20	617.9	114.6	115.5
Sep-20	21,350	38067.93	11247.55	Sep-20	101.0	112.9	114.1
Oct-20	39,160	39614.07	11642.4	Oct-20	185.3	117.5	118.1
Nov-20	63,196	44,149.72	12988.95	Nov-20	299.0	130.9	131.7
Dec-20	56,086	47751.33	13981.75	Dec-20	265.4	141.6	141.8
Jan-21	19,790	46285.77	13634.6	Jan-21	93.6	137.3	138.3
Feb-21	18,822	49099.99	14529.15	Feb-21	89.1	145.6	147.4
Mar-21	20,903	49509.15	14690.7	Mar-21	98.9	146.8	149.0

Source: DPIIT, www.bseindia.com, www.nseindia.com

The equity FDI inflows from the month April 2020 to March 2021. Sensex and Nifty have been given in above table. Table 1 portrays the FDI inflows, BSE Sensex and Nifty during the study period. In first quarter of 2020-21 FDI plunged by 60% from the year ago period to 6.5 billion reflecting Pandemic on the global investment scenario. As per data June, 2020 received the lowest FDI inflows at 11,376 billion can other hand month of August, we can see the drastic surge inflows of FDI with 1, 30,576 billion. After that mixed trends can be seen for the remaining months. After seeing the data of Sensex and Nifty despite of COVID-19 led disruptions equity markets braved all odds this fiscal and recorded inventors with high returns. After the end of the year in March 2021 Sensex and Nifty touched thus all-time high with 49,509.15 and 14,690.70 points.



The above figure depicts the trend of FDI, Sensex and Nifty for the study period. An analysis of trends in FDI shows fluctuation over the time. The beginning trend percentage of FDI has been at 100% and it decreases in initial two months later on the drastic surge in FDI in the month of August and reached to 617.9% which is the highest among the study period. After that it falls down in month of September. It is clearly seen that BSE Sensex and NSE Nifty also decrease in the month of May with FDI. It is the lowest among 12 months. At the end of the financial year both indices touched pick all time high which is clearly shown in figure.

HYPOTHESES TESTING

Analysis

To study the impact of FDI inflows on two major benchmark India, FDI has taken as independent variable and indices have been taken as dependant variable for the analysis of Researchers have been framed following model.

Model Building Y = a + bX

Model (1) = Sensex = a + b FDI

Model (2) = Nifty = a + b FDI

Y = dependent Variable

X = Independent Variable

a = Intercept

Hypothesis is tested using ANOVA. The result of regression analysis is depicted in the table below.

For Model 1:

Table 2: SUMMARY OUTPUT

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Regression Statistics	
Multiple R	0.010341528
R Square	0.000106947
Adjusted R Square	-0.110992281
Standard Error	6281.501328
Observations	11

Table 3: ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	37982.6564	37982.6564	0.00096263	0.97592576
Residual	9	355115330	39457258.9		
Total	10	355153313			

For Model 2

Table 4 :SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.000798
R Square	6.37E-07
Adjusted R Square	-0.11111
Standard Error	1856.785
Observations	11

Table 5: ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	19.7524	19.7524	5.72923	0.998142415
Residual	9	31028867	3447652		
Total	10	31028887			

The table 2 is the model summary revealed the strength of the relationship between the model and the dependent variable. The variance explained by this model is indicated by multiple R square which is 1.03. It indicates that how well our model fits to dataset.

The table 3 ANOVA depicts test for acceptability of the model from a statistical view point. The regression row and the residual raw show the information about variation. Calculated value of F is less than the tabulate value it means null hypothesis is accepted. F statistic found insignificant. Therefore, it can be calculated the flow of FDI has insignificant impact on BSE Sensex movements. Thus there is no linear relationship between the variables in the model. Hence it is concluded that Flow of FDI has no much significant impact on Sensex.

Table 4 shows the model summary for the model 2 which shows the relationship between FDI and Nifty. The variance explained by this model is indicated by multiple R square which is 6.37%. It shows the variance of the model.

Table 5 indicates the test for hypotheses on impact of FDI on Nifty. The calculated value of F (5.72923) is greater than the tabulated value (0.99814) so the null hypothesis is rejected. It is enough evidence to reject the null hypothesis. Therefore, it can be concluded that Flow of FDI in India has significant impact on NSE CNX Nifty.

VII. FINDINGS

From the study, it is clearly seen that performance of FDI looks like roller coaster ride. The BSE & NSE Benchmark hit its one year high in March 2021. There has been a direct linear relationship between FDI & BSE Sensex and FDI & NSE Nifty. It found from the trend chart that both benchmark indices moves with FDI in same direction. Moreover there has been significant impact of FDI on NSE Nifty. According to the world Investment Report-2021 published by UNCTAD, India recorded 27% increase in its FDI received in 2019, making it the fifth largest FDI recipient in the world. India is attracting record numbers of deals in information consulting and digital sectors including economic platforms, data processing services and digital payments. Government has been make FDI policy more investor friendly and remove the policy bottlenecks. The steps taken in this direction during Corona have borne fruit. The increased FDI is a result of FDI policy reforms. It also results increase in GDP. Carstrom (2002) analysed that GDP and stock prices are interrelated. According to his research, the stock prices change, no matter what the source is. It directly affects the cost of borrowing.

VIII. CONCLUSION

The findings of the study reveals that there has been a linear relationship between FDI & Sensex and FDI & Nifty. FDI is one of the predictive variables for the volatility in Indian stock market but there may be many other factors which drives the stock market. Though there is a setback due to COVID 19 it is hoped that economy of Indian will be revived in the next year and attained its economic goal. Therefore it suggests that the Government and regulatory bodies should make more effort to attract more and more FDI. India's remarkable achievement is in part due to the effects of policies that its government has put in place to attract FDI. FDI's records highs came even as COVID-19 pandemic undermined global investment flows. Reliance Retail's buy

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out of future Group at the end of multiple global capital infusions into the business similar to investment into JIO. Those foreign investors' outlays will reflect in September's data and beyond. Secondly investments in Pharma and Chemicals under PLI (Production Linked Incentive) has been increased. Government enhanced the FDI limit under the automatic route form 49% to 74% in big ticket sectors, also attracted large investment.hnIt is due to the government's understanding regarding FDI as a driver of economic growth. "Make in India" initiative liberalised many sectors for FDI. The S & P BSE Sensex and Nifty 50 logged their best financial year performance during COVID 19. We can use the phrase mad bull market run. The easy money is leaving China and finding a home in India.

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