A STUDY OF ECONOMICS IMPLICATIONS OF FOREIGN DIRECT INVESTMENT

IN INDIA

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ABSTRACT

The main purpose of this study was to determine of foreign direct investment (FDI) inflows in India. The study uses multiple regressions represented by ordinary least square (OLS) to examine the relationships between FDI and the proposed explanatory variables that are anticipated to determine FDI inflows to India. Time-series analysis for 40 years, 1947-20115 primarily uses data from World Bank and UNCTAD. Trade investment and FDI, inflation rate, GDP, GDP growth. GDP growth has a positive impact on FDI inflows, If GDP growth is increased by one unit, FDI flows will go up by 1482.223, and also it is slope of GDPG linear curve. Total population have statistically significant relationships with FDI inflows in India, total population has a positive impact on FDI If total population is increased by one unit, FDI will go up by.054. Portfolio equity net inflows has a positive impact on FDI, If portfolio equity net inflows is increased by one unit, FDI will go up by.586. Hence, these factors are considered as the main determinants of FDI inflows in India. Exports and import potential represented, total investment flows is: (FDI+portfolio India), were found to have positive but statistically insignificant relationships with FDI inflows.

KEYWORDS: Foreign Direct Investment, Ordinary Least Square, Multiple Regression, Trade Investment, Gross Domestic Product Growth, Economics Implications

INTRODUCTION

Foreign direct investment (FDI) reflects the objective of obtaining a lasting interest by a resident entity in one economy (direct investor) in an entity resident in an economy other than of the investor (direct investment enterprise). The lasting interest implies the existence of a long- term relationship between the direct investor and the direct investment enterprises and a significant degree of influence on economic development. The role of FDI in the economics investments is important. FDI inflows, was US$ 51 million in 1974, twenty years later in 1995 it is increased to US$ 2151 million. Finally it is increased to US$ 44208 million in 2015, (UNCTAD, 2015). FDI inflows into the host countries currently have increased as these countries have started economic development and political reforms their economies would be more opened to trade investment and international trade. Trade investment is believed to make significant contributors to India economic development growth. FDI implies that the investor exerts a significant degree on influence on the management of the enterprises resident in the other economy. Individuals as well as business entities may undertake FDI inflows (UNCTAD 2012). International trade helps to us to solve economic problems and transfers technology and knowledge to host countries. FDI is classified to two sides. Demand side and supply side, the demand side includes variables related to the host country. The supply side includes variables related to the total investment. Country specific variables are: market size, economic growth, inflation rate, outward and inward FDI flows, and foreign investments policies. India cans location

specific advantages, as like as domestic markets, natural resources, and labor force. It is the base and background for attracting investments by foreign investors. This paper will be emphasized on this type of determinations of FDI inflows and trade investment in. The aims of this study is investigate the factors are effects on foreign direct investment and trade investment in India.

RESEARCH PROBLEM

Countries are competing to attract foreign direct investment into their economies, and develop trade investments as it is always believes help to economic growth and attracting FDI. Trade investment is good for Indian companies in all aspects of economic cooperation like oil gas, banking, urban development, railways, and transportation and so on. India's exports goods and services like: rice, metals, machinery and instruments, primary and semi-finished iron and steel, drugs, pharmaceuticals, chemicals, processed mineral, man-made yarn and fabrics, tea and rubber manufactured items. It is also responsible for approving overseas India's investments. According to Indian cooperation polices with all countries, it is a condition for foreign companies to participate investments, technology programs, exporting and importing to India. It will go for more trade investment among developed nations. Thus, government officials and private investors will need to identify that factors have deep influence on trade investment into their host countries. Principally, they need to identify the relationships between trade investment and FDI inflows on macroeconomic variables like GDP, FDI, total investment, GDP growth, gross capital formation, exports of goods and services, imports of goods and services, portfolio equity, inflation rate, official exchange rate, FDI inward flows, FDI outward flows, and so on. The outcome of this study will help to policy makers identify those factors that are anticipated to attract FDI and development their trade investment.

OBJECTIVE OF STUDY

The main objective of this study is determining the factors have influence on trade investment and FDI flows in India and examine the reason of such variation impact on trade policies.

LITERATURE REVIEW AND THE EMPIRICAL EVIDENCE OF THE DETERMINANTS OF FDI

Technical and specialized literature of India trade was first presented by investment organization and was placed in the domain of economic literature Kumbarogiu and Madlener (2012). In this paper one the solutions for trade investment is to modify the rules and regulation, which calls for a theoretical book at institutional economy. This study attempts to explore the role of institutions, regulations, and investment in business economics development at the same time. One of the strength of this study is the emphasis on country's annual trade from selling goods, service and industrial equipment which can be spent for appropriate investment in line with business improvement. Caves confirmed that the determinants of FDI comprise relative production costs, technology, and trade barriers (Caves 1971). His results reveal that economic factors including access to factors of production such as land, labor, and capital at lower cost are significant determinants of FDI. In an analysis of the determinants of annual average inflows of FDI in 25 developing countries from Asia, Africa and Latin America, Levis find that economic variables are more important than political ones(Levis 1979). He found that quality of life, the balance of payments, government's economic capabilities & conditions are the main influencing factors of foreign investment inflows. The economic cost is important for determinants of FDI inflows according to Schneider and Frey (1985), were country's level of development measured by real per capita GNP and the balance of payments. Quazi (2007) finds that FDI inflow is significantly increased by better infrastructure, higher return on investment, and more

trade openness. Abdoulaye et al. (2015) conducted a thorough literature review and identified different strategies for capital issues and benefits of FDI inflows. They confirm that several trends that drive FDI inflows must be considered in order to take appropriate measures to attract more investments including, conversely, her results that high economic risk has negative effect on FDI flows. Both political risk and financial risk were revealed to have negative but insignificant on FDI inflows. Sasi and Doucouliagos (2015) applied the regression analysis to 946 estimates from 140 empirical studies. Their results demonstrated strong positive correlation between economic and FDI flows. They emphasized that growth is slightly more correlated with FDI in developing countries.

SOURCES OF DATA COLLECTION

In this study the data set used for the analysis was collected from the World Bank and United Nations Conference on Trade and Development (UNCTAD). Data's are related to macroeconomic components variables were collected for the period of 1976-2015. The base for choosing the variables were related to macroeconomic factors like: foreign direct investment, official exchange rate, GDP growth, portfolio, inflation rate, outward FDI flows, inward FDI flows, gross capita formation, imports and exports of goods and services, total Investment, official exchange rate, all the data relevance to India trade investment, without multi-collinearity with another variables. In depend variables for FDI are imports and exports of goods and services, official exchange rate. GDP, inflation rate, GDP growth, for the study period. The study used the US$ million as an indicator official exchange rate. Inflation refers to the changes in the price index and is captured by growth percentage rate purchasing power parity (PPP). Economic stability variable is represented by annual interest rate in India. FDI inward flows and FDI outflows are collected from World Bank and United Nations Conference on Trade and Development (UNCTAD).

HYPOTHESIS

In order to investigate the determinants of foreign direct investment in India, the following 12 null hypotheses were designed and thus for testing:

- H_1: There is no statistically significant between total population and FDI inflows.

- H_2: There is no statistically significant between GDP growth and FDI inflows.

- H_3: There is no statistically significant between gross capita formation and FDI.

- H_4: There is no statistically significant between exports of goods and services and FDI inflows.

- H_5: There is no statistically significant between imports of goods and services and FDI inflows.

- H_6: There is no statistically significant between portfolio equity, net inflows and FDI.

- H_7: There is no statistically significant between GDP (market size) and FDI inflows.

- H_8: There is no statistically significant between total investment and FDI inflows.

- H_9: There is no statistically significant between official exchange rate and FDI.

- H_{10}: There is no statistically significant between FDI inward flows and FDI.

- H_{11}: There is no statistically significant between FDI outward and FDI.

- H_{12}: There is no statistically significant between inflation rate and FDI inflows.

These hypotheses were tested by examining the level of significance of the relationship between each of the twelve independent and dependent variables.

THE STUDY MODEL

This study uses multiple–regression model for the estimate of a time series data which represent all independent and dependent variables. The aim of this paper is expresses FDI inflows as a function of: total population rate (TPOP), GDP growth (%) variable is use as a percentages indexes of market size (GDPG), official exchange rate (OEXR), total investment inflows (TIF), gross capital formation (GCF), exports of goods and services (EXPO), imports of goods and services (IMPO), annual inflation rate (INFLR), portfolio equity, net inflows rate (PENIR). FDI inward flows (FDIIF), FDI outward flows (FDIOF), gross domestic product (GDP), following is the multiple- regression analyses model, estimated for mentioned above hypotheses:

FDI = F (TPOP, GDPG, TIF, GCF, EXPO, IMPO, INFLR, OEXR, PENIR, FDIIF, FDIOF, GDP, μ)   **(a)**

FDI = β_0 +β_1TPOP +β_2GDPG +β_3TIF +β_4GCF +β_5EXP +β_6IMP +β_7INFLR +β_8 OEXR +β_9 PENIR +β_{10}FDIIF+β_{11}FDIOF+β_{12}GDP+ μ)   **(b)**

Where β is the constant amount, μ stands for the error term and β_1,…, β_{12} are coefficients of the explanatory variables.

FDI = Foreign direct investment, measured by the natural logarithm of FDI inflows.

GDPG = Gross domestic product growth used as a proxy of market size percentage.

PENIR = Portfolio equity, net inflows rate, captured by the rate of conversion from rupees to US dollars.

TIF= Total investment flows (FDI + portfolio) openness to foreign trade, captured by merchandise trade openness annual indicator.

EXPO= Exports of goods and services, captured by export value index, according to the World Bank data. It is include the value of merchandise, freight, transport, travel, insurance, license fees, and other services, such as communication, financial, construction, information, business, personal, and government services.

INFLR = Inflation rate, refers to the changes in the price level, captured by annual growth, inflation rate and purchases power parity.

GCF = Gross capital formation, the percentage of the investment made each year out of the total GDP is called gross capital formation. Increase in the stock of capital is called capital formation or investment. Capital formation is also known as increase in net investment, captured by data on World Bank in millions of US dollars.

GDP = Gross domestic product, GDP is a monetary measure of the market value of all final goods and services produced in a period quarterly or annum. Official exchange rate, the official exchange rate at which the currency of one country can be exchanged for the currency of another country, which is imposed by the government.

FDIO = Foreign direct investment outward flows, FDI outward flows are the value of outward direct investment

made by the residents of the reporting economy to external economies.

FDIIF = Foreign direct investment inward flows, FDI inward flows represent transactions that increase the investment that foreign investors have in enterprises resident in the reporting economy less transactions that decrease the investment of foreign investors in resident enterprises.

IMPO = Imports goods and services, imports are foreign goods and services that residents of a country by residents include businesses and the government.

TPOP = Total population, captured by the number of inhabitants, billion.

DESCRIPTIVE STATISTICS

This study starts to analyze the results with the descriptive statistics. Table 1 below represents the descriptive statistics of the independent and dependent variables of the study. It demonstrates the mean, maximum, minimum, standard deviations, in addition to skewness values of the 40 years the variables are plotted in natural logarithm of the original amounts, in billions, millions, thousands and index format. The low standard deviations values for many of the variables indicate that they are largely in the same range of values. Positive and negative skewness and kurtosis values designate that the outcomes are almost not normally distributed.

RESULTS AND DISCUSSIONS

This study used descriptive statistics, correlation analysis, and regression analysis to come up with the concluding results. The following sections demonstrate the study findings and their discussions.

Table 1: Descriptive Statistics

Variables	Minimum	Maximum	Sum	Mean	Std. Dev	Variance	Skewness
GDP	104518.5	2095398.4	26165438.9	654135.9	602985.8	363591972059.2	1.318
FDI	-36.06	44009.5	365307.8	9132.7	13990.5	195734263.8	1.421
TI	-68.06	60270.3	554913.1	13872.8	19762.4	390552374.8	1.323
TPOP	636182.8	1311050.5	38871704.5	971792.6	207281.8	42965760118.8	.011
GDPG	-5.24	10.26	235.7	5.89	2.79	7.76	-1.647
GCF	18951.05	721493.8	8515099.7	212877.4	237797.7	56547766101.6	1.256
EXPO	6868.20	471838.57	4742768.4	118569.2	154843.5	23976510011.4	1.381
IMPO	6280.84	571306.64	5580976.7	139524.4	184947.2	34205448929.5	1.394
PENIR	-15030.1	32862.8	189605.2	4740.13	9471.6	89711150.8	1.498
INFLA	-7.60	13.90	302.60	7.57	3.92	15.40	-1.331
OEXR	7.86	64.2	1250.9	31.27	17.78	316.05	.013
FDIIF	-36.06	47102.5	371917.7	9297.9	14232.9	202577319.11	1.455
FDIOF	-11.00	21142.4	137954.8	3448.8	6059.2	36714180.4	1.684

Correlation Analysis

The correlation coefficient is used in this study as a method to explore the type and intensity of the relationships between dependent and the hypothesized independent variables. The correlation matrix measures the degree of multi-collinearity among all the variables of the study. The correlation test is also used to determine the most significant factors in the list of the hypothesized independent variables, Gathogo and Ragui, (2014).

Table 2 below displays the correlations matrix of the proxy variables. First and correlation is related to (FDIF), next to strength comes the exports goods and services index (EXPO) variable which represents the merchandise export

potential of the India. Gross capita formation (GCF) has the highest correlation with the FDI. Strong correlations between independent variables are found between (FDIIF), (GCF), (GDP), (IMPO), (EXPO), (TI), (TPOP) and (FDIOF).

Table 2: Correlation

	GDP	FDI.	TI	TPOP	GDPG	GCP	EXPO	IMPO	PENR	INFLAR	OER	FDIIF	FDIOF
GDP	1												
FDI	.929**	1											
TI	.920**	.898**	1										
TPOP	.874**	.800**	.819**	1									
GDPG	.369*	.295	.419**	.442**	1								
GCF	.990**	.938**	.946**	.853**	.373*	1							
EXPO	.992**	.926**	.914**	.840**	.332*	.991**	1						
IMPO	.987**	.926**	.914**	.830**	.327*	.993**	.998**	1					
PENIR	.548**	.397*	.760**	.528**	.438**	.589**	.539**	.538**	1				
INFLR	.101	.094	.106	.071	.168	.116	.104	.117	.082	1			
OER	.805**	.713**	.731**	.968**	.391*	.763**	.764**	.746**	.472**	-.022	1		
FDIIF	.920**	.999**	.889**	.797**	.288	.929**	.918**	.918**	.379*	.090	.710**	1	
FDIOF	.739**	.874**	.839**	.681**	.324*	.796**	.746**	.761**	.460**	.081	.552**	.879**	1

**. Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 3: Regression Results between FDI and Independent Variables

Variables	Regression Coefficient	R^2	T. statistic	St. Dev	Variation
GDP	0.022	0.863	15.477**	602985.8	363591972059.2
TI	0.636	0.806	12.582**	19762.4	390552374.8
TPOP	2.543	0.640	8.217**	207281.8	42965760118.8
GDPG	1482.2	0.695	1.904*	2.79	7.76
GCF	0.055	0.879	16.645**	237797.7	56547766101.6
EXPO	0.084	0.875	15.103**	154843.5	23976510011.4
IMPO	0.084	0.858	15.159**	184947.2	34205448929.5
PENI	0.586	0.157	2.663**	9471.6	89711150.8
INFLA	334.6	0.009	0.581*	3.92	15.40
OEXR	560.9	0.508	6.264**	17.78	316.05
FDIIF	0.982	0.999	159.896**	14232.9	202577319.11
FDIOF	2.018	0.764	11.093**	6059.2	36714180.4

Regression Analysis

This study used multiple regression analysis as statistical methods to estimate the relationships between dependent and independent variables in order to identify the determinants of FDI inflows into India. Statistics software tool (SPSS) determined the R-Square, and P-value was used for decision making criteria factors. P-value is used in this study for testing the statistical hypothesis. It is the criterion that helps decide whether to accept or to reject the proposed hypothesis. P-value less than or equal to 1% signifies that the null hypothesis is rejected at 1% level of significance. P-value less than or equal to 5% signifies that the null hypothesis is rejected at 5% level of significance. P-value less than or equal to 10% signifies that the null hypothesis is rejected at 10% level of significance rejecting the null hypotheses implies accepting the alternative ones.

R-squared is used in multiple regressions for showing the regression analysis between FDI inflows and independent variables. Table 3 shows a statistically significant positive relationship at 1% level exists between the dependent variable FDI inflows and gross domestic production (GDP) with p-value of (0.000). This suggests that an

increase in gross domestic production rate increases the amount of FDI in India. The first hypothesis that there is no statistically significant relationship between GDP, and FDI is rejected, thus, the alternative hypothesis is accepted. This indicates that the economic stability is a determinant for of FDI. The Table 3 also reveals as statistically significant negative relationship at 1% level exists between FDI and total investment (TI) with p-value of (0.000). This suggests that an increase in total investment increases the amount of FDI in India. Therefore the second hypothesis is not statistically significant relationship between total investment and FDI is rejected. The alternative hypothesis is accepted. This indicates show that, the total investment is a determinant factor of the FDI inflows. The statistically significant negative relationship between FDI and total population (TPOP) with a p-value of (0.000). If total population is increase the amount of FDI will increases into the country. Consequently the third hypothesis is not statistically significant relationship between total population, and FDI is rejected. This implies that the alternative hypothesis is accepted which suggests that the total population is a negative determinant factor of the FDI. The empirical results show a statistically positive relationship at 1% level exists between FDI and gross domestic production growth (GDPG) with p-value (0.064), it is fourth hypothesis that there is no statistically significant relationship between gross domestic production growth and FDI is rejected. This implies that the alternative suggests that an increase in gross domestic production growth is a determinant factor of the FDI. This also suggests that an increase in gross domestic production growth increases the amount of FDI into India. Its show that FDI are strongly positively related to that gross domestic production growth. Gross capita formation (GCF) is revealed by the results to have a statistically positive relationship with FDI at 1% level with p-value (0.000). Thus the fifth hypothesis that there is no statically significant relationship between gross capita formation and FDI is rejected, which implies that, the alternative hypothesis is accepted. This result suggests that the gross capita formation of India is a determinant factor of the FDI inflows. The empirical results show a statistically significant positive relationship at 1% level exists between FDI inflows and exports of goods & services (EXPO) with p-value of (0.000). Thus the sixth hypothesis that there is not statistically significant relationship between exports of goods & services and FDI inflows is rejected. This implies that the alternative hypothesis is accepted and suggests that public exports of goods & services the amount of FDI inflows into India.

This results is suggests that an increase in exports of goods & services increases the amount of FDI inflows into India. It shows that FDI inflows are strongly positively related to improvement in exports of goods & services. Imports of Goods & Services (IMPO) are revealed by the results to have a statistically significant positive relationship with FDI at 1% level with p-value of (0.000). Thus the seventh hypothesis that there is not statistically significant relationship between Imports of Goods & Services and FDI is rejected which implies that, the alternative hypothesis is accepted. This result suggests that the imports of goods & services of the host country is a determinant factor for FDI. Portfolio equity, net inflows (PENI) is found to have statistically significant positive relationship with FDI inflows at 1% with p-value of (0.011). This implies that the eighth hypothesis that there is no statistically significant relationship between country welfare and FDI inflows is rejected and thus the alternative hypothesis is accepted. This suggests that the host country portfolio equity, net inflows is a determinant factor of the FDI. Table 3 illustrates that a statistically significant negative relationship at 5% level exists between FDI and inflation rate (INFLA) with a p-value of (0.0565). This suggests that an increase in inflation rate decreases the amount of FDI into India. Consequently the ninth hypothesis that there is no statistically significant relationship between inflation rate and FDI is rejected. This implies that the alternative hypothesis is accepted which suggests that the inflation rate is a negative determinant factor of the FDI. Table 3 illustrates that a statistically

significant negative relationship at 1% level exists between FDI and official exchange rate (OEXR) with a p-value of (0.000). This suggests that an increase in official exchange rate decreases the amount of FDI into India. Consequently the tenth hypothesis that there is no statistically significant relationship between official exchange rate and FDI is rejected. This implies that the alternative hypothesis is accepted which suggests that the official exchange rate is a negative determinant factor of the FDI inflows. Table 3 illustrates that a statistically significant negative relationship at 1% level exists between FDI and FDI inward flows (FDIIF) with a p-value of (0.000). This suggests that an increase in FDI inward flows decreases the amount of FDI into host country (India). Consequently the eleventh hypothesis that there is no statistically significant relationship between FDI inward flows and FDI is rejected. This implies that the alternative hypothesis is accepted which suggests that the FDI Inward flows is a negative determinant factor of the FDI inflows. Table 3 illustrates that a statistically significant negative relationship at 1% level exists between FDI and FDI outward flows (FDIOF) with a p-value of (0.000). This, surprisingly, suggests that an increase in FDI outward flows decreases the amount of FDI into India. Consequently the twelve hypotheses that there is no statistically significant relationship between FDI outward flows and FDI is rejected. This implies that the alternative hypothesis is accepted which suggests that the FDI outward flows is a negative determinant factor of the FDI flows.

CONCLUSIONS

The paper examines the relationships between FDI and macroeconomics variables of the host country (India). we used OLS regression for analyzes the time series of 40 years data (1976-2015), the empirical findings that the key determinates of FDI flows consist of: (GDP), (TI), (TP), (GDPG),(GCF),(EXPO), (IMPO),(PENI), inflation rate (INFLA),(OEXR), (FDIIF), (FDIOF), are found to be statistically insignificant but positively related to the FDI. We showed that independent variables of the study have strong interaction with FDI inflows and trade. Trade investment is the channel for attracting of FDI inflows. Our results imply that GDPG and inflation rate is determinant factors of the FDI flows more than other variables. The results imply that lower inflation rate would advance India to attracting FDI. If India wants to attract FDI, they would enhance to develop the trade investment before. Trade and trade investment is the base of FDI inflows.

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