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An Analysis of Foreign Direct Investment in India

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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 where foreign investments are being made, it also means achieving technical know-how and generating employment.

Foreign direct investment (FDI) plays a multidimensional role in the overall development of the host economies, which acts as a major catalyst in the development of a country through up-gradation of technology, managerial skills and capabilities in various sectors. It plays a complementary role in overall capital formation and in filling the gap between domestic savings and investment. At the macro-level, FDI is a non-debt-creating source of additional external finances. At the micro-level, FDI is expected to boost output, technology, skill levels, employment, and linkages with other sectors and regions of the host economy. The present study is an attempt to provide a detailed understanding of the spatial and sectoral spread of FDI-enabled production facilities in India and their linkages with the development of Indian economy. In this paper, we will review the current literature related to FDI, and use of secondary data to employ Karl Pearson's correlation and regression (OLS Model) to estimate the trends of FDI in India. The study found that FDI affects the Gross domestic product (.683), Foreign Exchange Reserve (.717) Sensex(.618) and Nifty(.618) positive and highly correlated, while the impact of FDI on Gross capital Formation(.375) and Gross Domestic saving(.025) Was very low and insignificant

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1. INTRODUCTION

The Indian government's favourable policy regime and robust business environment have ensured that foreign capital keeps flowing into the country. The government has taken many initiatives in recent years such as relaxing FDI norms across sectors such as defence, PSU oil refineries, telecom, power exchanges, and stock exchanges, among others.

Foreign direct investment (FDI) plays a multidimensional role in the overall development of the host economies. It may generate benefits through bringing in non-debt-creating foreign capital resources, technological upgrading, skill enhancement, new employment, spill-overs and allocative efficiency effects. While FDI is expected to create positive outcomes, it may also generate negative effects on the host economy. The costs to the host economy can arise from the market power of large firms and their associated ability to generate high profits. Much of the existing empirical evidence suggests that the positive effects offset negatives, thus providing net economic benefits for the host economies.

Foreign direct investment (FDI) has played an important role in the process of globalisation during the past two decades. The rapid expansion in FDI by multinational enterprises since the mid-eighties may be attributed to significant changes in technologies, greater liberalisation of trade and investment regimes, and deregulation and privatization of markets in many countries including developing countries like India. Capital formation is an important determinant of economic growth. While domestic investments add to the capital stock in an economy, FDI plays a complementary role in overall capital formation and in filling the gap between domestic savings and investment. At the macro-level, FDI is a non-debt-creating source of additional external finances. At the micro-level, FDI is expected to boost output, technology, skill levels, employment, and linkages with other sectors and regions of the host economy.

Foreign direct investment (FDI) refers to cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in a country other than that of the direct investor (OECD 2008). The motivation of the direct investor is strategic "lasting interest" in the management of the

direct investment enterprise with at least 10 per cent voting power in decision-making. Figure 1 depicts the FDI share in Gross Domestic Product and its relationship with GDP growth rate in

The host country aspires to receive FDI inflows because of the potential benefits, the most established benefit being that FDI supplements the domestic savings of a nation. Other payoffs include access to superior international technologies, exposure to better management and accounting practices, and improved corporate governance. FDI is likely to expand and/or diversify the reduction capacity of the recipient country, which, in turn, is expected to enhance trade. On the other side, foreign investors are motivated by profits and access to natural resources. Therefore, large and growing domestic markets are likely to receive more FDI. Countries with abundant natural resources such as mines, oil reserves, and work force appear prominently on the investment maps of foreign investors. While the objectives of FDI can be different from the home and the host country's perspectives, one of the major aims of attracting FDI is overall development of the recipient country keeping some specific strategy in view. This can be done by achieving higher FDI inflows, maximising technology spillover into the domestic economy, or imposing local content requirements. On this line, this paper is set to analyze the impact of FDI inflows into the core sectors of the Indian economy.

2. LITERATURE REVIEW

This section reviews the empirical studies on the relation between FDI and economic activities in the host economy, which could facilitate in identifying the issues relating to the impact of FDI at the sectoral level. In the earlier stage, few studies had shown that FDI has a negative impact on the growth of the developing countries (Singer, 1950; Griffin, 1970; Weisskof, 1972). The main argument of these studies was that FDI flows to Less Developing Countries (LDCs) were mainly directed towards the primary sector, which basically promoted the less market value of this sector. Since these primary products are exported to the developed countries and are processed for import, it receives a lower price for its primary product. This could create a base for the negative impact of FDI flows in the economy.

On the other hand, Rodan (1961), Chenery and Strout (1966) in the early 1960s argued that foreign capital inflows have a favorable effect on the economic efficiency and growth towards the developing countries. It has been explained that FDI could have a favorable short-term effect on growth as it expands the economic activity. However, in the long run it reduces the growth rate due to dependency, particularly due to "decapitalization" (Bornschier, 1980). This is due to the reason that the foreign investors repatriate their investment by contracting the economic activities in the long run. The studies that used the endogenous growth theory challenged this view in explaining the long run growth rate of the economy by using endogenous variables like technology and human capital (Barro and Martin, 1999; Helpman and Grossman, 1991). FDI is an important vehicle for the transfer of technology and knowledge and it demonstrates that it can have a long run effect on growth by generating increasing return in production via positive externalities and productive spillovers. Thus, FDI can lead to a higher growth by incorporating new inputs and techniques (Feenstra and Markusen, 1994).

A study by Kasibhatla and Sawhney (1996) in the U.S. supports a unidirectional causality from GDP to FDI and not the reverse causation. This may be due to the fact that for a developed country, FDI follows GDP, as GDP is an indicator for market size. Aitken, et al. (1997) showed the external effect of FDI on export with example of Bangladesh, where the entry of a single Korean Multinational in garment exports led to the establishment of a number of domestic export firms, creating the country's largest export industry. The recent study by Chen, Chang and Zhang (1995), using time series data for the period of 1979-93, estimated the regression between GNP, domestic saving in one period lag, and FDI in one period lag (all in logarithmic value). The results of the study show that there is a positive relationship between FDI and GNP and it is significant at 5 per cent level for the Chinese economy. It also supported by other study by Sahoo et al (2002). Hu and Khan (1997) attribute the spectacular growth rate of Chinese economy during 1952 to 1994 to the productivity gains largely due to market oriented reforms, especially the expansion of the non-state sector, as well as China's "open-door" policy, which brought about a dramatic expansion in foreign trade and FDI. Further, Bashir (1999) examined the relationship between FDI and growth empirically in some MENA countries, using panel data. The study found that FDI leads to economic growth; the effect however varies across regions and over time. Xu (2000), by using panel data has investigated the U.S. MNEs as a channel of international technology diffusion in 40 countries from 1966 to1994. This study found a strong evidence of technology diffusion from U.S. MNEs affiliated in developed countries (DCs) but weak evidence of such diffusion in the less developed countries (LDCs). The result for the DCs indicates that US MNEs are almost as important as international trade for technology spillover. Nearly 40 per cent of the total factor productivity (TFP) of DCs is attributable to the technology transfer of US affiliates. Further, the study also found that the level of human capital is crucial for a country to benefit from technology spillovers of MNEs. A country needs to achieve a human capital threshold of about 1.9 years (in terms of male secondary school attainment) to benefit from the technology transfer by the MNEs. The results are

consistent with the findings of single country study that the technology spillover effects of MNEs are positive in advanced countries but are insignificant in less developed countries.

The results by Borensztein, De Gregorio and Lee (1998) and Carkovic and Levine (2002) found a little support for FDI having an exogenous positive effect on economic growth. These results are robust to the inclusion of other growth determinants such as human capital measures, domestic financial development, and institutional quality along with the use of lagged values of FDI.

The studies on FDI and economic growth in India are very limited. A recent study by Banga (2005) demonstrates that FDI, trade and technological progress have differential impact on wages and employment. While higher extent of FDI in an industry leads to higher wage rate in the industry, it has no impact on its employment. On the other hand, higher export intensity of an industry increases employment in the industry but has no effect on its wage rate. Technological progress is found to be labor saving but does not influence the wage rate. Further, the results show that domestic innovation in terms of research and development intensity has been labor utilizing in nature but import of technology has unfavorably affected employment in India.

The study by Dua and Rashid (1998) for the Indian economy does not support the unidirectional causality from FDI to Index of Industrial Production (IIP), where IIP is taken as the proxy for GDP. In fact, this study used the monthly data for IIP and GDP, which may include seasonal component in its variation and hence it is required to de-seasonalise the data. Alam (2000) in his comparative study of FDI and economic growth for Indian and Bangladesh economy stressed that though the impact of FDI on growth is more in case of Indian economy yet it is not satisfactory. Sharma (2000) used a multiple regression technique to evaluate the role of FDI on the export performance in the Indian economy. The study concluded that FDI does not have a statistically significant role in the export promotion in Indian Economy. This result is also confirmed by the study of Pailwar (2001) and the study also argues that the foreign firms are more interested in the large Indian market rather than aiming for the global market. By using a vector error correction model (VECM), Chakraborty and Basu (2002) tried to find the short run dynamics of FDI and growth. The study reveals that GDP in India is not Granger caused by FDI; the causality runs more from GDP to FDI and the trade liberalization policy of the Indian government had some positive short run impact on the FDI flow. The study by Sahoo and Mathiyazhagan (2003) also support the view that FDI in India is not able to enhance the growth of the economy. Though there is a common consensus among all the studies in the Indian context that FDI is not growth stimulant rather it is growth resultant, none of the studies have tried to examine the role of FDI at the sectoral level in the Indian economy. The present study is an endeavor in this regard.

3. OBJECTIVES OF THE CURRENT STUDY

The objectives of the study are as follows:

1. To study the trends of FDI inflows during the period under study.
2. To study the impact of FDI on sectoral growth of Indian Economy.
3. To assess the relationship between FDI and economic growth of India

Hypotheses:

H01: No significant relationship among FDI and GDP.

H02: No significant relationship among FDI and GDP.

H03: No significant relationship among FDI and Foreign Exchange Reserve.

H04: No significant relationship among FDI and Gross Capital Formation.

H05: No significant relationship among FDI and Gross Domestic Saving.

H05: No significant relationship among FDI and Growth of Indian Stock Market.

4. METHODOLOGY

Secondary data were collected from statistical publications, mainly, FDI Fact sheet, published by Department of Industrial Policy and Promotion (DIPP), Department of Industry, Ministry of Commerce and Industry, Government of India. Time-series data were collected for FDI in India through the period of 2000-01 to 2016- 2017.The collected data have been analyzed with the help of statistical tools such as correlation and linear regression (OLS model). The correlation is applied to study the linear relationship between variables. The linear regression is used to evaluate the effect of FDI on the various indicator of economic growth. To predict the trend of FDI in India a time series trend analysis was performed using secondary data. For this purpose the linear and cubic trend line was estimated by using the following equations.

$FDI = \alpha+\beta Time+\varepsilon_i$ and

$FDI = \alpha+\beta_1 Time+ \beta_2(Time)^2+ \beta_3(Time)^3+ \varepsilon_i$

Where

FDI is foreign direct investment in India

Time is the independent variable predicting FDI over time,

α, and β are constant and coefficient for the independent variable

ε_i is the error term.

5. RESULT AND DISCUSSION

Time- Series of Trend Projection of FDI

A time series trend analysis was performed using secondary data of Foreign Direct Investment inflows in India during 2003-04 to 2018-19. On having experimented with different mathematical/functional forms using SPSS 19, the linear and cubic forms appear to the best candidates for the task of curve fitting. Theoretically, it is expected that FDI and Time have a positive relationship; it means as time passes on, foreign direct investment will increase. The table 2 depicts the relationship of FDI and time in linear and cubic forms.

Table 2: Model Summary and Parameter Estimates in Linear and Cubic Forms.

Dependent Variable	Equation	Model Summary					Parameter Estimates				Hypotheses
		R Square	F	df1	df2	Sig.	Constant	b1	b2	b3	
FDI	Linear	.502	10.08	1	10	.010	5158.46	16931.20			
FDI	Cubic	.612	9.797	3	8	.009	30879.62	-36650.37	-2578.6	93.890	Reject Null

Dependent Variable: FDI (Crore)

The independent variable is Time.

As shown in table 2, Linear and cubic equations have significant F ratio, means that the independent variable is a good indicator of increasing FDI in India. The positive sign of the coefficient indicates positive relationship between FDI and Time. The magnitude of coefficient indicating how much FDI will increase from one year to another. The R^2 of linear function is 0.50 indicate that 50 per cent of variation in FDI can be explained by the model. The R^2 of cubic function is 0.61 which again indicates that 61 per cent of variation in FDI during the study period can be explained by the model.

Hence it is concluded that time is a good indicator of FDI in India.

FDI AND ECONOMIC GROWTH

In the present study correlation is applied to study the statistical relationship of the variables Among FDI, Gross Domestic product, Foreign Exchange Reserves, Gross Domestic Saving, Gross Capital Formation, and two indexes of BSE Sensex and NSE Nifty during the 12 years of study. The table showed that FDI was found highly and positively correlated with Gross Domestic Product (.683), Foreign Exchange Reserves (.717), BSE Sensex (.618) and NSE Nifty (.618). However, Gross Domestic Product (.375) and Gross Domestic saving (.025) has positive but moderate and low correlation With FDI. The relationship among FDI, Gross Domestic Product, and Gross Domestic Saving is statistically insignificant.

Table 3: Correlation Coefficient

Variables	FDI (Crore)	Gross Domestic Product	Foreign Exchange Reserves	Gross Domestic Savings	Gross Capital Formation	Sensex	Nifty
FDI (Crore)	1	.683(*)	.717(**)	.025	.375	.618(*)	.618(*)
Gross Domestic Product		1	.977(**)	.136	.571	.953(**)	.957(**)
Foreign Exchange Reserves			1	.091	.622(*)	.960(**)	.962(**)
Gross Domestic Savings				1	-.023	.098	.111
Gross Capital Formation					1	.674(*)	.666(*)
Sensex		.				1	1.000(**)
Nifty							1

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

When the collected data of 17 years during (2000-01 to 2016-17)regarding some macro-economic variable and Indian Stock market were analysed with the help of Simple regression Method (Ordinary Least Square Method) to see the impact of FDI on Indian Economy, it was found that FDI has significant and positive effect on the growth activity of Indian economic system. Table 4 revealed the coefficient and collinearity statistics when regression is applied. The two collinearity statistics are tolerance and VIF. If the value of VIF is higher than 10, and tolerance is less than 0.2, it indicates a potential problem. In our study values are below ten and tolerance statistic is above 0.2 for all the independent variables. Hence there is no problem of collinearity among the variables used in the model and regression is appropriate.

Table 4: Coefficient and Collinearity Statistics

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1.	(Constant)	-105867.88	77887.623		-1.359	.204		
	Gross Domestic Product	.063	.021	.683	2.954	.014	1.000	1.000
2	(Constant)	899.821	40279.046		.022	.983		
	Foreign Exchange Reserves	.137	.042	.717	3.254	.009	1.000	1.000
3	(Constant)	113514.47	47227.569		2.404	.037		
	Gross Domestic Savings	.002	.022	.025	.080	.938	1.000	1.000
4	(Constant)	62437.63	49239.90		1.268	.234		
	Gross Capital Formation	.043	.033	.375	1.280	.229	1.000	1.000
5	(Constant)	23243.42	43174.337		.538	.602		
	Sensex	17.610	7.079	.618	2.488	.032	1.000	1.000
6	(Constant)	18700.40	44769.452		.418	.685		
	Nifty	31.861	12.806	.618	2.488	.032	1.000	1.000

Dependant variable: Gross Domestic Product, Foreign Exchange Reserves, Gross domestic savings, Gross Capital formation, BSE Sensex and NSE Nifty.

Predicator: FDI

The b value in the above table depicts the relationship between dependent and each independent variable. In table the b-value for FDI and Gross Domestic Product is .063, it means that if FDI increase by 1 unit, GDP will increases by .063(if all other variable remains constant). The b-value for Foreign Exchange Reserves is .137; it means that if FDI increase by 1 unit, foreign Exchange Reserves increases by .137. The b – value of Gross Domestic Saving and Gross Capital Formation is .002 and .043 which also means that 1 unit increase in FDI will increase Gross Domestic Product and Gross Domestic saving by .002 and .043. However, the impact of FDI at Gross Domestic Product and Gross capital Formation has statistical insignificant. The table also depicts the impact of FDI on Indian Stock market that is BSE Sensex and NSE Nifty. Table shows that if FDI increase by 1 unit, the Sensex and Nifty increases by 17.61 and 31.86.

CONCLUDING REMARKS

India has been receiving increasing amounts of FDI since 1991-92. It received about 18406 Crore FDI in 2000-01, which went up to 192268 crore 2008-09 and further up to 288889 crore 2016-17. The government has facilitated inflows of FDI by making its policies relatively liberal since 1991-92. FDI inflows have complemented domestic investment and hence contributed to capital formation, Management of Foreign Exchange Reserves, Performance of stock Market and as well as to bringing in new technologies and global linkages. From the study, it is clear that the affects of FDI on the Gross domestic product (.683), Foreign Exchange Reserve(.717) Senex(.618) and Nifty(.618) has positive and highly correlated, while the impact of FDI on Gross Capital Formation(.375) and Gross Domestic saving(.025) was very low and insignificant

In the light of above results it is suggested that the government of India in association with its implementing bodies should try to attract more and more FDI for the smooth and rapid economic development.

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