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Impact of Foreign Direct Investment on GDP: Empirical Evidence From India

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ABSTRACT

The present paper is an attempt to highlight the impacts of FDI inflows to India on Indian GDP. The study is purely based on secondary data which covers 13 financial years (2000-01 to 2012-13), and the analysis of which was made through the application of Karl Pearson's coefficient of Correlation and Multi Regression OLS model (Ordinary Least Square). The study exhibited a strong positive correlation between foreign direct investment and GDP (r= 0.869) and indicated that FDI is the most important predictor of GDP with R square value of 0.755 which showed that FDI accounts for 75.5 per cent of variations in GDP; and b-value {Unstandardized co-efficient (B=14.534)} indicated that as FDI increases by one unit (1 billion), GDP increases by 14.534 units. It was further indicated through the results that if impact of FDI remain constant, then there are other factors which are explaining GDP up to 23868.17 units.

KEYWORDS : Foreign Direct Investment (FDI), GDP at Factor cost, Unstandardized co-efficient etc.

INTRODUCTION

World trade has been increasing for centuries as explorers have discovered trade routes and the technology of transport has improved (David and Scott, 2005). India has emerged as one of the most favoured destinations for global investment and FDI is a fundamental element of the globalization efforts of the world economy. Economic growth and prosperity is possible only when capital market works efficiently. Therefore, it is a challenge for a developing country like India to channelize its capital inflow through FDI into a potential source of increment in productivity for domestic firms. As a result, India has received total FDI of US$ 180,034 million from the year 1990-91 to 2009-10 which is due to the initiatives taken by the Government of India in attracting FDI inflows in India. The rise in flows of FDI till 1997 was due to not only of the liberalization policy but also due to the sharp expansion in the global scale of FDI outflows during the 1990s. Then after, during 1998-99 and 1999-00 there was decline in FDI inflow which was due to the decline in industrial growth rate in the economy and also due to the result of the East Asian Financial Crisis. But again in the next following year, foreign investment started to recoil back. During 2002-03 and 2003-04, again there was fall in flow of foreign direct investment which was due to the cast of Global Recession on the Indian economy. The FDI Equity inflows during the five years 2005-06 to 2009-10 showed a massive increase of more than seven times than those of the previous years 1991-92 to 1999-00 and 2000-01 to 2004-05. This increase was due to the revised FDI Policy in March 2005, an important element of the policy was to allow FDI up to 100% foreign equity under the automatic route in townships, housing, built-up infrastructure and construction-development projects. According to MSCI index, India is the ninth best performing market in the global emerging markets. The Boston-based Emerging Market Portfolio Research rates India as the third biggest recipient of FII inflows in India after Taiwan and Korea. A study by World Institute for Development Economic Research (WIDER, 1990) has argued that the developing countries should liberalize their financial markets in order to attract foreign portfolio equity flow. The growth rate fell sharply to 3per cent (-ve) in 2009-10 during the global financial crisis, and estimated to have slowed down to 24 per cent in 2011-12. Although, exports have grown during the last two decades they have not kept up with the growth in imports (e.g., export/GDP increased 11 percentage points between 1990-191 and 2011-12 whereas imports/GDP increased by 18 percentage points over the same period).

REVIEW OF LITERATURE:

Shahbaz (2006) scrutinized the association between stock prices and rate of inflation using ARDL approach for dynamics analysis, and the result of this study depicted that stock hedges are not in favour of inflation in long run as well as in short run and found that black economy effects long run and short run prices of the stock.

Hussain and Masood (2001) investigated the relationship among the selected variables investment, GDP, consumption and stock prices employing Granger Causality Test, finding showed that all the variables have significant effect on stock prices.

Gupta, Ambuj (2011), examined the relationship between Indian stock market and FIIs investment in India. Study found that both, Indian stock market and FIIs influence each other; however, their timing of influence is different.

Dhiman, Rahul (2012), concluded that FIIs have significant impact on the Indian Stock Market but there are other factors like government policies, budgets, bullion market, inflation, economic and political condition, etc. do also have an impact on the Indian stock market.

Bansal, Anand and Pasricha, J.S. (2009), found that there were no significant changes in the Indian stock market average returns, while return declined reasonably after the entry of FIIs, the volatility has been reduced significantly after their entry. Besides, FIIs investment flows, there may be other reasons as well that may have some degree of influence on market volatility and return.

Stanley Morgan (2002) exhibited that FIIs have played a very important role in building up India's forex reserves, which have enabled a host of economic reforms. Secondly, FIIs are now important investors in the country's economic growth despite sluggish domestic sentiment. FII strongly influenced short-term market movements during bear markets.

OBJECTIVES OF THE STUDY

The present study was attempted to attain the following objectives:

1. To study the trends and patterns of inflows of Foreign Direct Investment and GDP in India.
2. To study the impact of FDI on GDP in India.

HYPOTHESES OF THE STUDY

The null hypotheses are stated below:

1. H_{01}: There is no significant impact of FDI (Foreign Direct investment) on GDP in India.

Table 2 : Model Summary of GDP

Model	R	R Square	Adjusted R Square	Change Statistics			Durbin-Watson
				R Square Change	F Change	Sig. F Change	
1	.869[a]	.755	.733	.755	33.943	.000	.638
a. Predictors: (Constant), FDI							
b. Dependent Variable: GDP							

RESEARCH METHODOLOGY

DATA COLLECTION

The present study is purely based on secondary data (FDI and GDP) which covers 13 financial years (2000-01 to 2012-13) which was collected from Hand Book of Statistics of India.

STATISTICAL TOOLS & TECHNIQUES

In order to analyze the collected data, the statistical tools such as

Karl Pearson's coefficient of Correlation and Multi Regression OLS model (Ordinary Least Square) is used. Here, an attempt is made to study the impact of Independent Variables- FDI on dependent variable- GDP.

ANALYSIS AND INTERPRETATION

Karl Pearson's Coefficient of Correlation was applied to study the statistical relationship of the independent variable-FDI and dependent variable -GDP for 13 years and the output are expressed through Table 1. A strong positive correlation between FDI and GDP (r=0.869), was observed which is found to be significant at 1 per cent level of significance.

Table 1: Correlations				
	GDP		FDI	
	GDP	FDI	GDP	FDI
Pearson Correlation	1.000	.869	.869	1.000
Sig. (1-tailed)	.	.000	.000	.
N	13	13	13	13

Table 1: Correlation Coefficients

A. Impact of flow of FDI on GDP in India:

***Independent Variables*:** FDI (Foreign direct investment)
Dependent Variable: GDP at factor cost in India

The **Table 2** exposed the strength of relationship between the model and the dependent variable. The values of R depict the multiple correlation coefficients between the predictors (independent variables) and the outcome (dependent variable). When GDP was used as predictor, a strong correlation (r=.869) between GDP and FDI was observed. The next column gives the value of R^2, which tells us a measure of how much of the variability in the outcome (GDP) is accounted for the predictors (FDI). For present model its value is .755 (Table 3), which means that FDI accounts for 75.5 per cent variations in GDP.

Table 3: Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	23868.117	2756.099		8.660	.000		
	FDI	14.534	2.495	.869	5.826	.000	1.000	1.000
a. Dependent Variable: GDP								

The analytical Table 3 exhibits the estimates of b-values (Unstandardized coefficients) which explicate the individual contribution of each independent (predictors) variable to the model. The positive value depicts positive relationship between the predictors and outcome variable and vice-versa. The b-values also explain to what degree each predictor affects the outcome variable if the effects of the other predictors are held constant. If we replace the b-values in equation, we can define the models as follows:

***Model*:** $GDP_i = b_0 + b_1 FDI_i$

$= 23868 + (14.534\ FDI_i)$

FDI (b= 14.534): These values indicate that as FDI increases by one unit (1 billion), GDP increases by 14.534 Table 3. Therefore, every additional unit (1 billion) of FDI is associated with an extra 14.534 increment in GDP respectively.

TESTING OF HYPOTHESES

1. H_{01}: There is no significant impact of FDI on GDP.

The p-value related to foreign FDI shown in Tables 4, is less than 0.05 so null hypotheses H_{01} is not accepted. Hence, it is concluded that inflows of FDI into India and GDP trends are dependent and FDI has significant impact on GDP.

CONCLUSION AND SUGGESTIONS

The study which was conducted to assess the correlation and impact of FDI on GDP exhibited a strong positive correlation between foreign direct investment and GDP (r= 0.869) and concluded that FDI is the most important predictor of GDP with R square value of 0.755 which showed that FDI accounts for 75.5 per cent of variations in GDP; and b-value {Unstandardized co-efficient (B=14.534)} indicated that as FDI increases by one unit (1 billion), GDP increases by 14.534 units. Therefore, every additional unit (1 billion) of FDI is associated with an extra 14.534 units increment in GDP. It was further indicated through the results that if impact of FDI remain constant, then there are other factors which are explaining GDP up to 23868.17 units. Therefore, it is imperative for the government of India to make such policies that attract FDI in such a way that it should be more growth enhancing than growth retarding.

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