IMPACT OF FOREIGN DIRECT INVESTMENT ON SELECTED MACRO-ECONOMIC VARIABLES OF INDIAN ECONOMY

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Abstract

Apart from being a critical driver of economic growth, foreign direct investment (FDI) is a major source of non-debt financial resource for the economic development of India. Foreign companies invest in India to take advantage of relatively lower wages, special investment privileges such as tax exemptions, etc. For a country like India where foreign investments are being made, it also means achieving technical know-how and generating production and level of employment.

Therefore, India has gained favour among investors as attractive investment destination. The World Bank has also stated that the private investments in India is expected to grow by 8.8 per cent in FY 2018-19 to overtake private consumption growth of 7.4 per cent, and thereby drive the growth in India's gross domestic product (GDP) in FY 2018-19.

In this paper an effort has been made to develop an understanding of the investment decisions, trading strategies and behaviour of FDI in Indian market. This research is based on secondary data of last 12 years (2006-2018) and results prove that FDI's are the cause for the changes in the values of majority of macro- economic variables, rather than an effect.

Keywords: Foreign Direct Investment, World Bank, Macro economic variables, GDP, Indian economy, Economic growth.

I. Introduction

Foreign direct investment (FDI) is observed as a factor that motivates economic growth of the developing countries through direct and indirect ways. Various governments from developed and developing countries have belief that FDI can help them deceive the poverty state. It enhances the domestic investment, which plays a crucial role in the sustainability of growth and development of an economy. As a result, many developing countries, including India, have obtained open-handed motivations and some macroeconomic reforms and compassionate policies in order to attract FDI inflows to ensure investor-friendly environment. FDI can also serve as a means of transfer of technology and knowledge.

FDI provides a win-win situation to both the 'investing country' as well as to the 'host country'. The investing country can take advantage of relatively lower wages, special investment privileges such as tax exemptions, etc. and the free market accessibility in the host country. The effects of FDI in the host country are normally supposed to be increase in the employment opportunities, aggregate productivity, outflow of exports and transfer of technology advancement. FDI motivates domestic investment, domestic savings, international trade, foreign exchange reserves and thereby correcting its Balance of Payments position. All these factors together contribute towards the growth of an economy. However, the governmental trade barriers and policies for the foreign investments may affect inflows of FDI in terms of less or more contribution towards economic growth and Gross Domestic Product (GDP) of the country.

India has liberalized it's FDI policy (2005) and allowed up to 100% FDI stake in ventures. Industrial policy reforms have significantly reduced industrial licensing requirements, removed restrictions on expansion and facilitated easy access to foreign technology and FDI. As a result, FDI inflows in India averaged 1318.29 USD Million from 1995 until 2018, reaching an all-time high of 8579 USD Million in August 2017 and a record low of -1336 USD Million in November 2017. Even then the global share of the FDI inflow in India is very low. In this situation, the FDI inflows should be stimulated expressively in all domains of the Indian economy.

The significance of FDI in the world economy has increased rapidly. Several theories and studies have been established to explain FDI with a number of factors comprising the micro and macro determinants. These theories reveal that there is a strong and positive correlation between FDI and economic growth and long-run relationship between FDI, GDP and export in India. This study emphases on the impact of FDI flows on some selected macro-economic determinants.

II. REVIEW OF RELATED LITERATURE

Sahoo Dukhabandhu & K. Mathiyazhagan Maathai, (2003): The main objective of the paper was to study the role of FDI in promoting the growth of the economy through export promotion. The annual data was used from the period 1979-80 to 2000-01. The Johansen co-integration test was used tovalidate the long run relationship between Gross Domestic Product (GDP), FDI and Export (EX). It was found that there is same relationship when the Index of Industrial Production (IIP) substitutes GDP. The author stated that Export plays a better role in the Indian economic growth as compare to FDI. It was also concluded that the positive elasticity coefficients between EX, GDP and EX, IIP is more than the positive elasticity coefficients between FDI, GDP& FDI and IIP. Thus, it wassuggested to expose the export-oriented sectors so that a higher growth of the economy can be achieved through the growth of these sectors.

Nelson P, (2012): The study examined empirically the relationship between foreign direct investment (FDI) and economic growth in India covering the time period from 1990-91 to 2010-11. The methodology adopted to demonstrate the relationship between GDP and Foreign Direct Investment (FDI) was econometrics techniques such as Ordinary Least Square (OLS), Unit-Root Test and Granger-Causality Test.It was found that according to OLS technique there is positive relationship between FDI flows and GDP, as per Granger Causality Test there is unidirectional causality between foreign direct investment indicators and economic growth in India and unit Root Test concluded that the variables are not stationary at their levels. The paper concluded that for the macro level analysis, the important determinants of FDI inflows into India are the real effective exchange rate (REER), interest rate, the wholesale price index (WPI) and the GDP at factor cost.

Misra Srikant, (2012): The objective of the study wasto point out the negative and positive implications of FDI initiative on the economy in Indian context based on secondary data from the period of 1990-2010. The positive implication of FDI flows for workers in host economies recommend that a unified FDI-friendly policy framework could be a useful component for the development of the economy. The policies so designed affects not only FDI inflows but also its composition.

Dhiman Rahul, (2013): The aim of the study was to undergo the trends and patterns of foreign capital flow in India in the form of FDI and to perceive the impact of foreign capital in the form of FDI on the stock market. The study concluded that the flow of FDI has expanded during the studied period of 11 years 2001-2011 (except during 2002 to 2004). It was also determined that there is a strong positive correlation between FDI & Sensex and FDI & Nifty. The flow of FDIs into India and trends of BSE Sensex and CNX Nifty are dependent. It was found that the inflow of FDI has a significant impact on capital market and further persuades the trend of Indian Stock Market.

Vasanthi T. & Aarthi S., (2013): The main objective of the paper was to analyze the important dimensions of FDI in India. It was concluded that FDI plays a vital role in improving the economic growth and development of India by stimulating domestic investment, increasing human capital formation and by facilitating the technology transfers. To achieve the objectives of second generation of economic reforms and economic development the FDI inflows are needed by India as an element of investment enhancing the financial position of the country. It also contributes to the GDP and foreign exchange reserves of the country.

BaruaRashmita, 2013: The main objective was to study the impact of FDI on the growth of an economyandto find out the correlation between FDI, GDP and Exports. The data used was collected from RBI Statistics Database on Indian Economy from the period of 2000-2012. The statistical tools used were Simple Regression, Multiple Regression Models, Correlation analysis, ANOVA and Durbin-Watson test. The results showed that the variables FDI and Exports are statistically significant and play a vital role in enhancing the GDP of Indian Economy. It was also concluded that FDI & exports, FDI & GDP and GDP & Exports are all positively and highly correlated with each other.

Goyal Dimple and Jain Ritu, (2014): The study analyzed the trend of FDI equity inflows in different sectors and regional offices in India overthe periods of 2000-2013.It was concluded that there are high variations in the inflows of FDI equity. The studyexposed that in the service sectorthere is maximum contribution (28%)of total FDI inflows and Maharashtra, Dadra & Nagarhavali, Daman & Diu got the highest contribution (32%) of total FDI inflows.

Ould Limam, (2015): The purpose of this research paper was to investigate the impact of FDI inflows on the Gross Domestic Product (GDP) of Mauritania and the relationship between Gross Fix Capital Formation (GFCF) and GDP. The study covered the time period from 1976-1995. The quarterly data was obtained from World Bank Indicator (WBI). The methodology adopted to demonstrate the relationship between Mauritanian GDP and Foreign Direct Investment (FDI) and GFCF was Multiple-Regression-Model along with numerous econometrics techniques such as Unit-Root Test, Granger-Causality Test and Ordinary Least Square (OLS). GDP in this model was used as dependent variable whereas FDI and GFCF were measured as independent variables. It was concluded that according to the Unit Root Test all the variables were not stationary at level except FDI, however GDP and GFCF were stationary. The model showed the positive and significant relationship of GDP, FDI and GFCF. The Granger Causality Test depicted that the p-values obtained are more than 5% hence there was no causality between the variables (GDP and FDI). It was also found that increasing trend of FDI also increases the GDP of the country.

III. RESEARCH METHODOLOGY

Any research requires an elementary plan of action to achieve the objectives effectively and efficiently within a period. The correctness and accessibility of data is very significant to carry out this research. In order to fulfill the objectives of the study, few hypotheses have been formulated based on the variables which are further validated through the use of statistical tools.

3.1 OBJECTIVES OF THE STUDY

- To study the impact of Foreign Direct Investment (FDI) on GDP.
- To study the dependency of Exports on FDI.
- To study the impact of FDI on Imports.

- To substantiate the need of FDI for promotion of exports and analyse the relationship between exports and FDI.
- To study the trends and patterns of foreign capital flow into India in the form of FDI.

3.2 FORMULATION OF HYPOTHESES

To meet the objectives of the study, the following hypotheses have been formulated:

- Null Hypothesis (Ho): There is no significant impact of FDI on GDP. 1.
- Alternative Hypothesis (H1): There is significant impact of FDI on GDP.
- Null Hypothesis (Ho): There is no significant impact of FDI on Exports. 2
- Alternative Hypothesis (H1): There is significant impact of FDI on Exports.
- Null Hypothesis (Ho): There is no significant impact of FDI on Imports.

Alternative Hypothesis (H1): There is significant impact of FDI on Imports.

3.3 NEED OF THE STUDY

The main purpose of this study is to find relationship between FDI and GDP, Exports & Imports. It also attempts to study the impact of FDI on selected macro-economic variables. This study helps the economy for formulating better foreign trade policy, Taxation policy, duty free trade with outside world and overall growth of Indian economy.

3.4 RESEARCH DESIGN

A research design is the requirement of methods and procedures for acquiring the required information. Design to be adopted here is exploratory research. It basically seeks to extract information about the impact and relationship between FDI and selected macro-economic variables like GDP, Export and Import.

3.5 SAMPLE SIZE

Twelve years data from 2006 to 2018 is taken for the study.

3.6 DATA SOURCE

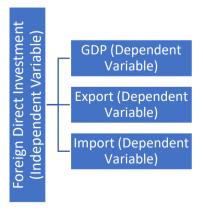
While deciding about the method of data collection for the study, there are two types of sources of data collection namely, Primary data and Secondary data. For attaining the objectives of the study, data has been collected from the secondary sources over a period of 12 years (2006-2018). The data is composed largely from numerous websites, published annual reports, various newspapers, journals, World Bank reports, research reports, fact sheet on foreign direct investment, press notes of government of India, FDI database etc. The data collected from these sources have been compiled as per the need of the paper.

3.7 STATISTICAL TOOLS

The study attempts to seek the impact and relationship between FDI and selected macro-economic variables by using coefficient of correlation and Analysis of Variance. The data are analyzed through statistical method using MS Excel. The tools are applied to measure the relationship between independent (FDI) and dependent variables (macroeconomic indicators i.e. GDP, Export and Import).

3,8 RESEARCH MODEL

Based on the literature review, the following conceptual research model is proposed.



MODEL DESCRIPTION:

FDI: FDI is an investment made by a firm or an individual in one country in a business in another country for which the foreign investors get the control over the company purchased. The Organization of Economic Cooperation and Development (OECD) defines control as owning 10% or more of the business. FDI provides the benefits to both the 'investing country' as well as to the 'host country'. The significance of FDI in the world economy has increased rapidly.

GDP: It is the total value of all final goods and services that has been produced in the country in a period of time often quarterly or annually. It doesn't make any difference that if it's produced by the citizens of that particular country or foreigners. If they are located within the country's boundaries, their production is included in GDP. To avoid double-counting, it measures the final value of the final product, but not the portions that go into it.

Export: An export is a function and component of international trade whereby it includes the goods and services produced in one country and purchased by residents of another country for future sale or purchase. The sale of such goods and services adds to the producing country's gross output. It doesn't matter what the good or service is. It doesn't matter how it is sent to another country. If it is produced domestically and sold to someone in a foreign country, it is an export.

Import: Import is also a function and component of international trade whereby it includes the goods and services brought in one country by its residents and produced by another country. The residents include citizens, businesses and the government. Countries are most likely to import goods that their domestic industries cannot produce as competently or economically as the exporting country as well as those raw materials or commodities that are not available within their borders.

IV. RESULTS AND DISCUSSION

4.1 Results of Descriptive Statics of Study Variables

Table 4.1: Descriptive Statics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FDI	12	56390.00	291696.00	165407.1667	77833.92871
GDP	12	4294706.00	16600000.00	8986548.2500	3487404.22599
EXPORT	12	571779.00	1952168.79	1372542.2958	529806.25459
IMPORT	12	840506.00	2962897.70	2064372.0242	756193.29727
Valid N (listwise)	12				

Table 4.1 displayed mean, standard deviation, maximum minimum of the macroeconomic variables of the study. The descriptive statistics indicated that the mean values of variables (FDI, Export, Import, GDP) were sufficient large enough than minimum values. The maximum value of the variables shows the maximum limit of the chosen macro economic variables in the specific period of study.

The standard deviations for each variable indicated that data were widely spread around their respective means.

4.2 HYPOTHESIS TESTING

HYPOTHESIS 1:

Null Hypothesis (Ho): There is no significant impact of FDI on GDP.

Alternative Hypothesis (H1): There is significant impact of FDI on GDP.

GDP = a + b (FDI) + e

Where, GDP = Gross Domestic Product FDI= Foreign Direct Investment E= Error Term

The annexure table 1 is used for testing hypothesis 1.

Table 4.2 Model Summary

Model	R	R Square	Adjusted R	Std. Error of the
			Square	Estimate
1	.879ª	.773	.750	1744244.91182

a. Predictors: (Constant), FDI

Table 4.3 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
	Degraceien	10335796746616	4	10335796746616		oooh
	Regression	1.810	1	1.810	33.973	.000 ^b
1	Residual	30423903124018	10	3042390312401.		
	Residual	.438		844		
	Total	13378187059018	11			
	TUIAI	0.250				

a. Dependent Variable: GDP

b. Predictors: (Constant), FDI

Table 4.4 Coefficients^a

	Tubio 414 Cocincione					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
_	(Constant)	2472349.456	1225814.170		2.017	.071
ı	FDI	39.383	6.757	.879	5.829	.000

a. Dependent Variable: GDP

The value of R in table 4.2 is 0.879 indicates that there is a high correlation in FDI and GDP. This has also proven by p value of Anova in table 4.3 which is less than 0.05 shows the model fit that means there is significant impact of FDI on GDP. The Coefficient significance value of FDI in table 4.4 is also less than 0.05 again proves the same relation. The Coefficient value of constant is 0.071 which is greater than p value signifies that there is significant amount of GDP with zero FDI in Indian economy. The value of R² is 0.773 in table 4.2 shows that there is 77.3% impact of Foreign Direct Investment on Gross Domestic Product. Therefore, in the absence of proper evidence we reject null hypothesis.

HYPOTHESIS 2:

Null Hypothesis (Ho): There is no significant impact of FDI on Exports.

Alternative Hypothesis (H1): There is significant impact of FDI on Exports.

 $\mathbf{E}\mathbf{x} = \mathbf{a} + \mathbf{b} (\mathbf{FDI}) + \mathbf{e}$

Where, Ex = Export

FDI= Foreign Direct Investment

E= Error Term

The annexure table 2 is used for testing hypothesis 2.

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.754ª	.569	.526	364920.71386

a. Predictors: (Constant), FDI

Table 4.6 ANOVA^a

M	Iodel	Sum of Squares	df	Mean Square	F	Sig.
	Regression	1755970067469.575	1	1755970067469.575	13.186	.005 ^b
1	Residual	1331671274006.376	10	133167127400.638		
	Total	3087641341475.951	11			

a. Dependent Variable: EXPORT b. Predictors: (Constant), FDI

Table 4.7 Coefficients^a

Mode	el	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
1	(Constant)	523464.308	256457.668		2.041	.069
	FDI	5.133	1.414	.754	3.631	.005

a. Dependent Variable: EXPORT

The value of R in table 4.5 is 0.754 indicates that there is a good relation in FDI and export. This has also proven by p value of Anova in table 4.6, is 0.005 which is less than 0.05 shows the significant impact of FDI on export. The Coefficient significance value in table 4.7 of FDI is less than p value which again proves the same relation. The Constant coefficient value is 0.069 which is greater than 0.05 shows the existence of export in Indian economy without FDI. The value of R² in table 4.5 is 0.569, suggest that there is 56.9% of impact of Foreign Direct Investment on Export. The impact of foreign direct investment on GDP is more than the impact on export. Therefore, in the absence of proper evidence we reject null hypothesis.

HYPOTHESIS 3:

Null Hypothesis (Ho): There is no significant impact of FDI on Imports.

Alternative Hypothesis (H1): There is significant impact of FDI on Imports.

Im = a + b (FDI) + e

Where, Im = Import

FDI= Foreign Direct Investment

E= Error Term

The annexure table 3 is used for testing hypothesis 3.

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726ª	.526	.479	545754.24613

a. Predictors: (Constant), FDI

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Table	49	$\Delta N(1)$	VΔa

Ν	lodel (Sum of Squares	df	Mean Square	F	Sig.
	Regression	3311634359547 .765		3311634359547.765	11.119	.008 ^b
1	Residual	2978476971646 .806	10	297847697164.681		
	Total	6290111331194 .571	11			

a. Dependent Variable: IMPORT b. Predictors: (Constant), FDI

Table 4.10 Coefficients^a

Model U		Unstandardize	d Coefficients	Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
1	(Constant)	898340.700	383543.207		2.342	.041
	FDI	7.049	2.114	.726	3.334	.008

a. Dependent Variable: IMPORT

The value of R is 0.726in table 4.8 indicates that there is a high impact of FDI on import. This has also proven by p value of Anova in table 4.9 is 0.008 which is less than 0.05 shows the significant impact of FDI on import. The Coefficient significance value in table 4.10 again proves the same relation with low value of FDI 0.008 which is less than p value of 0.05. The constant coefficient value is 0.041 which is also less than p value signifies that there is insignificant amount of import without FDI. The value of R² is 0.526, suggest that there is 52.6% of impact of Foreign Direct Investment on Export. Therefore, in the absence of proper evidence we reject null hypothesis. It is observed from the result that elasticity of coefficient between FDI and import is 7.049 which imply that 1% increase in FDI may cause 7.049% increase in import.

IV. HYPOTHESIS ACCEPTANCE OR REJECTION

Based on the above findings and the significance of statistical analysis, all three null hypothesis are rejected. In other words, there is a strong impact of foreign direct investment on gross domestic product, export and import. The regression results confirm that foreign direct investment is the important factor for increase the economic situation.

- The results of the GDP model (model 1) shows that both the variable included under study are statistically significant. It is observed from the result that elasticity of coefficient between FDI and GDP is 39.38 which imply that 1% increase in FDI may cause 39.38% increase in GDP.
- In the Export model (model 2), the variables under study proved to be statistically significant indicating the role of FDI and exports play a vital role in accelerating the GDP of Indian Economy. It is observed from the result that elasticity of coefficient between FDI and export is 5.13 which imply that 1% increase in FDI may cause 5.13% increase in export.
- In the Import model (model 3), the variables under study proved to be statistically significant indicating the role of FDI and Imports of Indian Economy. It is observed from the result that elasticity of coefficient between FDI and import is 7.049 which imply that 1% increase in FDI may cause 7.049% increase in import.

V. CONCLUSION

To conclude, the findings of the study indicate that the role of foreign direct investment is crucial in estimating the growth of Indian economy. Growth of any country is dependent on cash inflows. Results show that FDI inflow has been continuously increasing in past few years which is the basic reason for increase in the major macro-economic variables like gross domestic product, export and import.

The study clearly divulges that FDI not only acts as a vehicle for increasing the pace exports but it is also a significant variable that alters the level of GDP of the country. FDI can accompaniment local developmental measures by boosting export attractiveness, creating employment and strengthening the skill base, improving technological capabilities, and accumulating financial resources for development. It can also help to plug India into the international trading system and promoting competitive

business environment. In view of this, India should continue to take steps to confirm an enabling business environment to expand India's attractiveness as an investment destination.

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Annexure

Table1:

Years	FDI	GDP
2006-07	56390	4294706
2007-08	98642	4987090
2008-09	142829	5630063
2009-10	123120	6477827
2010-11	97320	7795313
2011-12	165146	8974947
2012-13	121907	9215125
2013-14	147518	9817822
2014-15	189107	10522686
2015-16	262322	11358000
2016-17	291696	12165000

2017-18	288889	16600000

Table 2:

Years	FDI	Export
2006-07	56390	571779
2007-08	98642	655864
2008-09	142829	840755
2009-10	123120	845534
2010-11	97320	1136964
2011-12	165146	1465959
2012-13	121907	1634318
2013-14	147518	1905011
2014-15	189107	1896348
2015-16	262322	1716378
2016-17	291696	1849429
2017-18	288889	1952169

Table 3:

Years	FDI	Import
2006-07	56390	840506
2007-08	98642	1012312
2008-09	142829	1374436
2009-10	123120	1363736
2010-11	97320	1683467
2011-12	165146	2345463
2012-13	121907	2669162
2013-14	147518	2715434
2014-15	189107	2737087
2015-16	262322	2490298
2016-17	291696	2577666
2017-18	288889	2962898

Source: Indias Public Finance Statistics for 2002-03 to 2013-14

Budget documents of Central and State Governments for 2008-09 to 2014-15

RBI"s Bulletin May, 2016 dt. 10.05.2016

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