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The Role of FDI in the Development of the Indian Stock Market

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Abstract: ***With the extreme advancement in the Foreign Direct Speculation (FDI) system during past years, Indian capital market has had the option to pull in unfamiliar speculators impressively. There has been critical upsurge in the unfamiliar direct interest in India. With this, India has arisen as quite possibly the most preferred objective for interest on the planet. Since the turn of events and the unpredictability of the Indian financial exchange has been generously affected by the inflow of FDI. Consequently, the current paper Endeavor to dissect the effect of FDI inflows on the development of BSE (Bombay Stock Trade) SENSEX and NSE (National stock trade) CNX Nifty during the time frame under investigation. The examination is basically founded on ten long time optional information for the time frame from April 2006 to March 2016. The Simple Linear Regression (stepwise strategy), Karl Pearson's coefficient of relationship, Analysis of Variance, Normal P- P plot, disperse plot, Histogram, spellbinding measurements (Mean and Standard Deviation), Compounded Annual Growth Rate, Trend Percentage and so on are the devices for the examination of information utilizing the factual bundle for sociologies (SPSS). FDI was found altogether connected with both the business sectors with the coefficient of relationship being 0.666 what's more, 0.682 separately. It was additionally discovered that FDI has influenced BSE SENSEX up to 44 percent and CNX Nifty up to 47 percent. The study inferred that progression of FDI in India has critical effect on BSE SENSEX and NSE Nifty developments. Keeping in view the discoveries of the examination, it has been proposed that the public authority of India alongside its executing bodies should attempt to pull in additional furthermore, more FDI for the smooth and fast advancement of the stock market and the economy in general.***

Keywords: Regression, Correlation, Indian Stock Market, Stock market development, BSE Sensex, NSE-Nifty, FDI.

I. INTRODUCTION

With the extreme advancement in the Foreign Direct Venture (FDI) system and the unwinding of FDI standards under programmed course in numerous areas in ongoing past, Indian capital market has had the option to pull in unfamiliar speculators extensively. There has been huge upsurge in the unfamiliar direct interest in India. With this, India has arisen as one of the most preferred Objective for interest on the planet. Different examinations in the past have uncovered that the turn of events what's more, the unpredictability of the Indian financial exchange has been generously impacted by a few macroeconomic factors (for example Gross domestic product, swelling and trade rates and so on) and the inflow of FDI being one of them. An enormous number of experimental investigations have demonstrated that FDI has assumed a crucial part in the financial development and advancement of the host nations. Since, the development of the economy advances the turn of events securities exchange, along these lines, it has gotten fundamental to dissect the effect of FDI on the Indian financial exchange.

A. Meaning of FDI

As per the International Monetary Fund, FDI can be characterized as "An Investment that is made to secure an enduring interest in an Endeavor working in an economy other than that of the financial specialist. The financial specialist's motivation is to have a powerful voice in the administration of the Endeavor."

In simple terms, Foreign Direct Investment (FDI) alludes to a long-haul direct venture made by an unfamiliar element, in the creation and the executives of a substance in another country either by purchasing an organization in the that country or by extending the tasks of existing business in that country, with the target of building up an enduring interest in the executives of the last element. Alongside the inflow of reserves, it likewise includes cooperation in the administration, joint adventure, move of innovation and mastery.

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II. REVIEW OF LITERATURE

Following are a portion of the applicable writings which have been checked on.

Nagpal et al. (2016) examined the effect of FDI and FII stream on Indian Stock market (BSE Sensex and NSE Nifty) during the time frame from 2005-06 to 2014-15. The analysis reasoned that the effect of stream of FDI and FII on Indian securities exchange was found significant.

Banerjee (2013) examined the effect of FDI and FII on Indian Stock Market (BSE and Nifty) during the downturn time frame (Jan 2008-June 2009) utilizing numerous relapse examination. It was discovered that FDI significantly affected the Indian Stock market during downturn while FII adversely impacted the Indian Financial exchange.

Tamilarasu.J (2015) examined the degree of commitment of Foreign Direct Investment in the unpredictability different Indices of BSE and NSE during the time of April 2009 to March 2014 utilizing the relationship grid examination and straightforward relapse. The examination uncovered that Foreign Direct Venture doesn't have a lot of impact the development of securities exchange files, BSE100, BSE 200, BSE 500, BSE SENSEX, CNX100, CNX 500, CNX MIDCAP, and CNX NIFTY however FDI and BSE 100 are altogether associated.

Dhiman and Sharma (2013) examined the effect of unfamiliar direct venture on the Indian financial exchange (Sensex and Nifty) during the time frame 2001-2012 utilizing coefficient of connection and relapse examination. The investigation presumed that FDI in India decides the pattern of Indian Securities exchange.

Sameera P. (2014) Analysed the pattern and example of FII and FDI stream in India and its relationship with the Bombay stock trade list. The optional information of 15 a long time has been broken down by utilizing Correlation strategy. The examination uncovered that FDI, and Sensex have solid positive relationship which was discovered huge at 1 percent level of importance.

Chauhan (2013) examined the effect of FDI, FIIs (Foreign Institutional Investment), and FPIs (Foreign Portfolio venture) inflows on the development of BSE and NSE during period 2001-2012. The optional information was examined through Regression (OLS Model), Karl Pearson's connection, Analysis of Variance. The progression of FDI and FPI were found to have huge effect on BSE Sensex and NSE Nifty developments while FIIs demonstrated an extremely low effect on Sensex and had nearly higher effect on NSE.

Kapoor and Sachan (2015) examined the relationship and effect of FDI and FII on Indian financial exchange (Sensex and CNX Nifty) by methods for factual proportions of relationship and relapse examination. The examination of information from 2002 to 2011 uncovered that the effect of stream of FDI and FII on Indian financial exchange was huge.

III. OBJECTIVES

The objectives of the study are:

1) To study the Trends and patterns of foreign capital inflow in the form of FDI in India.

2) To Study the impact of FDI on Indian Stock Market with reference to SENSEX and NIFTY.

IV. HYPOTHESIS

H_{01}: The effect of FDI inflows on the developments of BSE-SENSEX is statistically insignificant.

H_{A1}: The effect of FDI inflows on the developments of BSE-SENSEX is statistically significant.

H_{02}: The effect of FDI inflows on the developments of NSE-CNX Clever is statistically insignificant.

H_{A2}: The effect of FDI inflows on the developments of NSE-CNX Clever is statistically significant.

V. RESEARCH METHODOLOGY

A. Research Design

The present study is empirical in nature & a descriptive research approach has been adopted.

B. Period of the Study

The current investigation covers the timeframe of a long time from April 2009 to March 2019.

C. Type of Data and Data Sources

The investigation is basically based on the Secondary information relating with FDI, BSE (Bombay Stock Exchange) SENSEX and NSE (Public stock trade) CNX Nifty. The information identified with FDI inflows has been gathered from different sources like fact sheets of the Department of Industrial policy and and promotion, Bulletins of Reserve Bank of India, Ministry of Commerce and

Industry, Government of India. The BSE SENSEX and NSE-CNX Clever information have been gathered from the site of www.bseindia.com and www.nseindia.com separately and at that point the day by day shutting list esteem is found the middle value of to get the list esteem for every year. The different confirmations and realities have been gotten from the various sources for example diaries, research papers, articles, and so on

D. Statistical Tools and Techniques Applied

The Simple Linear Regression (stepwise strategy), Karl Pearson's coefficient of relationship, Analysis of Variance, Typical P-P plot, Scatter plot, Histogram, elucidating measurements (Mean and Standard Deviation), Compounded Annual Growth Rate, Trend Percentage and so forth are the devices for the examination of information utilizing the factual bundle for sociologies (SPSS).

E. Limitation of the Examination

Following are the major limitation of the study:

1) The investigation has mulled over just three factors however there are numerous different variables which could be concentrated further.
2) The investigation is restricted to the timeframe of ten years as it were.
3) The investigation basically relies on the distributed auxiliary information which was thought to be solid.

VI. ANALYSIS AND DISCUSSION

Table No.1 presents the measure of stream of FDI in India in terms of US$ million, the BSE Sensex and Nifty during the time of study. The table unmistakably portrays that, FDI complete inflows in the year 2009-10 was US $ 22826 million and from that point it expanded in next two years to US $ 41874 million in 2011-12. In any case, because of the Global Economic Crisis (2011-12) what's more, changes in as far as possible in different areas, the FDI inflows into India had diminished to US $ 37745 million out of 2013 what's more, further dropped to US $ 34847 million before the finish of year 2014. In 2015, FDI inflows rose to US $ 46556 million anyway in the year 2016 and 2017 FDI inflows into India declined. From that point the absolute FDI inflows expanded to US $ 55457 million before monetary year's over 2018-19. Accordingly, FDI absolute inflows in India indicated a fluctuating pattern during the time of study with a huge upsurge in 2018-19 as contrasted with 2009-10 and recorded a Compounded Annual Development Rate (CAGR) of 9.28 percent.

Table 1: Year- wise FDI, BSE SENSEX and NSE CNX Nifty

YEAR	FDI	TREND%	BSE SENSEX	CNX NIFTY
2009-10	22826	100	12277.33	3572.44
2010-11	34835	152.61	16568.89	4896.59
2011-12	41874	183.45	12365.55	3731.02
2012-13	37745	165.36	15585.21	4657.76
2013-14	34847	152.66	18605.18	5583.54
2014-15	46556	203.96	17422.88	5245.10
2015-16	34298	150.26	18202.10	5520.34
2016-17	36046	157.92	20120.12	6009.51
2017-18	45148	197.79	2656.53	7962.17
2018-19	55457	242.96	26322.10	7981.35
Total	389632	-	184025.89	55159.82
Mean	38963.2	-	18402.589	5515.982
S.D.	8835.36	-	4926.809	1508.017

Source: Compiled from the fact sheet on foreign direct

The starting pattern level of FDI has been at 100% level what's more, it expanded and came to 242.96 % in the year finished 2016, which was most noteworthy among over years.

A. Impact of FDI on Indian Stock Market

To consider the effect of FDI on BSE SENSEX and NSE-CNX Clever during the time of study, FDI is taken as autonomous variable and BSE SENSEX and NSE-CNX Nifty are taken as subordinate variable. With the end goal of examination Simple Linear Relapse (stepwise technique) has been applied utilizing SPSS 20.

Model Building: $Y = a + b X$

Model (a): SENSEX = a + b FDI

Model(b): NIFTY = a + b FDI

Where,' a' means intercept, 'b' means slope, 'Y' means Dependent variable, 'X' means Independent Variable.

The result of Regression Analysis is depicted in the tables Below:

Table 2: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	Durbin-Watson
BSE SENSEX	.666	.444	.374	3897.38677	1.419
NSE CNX NIFTY	.682	.465	.398	1169.97086	1.423

Table 3: ANOVA

Model		Sum of squares	df	Mean square	F	Sig.
BSE SENSEX	Regression	96944114.541	1	96944114.541	6.382	0.35b
	Residual	121516989.33 9	8	15189623.667		
	Total	218461103.880	9			
NSE CNX NIFTY	Regression	9516386.935	1	9516386.935	6.952	.030b
	Residual	10950654.490	8	1368831.811		
	Total	20467041.425	9			
a. Dependent Variable: BSE-SENSEX and CNX- NIFTY						
b. Predictors: (Constant), FDI						

Table 4: Coefficients

Model		Unstandardized coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	B		
BSE SENSEX	(Constant)	3929.221	5860.114		.671	.521
	FDI	.371	.147	.666	2.526	.035*
NSE CNX NIFTY	(Constant)	981.320	1759.169		.558	.592
	FDI	.116	.044	.682	2.637	.030*
*Significant at 5 percent significance level.						

The table 2 is the model rundown uncovered the strength of the connection between the model and the needy variable i.e., R, the Karl Person's connection coefficients. Connection between Foreign Direct Investment with BSE-Sensex is 0.666 whereas with CNX Nifty is 0.682. It demonstrated that the two factors are in incomplete positive connection with FDI, which was found huge at 5 percent level of importance. R square, the coefficient of assurance, demonstrated the percent of variety in the needy variable as clarified by the model. Table 2 shown that 44.4 percent and 46.5 percent of the variety in BSE SENSEX and NSE-CNX Nifty was clarified by the model, FDI individually. Durbin-Watson static advises regardless of whether the suspicion of auto relationship. The nearer the esteem is to 2, the better it is. The Durbin-Watson coefficient of 1.419 and 1.423 demonstrates that there exists no auto connection for what it's worth close to 2. The Table 3 ANOVA portrays test for the adequacy of the model from a factual perspective. The Regression column shows data about the variety represented by the model i.e., Explained fluctuation. The Residual column shows data about the variety that has not been accounted by the model i.e., unexplained difference. The relapse is a lot not exactly lingering amounts of squares for both the ward factors, which demonstrates that the variety in SENSEX and Clever is clarified by the model. F measurement is found huge, since the p esteems (0.035 and 0.030 separately for Sensex and Nifty) are under 0.05, so invalid speculations H01 and H02 are dismissed and the elective theories Ha1 and Ha2 are acknowledged. Along these lines, there exists a direct relationship between the factors in the model. Thus, it has been reasoned that Flow of FDI has huge effect on BSE SENSEX and NSE CNX Nifty developments. The Unstandardized coefficient B = Beta incentive in Table 4 gives the slant estimation of the relapse model and furthermore appeared how much the Dependent Variables (BSE Sensex and NSE CNX Nifty) are needy upon the independent variable. In table 4 the b-esteem for FDI is 0.371, it implies that if FDI increments by 1 unit, Sensex will increment by 0.371. Also, for each 1-unit increment in FDI, CNX Nifty will increment by 0.116. The assessed relapse conditions are: BSE SENSEX = 3929.221 + 0.371 FDI NSE CNX NIFTY = 981.320 + 0.116 FDI

The Normal P-P plot, Scatter plot and Histogram were utilized to check homoscedasticity and ordinariness of the residuals. The histogram showed that the residuals rough a typical while the Normal P-P plot and Scatter plot appeared that in the present direct relapse examination there is no inclination in the mistake terms.

B. Hypothesis Testing

The null hypothesis regarding BSE SENSEX and NSE CNX Nifty and FDI can be expressed as follows:

H_{01}: The effect of FDI inflows on the developments of BSE SENSEX is Statistically insignificant.

H_{A1}: The effect of FDI inflows on the developments of BSE SENSEX is Statistically significant.

The p-value identified with FDI, and BSE SENSEX is 0.035 which is under 0.05. Since the p value is under 0.05, there is enough evidence to reject the null hypothesis. Along these lines, it can be presumed that Flow of FDI in India has Significant effect on BSE SENSEX developments.

H_{02}: The effect of FDI inflows on the developments of NSE-CNX Nifty is statistically insignificant.

H_{A2}: The effect of FDI inflows on the developments of NSE-CNX is Statistically Significant.

The p-value identified with FDI and NSE-CNX Nifty is 0.030, which is under 0.05. Since the p value is under 0.05, there is sufficient proof to reject the null hypothesis. Hence, it can be concluded that Flow of FDI in India has significant effect on NSE-CNX Nifty developments.

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VII. FINDINGS OF THE STUDY

A. The progression of FDIs has shown an expanding pattern during the time of the except the years 2012-13, 2014-15 and 2016-17.

B. It is found that there is a direct linear relationship between FDI and BSE Sensex and FDI & NSE CNX Nifty, which means if FDI increases then BSE Sensex and NSE CNX Nifty will also increase in same way.

C. There has been a moderate level of positive relationship between FDI and BSE Sensex and FDI and NSE CNX Nifty.

D. There has been significant effect of FDI inflows in India on developments in Indian stock exchange i.e., BSE Sensex furthermore, NSE CNX Nifty.

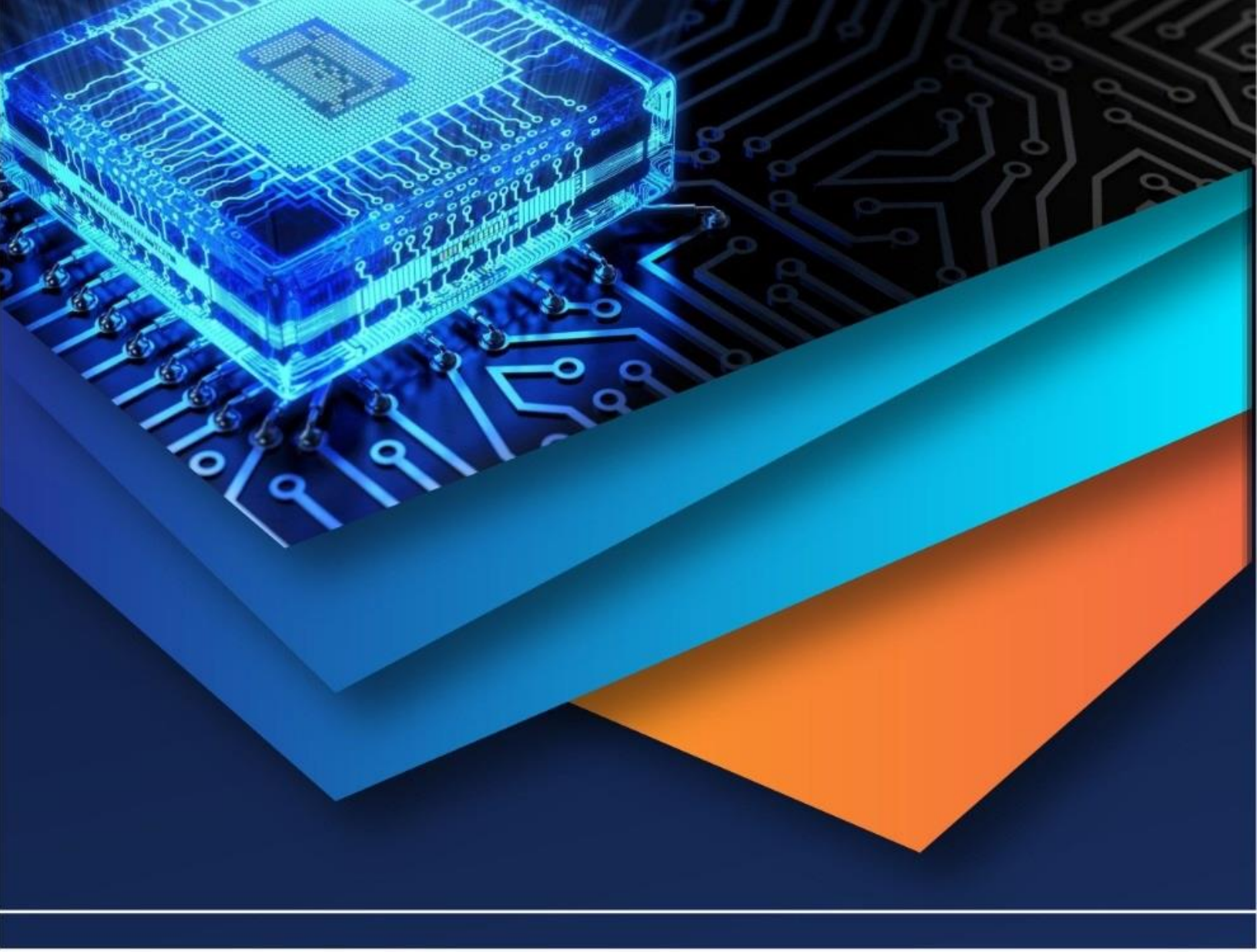
VIII. CONCLUSION

The findings of the study concluded that there has been a moderate level of positive connection and direct linear relationship between FDI and BSE Sensex and FDI and NSE CNX Nifty. The result of the regression residual examination uncovered that FDI has been significant indicators to measure the bull and market patterns in Indian financial exchange. Since the coefficient of assurance isn't equivalent to zero which demonstrated that FDI is one of the prescient factors for unpredictability in Indian securities exchange yet there might be numerous other factors which drives the securities exchange. Thus, it tends to be closed that the conduct of unfamiliar direct financial specialists has impacted the exhibition of financial exchange lists in India. Keeping in see the discoveries of the examination, it has been recommended that the legislature of India alongside its executing and administrative bodies should put forth additionally attempt to pull in additional also, more FDI for the smooth and fast improvement of the financial exchange and the economy in general.

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