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AN EMPIRICAL STUDY ON FOREIGN DIRECT INVESTMENT IN INDIA AND ITS IMPACT ON THE ECONOMY

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Abstract

Foreign Direct Investment (FDI) is simply an investment from one individual or business entity to any other nation. FDI happens and takes place when a industry takes the ownership in a business entity in any another nation and thereby it is very much important for a developing economy like India such that our country can develop and grow. Foreign Direct Investment is not as simple as it looks like and it has got some socio economic significance as well which urged the researcher to conduct the study. Therefore, the researcher made an attempt to study the impact of FDI in our economy. Here, correlation and regression analysis was conducted by the researcher to establish an empirical relationship between the dependent and independent variables. At first correlation was conducted to find the association between the dependent and independent variables and based on that regression analysis was done to test the research hypothesis of the study and also to establish an empirical relationship between them. On the basis of the results of the statistical tests used, it was clearly found that the foreign direct investment in our country do have a significant impact in our economy and it is very much responsible in a way for the growth and development of our nation. Logical conclusion was given by the researcher on the basis of the findings of the study, and along with that scope for future researchers in the concerned area has also been provided such that it can be implied effectively in future for the nation's development and sustainability.

Keywords: Correlation; Economy; Foreign Direct Investment; Regression; Significance

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1. Background

A foreign direct investment is an investment which is not a foreign portfolio investment by a definite notion of its direct control and it is actually a type of controlling ownership in a individual or business in a country by a business entity based on some another country. FDI is important for up gradation of human skills, technology and capability of managing in different sectors of the company and also within the country and therefore FDI is a crucial aspect for sustainable development and growth of our nation. The idea of actual foreign direct investment started way back when India started to attract foreign investments in the year 1991 with the New Economic Policy and thus our economy has scaled to great heights in the level of foreign direct investment during the 2000's. After that it grew at a larger scale and since the year 2014, it emerged as one of the largest foreign destination globally with a significant rise in FDI and now our economy is among one of the top emerging markets of the global market which would have been thought impossible and fragile a few years ago. Since the year 1991, our government has focused on policy liberalization to welcome FDI inflow in our country.

Foreign direct investment has always achieved a certain degree of financial stability in our economy which enabled growth and development in the process to compete and sustain in the global market place. Our economy undertakes foreign direct investment since 1991 when they completely focused on liberalization of policies. Foreign direct investment have always been a key an crucial influencer for accelerating our economic development and growth through generation of employment, transfer with the help of technology, and improved access to global capital, managerial expertise, distribution network and product markets. FDI may help or offer a firm with new advertising channels and markets, access to new era, production centers, talents, products and also financing; and thereby it has lots of advantages which helps not only an individual business entity but also the society and economy as a whole in the process. The foreign direct investment inflow in our country is doing well compared to other countries which has attracted foreign direct investment at a record level also during the tough situation with a total foreign direct investment inflow amounting to $81.72 billion in the financial year 2020 -2021 with a 10% higher rate than the other previous financial years and they are also expected to get foreign direct investment of US$ 120 to 160 billion per year by 2025 according to reports. Therefore, the adequate FDI in our country should sustain for future for the overall development of our economy.

2. REVIEW OF LITERATURE

For the purpose of identification of research gap, the researcher has gone through several existing literatures in the concerned area to fulfill the objectives of the study:

Chakraborty, C., & Nunnenkamp, P. (2006) pointed out that there has been a considerable change in foreign direct investment in India after opening up of the world markets. The researchers have conducted granger causality test within the panel co-integration to study the growth of foreign direct investment in India and it was found that the growth effects of foreign direct investment vary largely across different sectors. It was also found out that the effects of FDI in the service sector have largely attracted the FDI after the reform period. **Gaikwad, P. S. (2013)** found that there is a long term relationship between foreign direct investment and the growth of GDP with its determinants of the labor force like the FDI and capital and the researcher also indicated that the FDI has a positive but small effect which have a significant impact on GDP, while the capital and the force of labor has the largest amount of effect on GDP. **Boora, S. S., & Dhankar, S. (2017)** analyzed the importance and role of foreign direct investment in development and growth of hotel industry of India and it was found that the core benefits of foreign direct investment are spread across a wider and distant section of the economy if compared from other sections of the society. The researchers concluded that FDI of our country should play a concrete role in the development of the hotel industry of our country and in other developing nations. **Siddiqui, A. A., & Ahmed, S. (2017)** conducted a co-integration test and then it was followed with a random effect model to find the relationship between FDI and our country's growth in respect to the output of our economy. The researchers also used granger causality test to assess the causation of each of these variables and the results suggest that although growth has an impact on such investment but FDI does not have any crucial impact on our countries growth at the sectoral level. **Singh, S. (2019)** conducted a sectoral analysis of secondary data of foreign direct inflows from the year 2000 to 2018 and the researcher found out that there were different facets of positive foreign direct investment that spills over the country for the growth and development of the nation.

2.1. Research Gap

On the basis of the above detailed extensive review of literature, the researcher has found that there has been minimal definite research work undertaken yet on Foreign Direct Investment such that for gaining an in depth knowledge regarding FDI in India and its impact on our economy, and its importance for the futuristic growth and development of our Nation. Since such studies are less concentrated on but it does have a huge socio economic significance for our country, and considering this as a major research gap of the study, the researcher choose to fill up the gap through its below defined research objectives and research questions of the study by conducting an explorative, analytical and empirical research study.

2.2. Research Objectives

Based on the detailed review of literature, the research study has been concentrated on the following research objectives by the researcher:

- To study how the Foreign Direct Investment of our country is having an impact in our economy.
- To know the relevance of Foreign Direct Investment for the nation's economic growth and development.
- To know the current scenario and the future prospect of Foreign Direct Investment in India.

2.3. Research Questions

The researcher raised the following research questions depending on the nature and objectives of the study:

- Does the Foreign Direct Investment of our country is having an impact in our economy?
- Is Foreign Direct Investment relevant for the growth and economic development of our country?
- What is the current situation and future prospect of Foreign Direct Investment in India?

3. Methodology of the Study

Methodology is very important part of the study and it describes how the study has been conducted in a step wise manner. It considers the overall technique that has been used to carry out the research work. The methodology part of the study here consists of the sources of data and period of the study; selection of variables; statistical tools used; and the research hypothesis used in the study.

Sources of data and Period of the Study: The study is empirical, analytical and explorative in nature which is completely based on secondary sources of information and data. The secondary sources of data and information has been collected from various research bulletins, articles, news reports, published information and journals that was used to fulfill the above mentioned research objectives of the study. The proposed study is conducted over a period of sixteen financial years ranging from the year 2003-04 to 2018-19 which is completely based on the researchers own judgment and rationale, since data for sixteen years was thought of to be sufficient enough to draw an inference and conclusion there from by analyzing the foreign direct investment of our country such that it influences our economy or not.

Selection of Variables: For the purpose of the study, data relating to four variables are considered here based on the need and importance of the study, which has been collected from the annual reports of the Reserve Bank of India through its website and also from the website of Department of Commerce, Ministry of Commerce and Industry. Among the four different variables used in the study, Gross Domestic Product (GDP) has been considered as the dependent variable and the rest other variables used here are independent variables and that which are considered over here are Total Export from India, Total Import to India and the Foreign Exchange Rates of our Country. The dependent variable GDP had been considered here as the result of economic growth and development whereas the independent variables depicts the overall nature of foreign direct investment in our country.

Statistical Tools used: At the first instance, Pearson's Correlation was conducted to interpret the data and to find the association between the dependent and the independent variables, and then based on the findings of the correlation matrix; the researcher further proceeds with multiple regression analysis such that to establish an empirical relationship between the dependent variable among its independent variables and also to test the formulated hypothesis of the study. Here, log transformation is used for all the four variables in the study to make the data better normal and then to proceed with correlation and regression. SPSS software has been used to conduct the study such that the collected data can be systematically presented, and then analyzed. Then finally based on the results of the study, logical and suitable conclusion was provided by the researcher.

Research Hypothesis: On the basis of the objectives and importance herein the study, the following formulated and testable research hypothesis has been developed by the researcher:

1. H_{01}: There exists no significant impact of India's Total Export on Gross Domestic Product of our country.
2. H_{02}: There exists no significant impact of India's Total Import on Gross Domestic Product of our country.
3. H_{03}: There exists no significant impact of Foreign Exchange Rates on Gross Domestic Product of our country.

4. Results and Findings

To fulfill the research objectives of the study based on the narrated research methodology and to test the formulated research hypothesis depending on the research questions asked in the study, the researcher have gone with the following systematic procedure to find a relationship between the foreign direct investments of our country with the Indian economy:

Table 1: Pearson's Correlation

		Gross Domestic Product	India's Total Export	India's Total Import	Foreign Exchange Rates
Gross Domestic Product	Pearson Correlation	1	.977(**)	.963(**)	.931(**)
	Sig (2-tailed)		.000	.000	.000
	N		16	16	16
India's Total Export	Pearson Correlation		1	.995(**)	.881(**)
	Sig (2-tailed)			.000	.000
	N			16	16
India's Total Import	Pearson Correlation			1	.847(**)
	Sig (2-tailed)				.000
	N				16
Foreign Exchange Rates	Pearson Correlation				1
	Sig (2-tailed)				
	N				

Based on the above Pearson's correlation matrix depicted above in Table 1, it can is visible that there is a significant and linear association between the dependent variable GDP of India with its explanatory variables at 1% level of significance. There is a positive and high correlation between the dependent variable GDP with its independent variable India's Total Export at 0.977that is significant both at 5%

and 1% level of significance, which indicates a positive and strong association between GDP and India's Total Export. The correlation between dependent variable GDP and its independent variable India's Total Import is 0.963, which is significant both at 5 % and 1% level of significance and depicts a positive and high correlation between them indicating a strong association between GDP and India's Total Import. There is also a strong and positive correlation between GDP, which is the dependent variable with its independent variable Foreign Exchange Rates at 0.931 indicating a strong and positive association between GDP and Foreign Exchange Rates, which is significant both at 5 % and 1% level of significance. As per the Pearson's correlation, we can say that there is positive and strong association between the dependent variable GDP with its independent variables, that depicts that there a fair amount of relationship between the foreign direct investment of our country with the Indian economy ensuring that the FDI have a concrete role to play for the evolvement and growth in our economy.

Since the Pearson's correlation matrix ensures that there is a positive and significant association between the dependent variable with its independent variables, the researcher further proceeds with multiple regression to make and establish a empirical relationship between the dependent variable with its explanatory variables. Log transformation has been used for the dependent and independent variables to better establish the relationship and thus the study was examined through the below formulated multiple regression model:

$\text{Log } Y = \beta 0 + \beta 1 [\text{Log } X1] + \beta 2 [\text{Log } X2] + \beta 3 [\text{Log } X3] + \varepsilon$

Where, Y = Gross Domestic Product of India;

X1 = India's Total Export;

X2 = India's Total Import;

X3 = Foreign Exchange Rates of our country;

$\beta 0$ is the constant term and the slope of the regression which measures the amount of change in Y associated with an unit change in β; and

ε is the Error term.

Table 2: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.988(a)	.977	.971	.10516	.937

a Predictors: (Constant), Foreign Exchange Rates, India's Total Import, India's Total Export

b Dependent Variable: Gross Domestic Product

Source: Researchers Computation (Generated through SPSS)

The above Table 2 is all about the regression model summary and here it is clearly observable that the value of R is 0.988that is significant both at 5% and 1% level of significance, which indicates a significant and linear association between the dependent variable GDP among its independent variables India's Total Export, India's Total Import and Foreign Exchange Rates. The R value here means the correlation coefficient between the dependent and explanatory variables and its statistical significance can be observed from the P value at 0.000 from Table 3 which is given below. The value of R square is at 0.977, signifies that more than 97% of the variation in the dependent variable has been explained by its independent variables. The adjusted R square value is at 0.971, which is also very high. The value of Durbin-Watson in the model is 0.937 and it is less than 2.5, which indicates that there is no autocorrelation present in the regression model.

Table 3: ANOVA Table

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.538	3	1.846	166.910	.000(a)
Residual	.133	12	.011		
Total	5.670	15			

a Predictors: (Constant), Foreign Exchange Rates, India's Total Import, India's Total Export

b Dependent Variable: Gross Domestic Product

Source: Researchers Computation (Generated through SPSS)

Table 3 is the ANOVA Table in the regression model and here it can be depicted that the value of F is 166.910, which measures the ratio between the mean square of regression and its residual that is significant both at 5% and 1% level of significance and it is also known as the error term in the model. The ANOVA Table depicts the overall fit of the model and thereby the table is of crucial importance. The value of P herein is 0.000, which is statically significant and it signifies that the overall fit of the model is good and reliable.

Table 4: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.252	.720		1.739	.018		
India's Total Export	.651	.601	.705	1.084	.030	.121	8.218
India's Total Import	-.001	.505	-.001	-.002	.998	.106	9.326
Foreign Exchange Rates	1.005	.391	.310	2.571	.024	.134	7.457

a Dependent Variable: Gross Domestic Product

Source: Researchers Computation (Generated through SPSS)

The regression equation obtained from the above regression coefficient table is as follows:
$\text{Log } Y = 1.252 + 0.651[\text{Log } X1] – 0.001[\text{Log } X2] – 0.219[\text{Log } X3] + 1.005[\text{Log } X4] + \varepsilon$

Table 4 is about regression coefficients and it depicts the estimated values of its coefficients including their P values along with their intercept terms. Accordingly, it is found that the constant term and the coefficient of the independent variables are significant at 5% level of significance. The table depicts that the unstandardized beta value of India's Total Export is 0.651, which explains that for every 1 unit change in India's Total Export there will be a 0.651 unit change in Gross Domestic Product of our economy which is also significant at 5% level of significances with a P value of 0.030 which is less than 0.05. The second explanatory variable with a P value at 0.998, explains that the India's Total Import value has no significant impact on the dependent variable Gross Domestic Product of our country. The last independent variable of the regression model Foreign Exchange Rates is significant at 5 % level of significance with a P value of 0.024, which explains that for every 1 unit change in the Foreign Exchange Rates in our country; there will be an 1.005 unit change in the Nation's Gross Domestic Product since the unstandardized beta value of Foreign Exchange Rates being 1.005. Thereby, it can be clearly said that the FDI in India influences our economic development, Gross Domestic Product being the result of economic development in India. The Variance inflation factor (VIF) here in the model is less than 10 for each and every independent variable in the table which shows that the regression model is free from multicollinearity among the variables.

5. Discussion and Conclusion

On the basis of the above findings and results of the study, it was found that there were both significant and insignificant results arising to test the formulated hypothesis on account of the impact on our economy in a positive or negative way because of FDI in our country which is given below as follows:

- H_{01} is rejected at 5% level of significance which signifies that there exists a significant impact of India's Total Export on Gross Domestic Product of our country.
- H_{02} is accepted at 5% level of significance which depicts that there exists no significant impact of India's Total Import on Gross Domestic Product of our country.
- H_{03} is rejected at 5% level of significance which shows that there exists a significant impact of Foreign Exchange Rates on Gross Domestic Product of our country.

According to the findings and results of the study, we can clearly say that the FDI in our country does have a definite impact on our economy. Weather it is import, export or the foreign exchange rate; all are crucial for the economic growth and development in our country. Though it is seen from the findings of the study that the total export from India and the foreign exchange rates have a strong influencing factor on the economic situation of our country rather than total import from India but actually all the factors of foreign direct investment do have an definite impact on our country and it do influence the economic growth and development of our nation. It was found that India's Total Export do have a positive and significant impact on Gross Domestic Product of our country and the reason being the total exports from our country bring much value and utility to our economy thereby developing our society in that process and the reason for foreign exchange rates is also same since it also has a significant and positive impact on GDP of our country. It was also observed that the India's Total Import does not have a significant impact on Gross Domestic Product of our country and the possible reason being it actually does not add some value to our economy rather it outflows nation's wealth in a certain way. The relevance and importance of FDI in a developing country like India is of very much crucial for its economic stability and for that the total exports made to other countries from India is of much importance and the policy makers should also look up to this.

The current scenario of Foreign Direct Investment in our country is also commendable and it also has a greater future prospect since it has become an attractive market place for global investors in recent terms. But the government along with the policy makers should take necessary steps from time to time as there are and will be global competitors running their business operations globally. The economic stability of our country is very much dependent on how well a particular sector performs and FDI is an important aspect for every sector of our country such that it will ensure economic stability in the nation. Currently the situation of FDI inflows is good in our country but it can perform much more beyond that by simply opening up of different sectors associated with exports. It can be further improved by concentrating on various government and public policies through constructing a definite framework and microeconomic policies that would be favorable for productive and systematic investments which will indeed amplify the process of economic development and growth in the process. There is a definite relationship between FDI in India with its growth and development and thereby the role of such investment is very much essential which also needs adequate promotion from the government to industrialist for the futuristic development of every area of our economy. Gross Domestic Product is one of the crucial results of growth and development in an economy and the influencing capability of FDI with the variables export from India and foreign exchange rates having a significant and positive impact signifies that such investment will bring progressive growth and development in the economy. Furthermore, the inflow of FDI will also bring skillful labour along with enhancement of jobs which is very much important for the sustainable development of our country.

Limitations of the Study and Future Research Scope

The study has been basically based on secondary sources of data and information collected from various reliable sources and therefore the future researchers can conduct research work based on collecting primary sources of information and data to generate more accurate results regarding foreign direct investment and our economy. Small amount of variables has been taken by the researcher to study and understand the impact of FDI in Indian economy and thereby lot other important variables like human development index, inflation, sensex and growth in population can be considered by future researchers to understand the better impact of FDI. Future researchers can increase the data set for a large number of periods for better results since a reasonable period of data was used in this research work. The study could be further increased by conducting a cross country analysis of the study by conducting the foreign direct investment growth of different other countries and then comparing with our economy to better understand the measures that could be taken in future. Furthermore, the particular research work has been conducted using basic statistical tools and thus appropriate and suitable sophisticated statistical tools could have been utilized to generate more in depth knowledge regarding the FDI inflows in our country for the betterment of the economy.

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