

Impact of Foreign Direct Investments on the Gross Domestic Product: A Study on Indian and Chinese Economy

M. Rakesh Krishnan

Abstract

Inflows of world FDI increased tremendously from US \$200 billion in 1990 to almost US \$ 916 billion in 2005. The BRIC report states that India is going to be one of the most popular destinations for FDI from across the globe. The fundamental question is whether this inflow of FDI would lead to any significant growth in the domestic economy. This study attempts to bring out the relationship between the Gross Domestic Product (GDP) and the Foreign Direct Investments (FDIs). The study concludes that in both the economies FDI are highly positively influential on the GDP, with Chinese economy showing a marginally higher correlation.

Keywords: Foreign Direct Investments (FDIs), Gross Domestic Product (GDP)

Introduction

Inflows of world FDI increased tremendously from US \$200 billion in 1990 to almost US \$ 916 billion in 2005 and (United Nations Conference on Trade and Development, 2006) and last two decades showed even stronger significant flow of FDI to select countries in Asia. In the early 1990s, seven East Asian countries—China, Korea, Singapore, Indonesia, Malaysia, Philippines, and Thailand—received more than 60% of the FDI inflows compared to the other countries in Asia. The BRIC report states that India is going to be one of the most popular destinations for FDI from across the globe. Virtually

all countries, through changes in their regulatory environments, have facilitated the expansion of foreign investment. The economic rationale for offering special incentives to attract FDI frequently derives from the belief that foreign investment produces externalities in the form of technology transfers and spillovers and finally could lead to higher domestic production (Ranjan Kumar Dash and Chandan Sharma, 2011). However, the fundamental question is how much the FDI inflows could be explanatory to growth in the domestic economy. The cases of India and China are studied here. The reason to choose these two economies is for the fact that India and China happen to be the most close economic competitor to each other.

The story was different during the pre-liberalized era of India. The Indian economy suffered from low per capita income, chronic unemployment, low capital formation, increased trade deficit, low standard of living, low infrastructure development, low health and hygiene standard, low growth in GDP and NDP, etc., during the pre-liberalization period. The NRIs took away their deposits amounting to \$1.4 bn. Further, the foreign exchange reserve was not enough to meet even a few weeks' requirements and import of essential goods was inevitable to meet the needs of the growing population.

In view of the above situations and the shortage of capital on one hand and by recognizing the importance of foreign capital in the economic development of India on the other, there have been continuous efforts by the Government of India in attracting foreign capital during the post-liberalization period. The initiatives include providing concessions in taxes and offering tax holidays,

* Assistant Professor, Department of Business Administration, Rajagiri College of Social Sciences, Kerala, India.
Email: rakesh@rajagiri.edu

and increasing the investment cap in various sectors of the Indian economy. As a result of continuous efforts by the Government of India, there has been continuous rise in the inflow of foreign capital on the one hand and overall progress in various sectors of the Indian economy on the other.

Theoretical Background and Conceptual Definitions

Foreign direct investment is defined as an investment involving a long-term business relationship and reflecting a lasting interest and control of resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate) (G Bharathi Kamath, 2008). FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy.

There are adequate theoretical and empirical literature dealing with the relations between FDI and economic growth. Although there are an array of factors determining the inflow of the FDI in a developing economy, many studies conclude that one of the most important factors determining the FDI inflows into an economy is privatization and globalization trends. However, political stability, nature of the State policy, trade and investment regime, transparency and size of the market are also considered as influential factors to determine the flow of FDI to an economy (Chandana Chakraborty and Parantap Basu, 2002).

Structuralist paradigm argues that foreign investment is to be welcomed and actually encouraged through tax concessions, etc. as a source of foreign finance and technology and such investment should flow into the branches of production in which it is most needed (Hunt Diana, 1989). The Overlapping Generations model of long run growth presents a somewhat different perspective on the effects of foreign investment. This model argues that foreign investment makes the future generations of the capital-importing country better off and the future generations of the capital-exporting country worse off (Bhalla V K, 1994). The macro approach (G Bharathi Kamath, 2008) argues that National Income (GDP) is universally employed and is generally a useful measure for economic growth. A variety of policies for promoting

growth can be found in literature. To discuss a simple model for GDP:-

$$GDP = C + I + G + (X - M)$$

where C is consumption,

I is investment,

G is Government expenditure,

X is exports, and

M is imports.

With the above model, the following alternatives are available for triggering growth (Rao A V V S K, 1995).

1. Maximize C through tax reduction (supply-side economics) Activate I— both domestic and foreign.
2. Stimulate G—Keynesian economics (may lead to heavy budget deficits)
3. Increase X— Outward looking policies (aggressive East Asian economies)
4. Contain M— Import substitution

India seems to have been following the first, second and fourth alternatives since mid-1980s, as this path is suggested for a segmented economy to augment development (Chenery Hollis and Ahulwalia Montek S, 1974). As observed (Ranjan Kumar Dash and Chandan Sharma, 2011) by There are ongoing research on the impact of FDI on a host country economy, as can be seen from recent surveys of the literature by Blomstrom *et al.* 1992; Borensztein, Gregorio and Lee 1998; de Mello 1997, 1999; Fan 2002; Regorio 1992; Lim 2001 etc. Many studies have found positive effects of FDI on long-run economic growth through capital accumulation and technical or knowledge transfers, especially under an open trade regime (Basu, P., Chakraborty, C., and Reagle, D., 2003).

Objectives of the Study

The main objectives of the study are:

- a. To analyze the impact of FDI on GDP of India and China.
- b. To compare the explanatory power of FDI on GDP among India and China.

Methodology of the Study

- Period of Study

The period of analysis for the present study is 1990-91 to 2009-10. Depending on the availability of the data, the analysis is confined to this broad period.

- Hypotheses

H₁: FDI and GDP are positively related in both economies – India and China.

H₂: FDI has a more than proportionate positive impact on GDP in India than to that of in China.

- Sources of Data

The data for this work are taken from various secondary sources. The publications of SIA of Ministry of industry, Government of India are the main sources of information for data on FDI flows, country-wise break-up and sector-wise break-up. The RBI online database on the Indian economy is another major source of data. Data on aggregate FDI are taken from World Investment Report of United Nations and Reserve Bank of India (RBI) Annual Report. CMIE database is also used extensively in this study.

- Techniques of Analysis

Pearson Correlation and Regression analysis are used in this study to analyse the data. SPSS software is used for the performing the correlation and regression analysis.

Analysis of Data

Table 1: FDI, net (BoP, current in USD) of India and China

Year	Foreign direct investment, net (BoP, current US\$) India	Foreign direct investment, net (BoP, current US\$)China
1991	73537638	3453000000
1992	276512439	7156000000
1993	550019384	23115000000
1994	890688166	31787000000
1995	2026439031	33849200000
1996	2186732315	38066000000
1997	3464411052	41674000000
1998	2587058630	41117000000

Year	Foreign direct investment, net (BoP, current US\$) India	Foreign direct investment, net (BoP, current US\$)China
1999	2089233597	36978000000
2000	3074684332	37483300000
2001	4073961343	37357000000
2002	3947895992	46789569179
2003	2444138426	49444853744
2004	3592188066	60144670468
2005	4628652265	90379127564
2006	5992285935	100149837151
2007	8201628958	139094535502
2008	24149749830	114792373682
2009	19668790288	87167067370
2010	11008159607	185749835192

*Source: World Development Index, World Data bank, (worldbank.org)

Table 2: FDI, (current in USD) of India and China

Year	GDP (current US\$) India	GDP (current US\$) China
1990	326608014286	356936901184
1991	274842348144	379468656246
1992	293262352360	422660918111
1993	284193716755	440500898965
1994	333014463392	559224707281
1995	366599645609	728007199936
1996	399786888515	856084729312
1997	423160419440	952652693079
1998	428741030147	1019458585326
1999	464344395616	1083277930360
2000	474691627708	1198474934199
2001	492378579616	1324806914358
2002	522798457731	1453827554714
2003	617572578403	1640958732775
2004	721585293250	1931644331142
2005	834215013543	2256902590825
2006	949116769688	2712950886698
2007	1238700195725	3494055944791
2008	1224095295077	4521827288304
2009	1361056679992	4991256406735
2010	1684315379525	5930529470799

*Source: World Development Index, World Data bank, (worldbank.org)

Table 3: Correlation between the FDI and GDP

Correlations					
		FDI_india	FDI_china	GDP_india	GDP_china
FDI_india	Pearson Correlation	1	.666**	.802**	.857**
	Sig. (2-tailed)		.001	.000	.000
	N	20	20	20	20
FDI_china	Pearson Correlation	.666**	1	.951**	.917**
	Sig. (2-tailed)	.001		.000	.000
	N	20	20	20	20
GDP_india	Pearson Correlation	.802**	.951**	1	.990**
	Sig. (2-tailed)	.000	.000		.000
	N	20	20	20	20
GDP_china	Pearson Correlation	.857**	.917**	.990**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	20	20	20	20

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

Table 4: Regression Analysis (Indian scenario)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.802 ^a	.643	.624	2.52782E11

a. Predictors: (Constant), FDI_india

Coefficients ^a						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	3.951E11	7.424E10		5.322	.000
	FDI_india	52.290	9.175	.802	5.699	.000

a. Dependent Variable: GDP_india

Table 5: Regression Analysis (Indian scenario)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.917 ^a	.840	.832	6.67903E11

a. Predictors: (Constant), FDI_china

Coefficients ^a						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	-6.089E10	2.503E11		-.243	.811
	FDI_china	32.442	3.332	.917	9.737	.000

a. Dependent Variable: GDP_china

Table 6: Granger Causality Test (Wessa Output)

Granger Causality Test: $Y = f(X)$				
Model	Res.DF	Diff. DF	F	p-value
Complete model	17			
Reduced model	18	-1	33.6290303162608	2.1362732500718e-05

Granger Causality Test: $X = f(Y)$				
Model	Res.DF	Diff. DF	F	p-value
Complete model	17			
Reduced model	18	-1	2.80813369014738	0.112080651434294

Inferences

Table 3 explains the relationship of FDI and GDP. It can be inferred that the FDI and GDP are highly correlated. However, it is found that correlation between FDI and GDP of China is marginally more correlated (with correlation coefficient of 0.917). In India, the correlation coefficient between FDI and GDP was 0.802).

Table 4 and 5 explain the results of regression analysis. In India, 64.3% of the change in GDP could be explained by the independent variable FDI., and for China, 84% of the change in GDP was explained by the independent variable FDI. Thus, in Indian context, there are more variables along with FDI contributing to the resultant variable GDP. Further, the regression coefficients explains that 52.29 units change in the GDP is resulted for every change of 100 units in the FDI, in India. Similarly, 32.44 units change in GDP is resulted for every change of 100 units of FDI in China. Further Table 6 indicates to accept the null hypothesis that FDI in India = f(FDI in China), the p values are higher than 0.05.

Conclusion

The FDI inflows has shown high positive influence on the GDPs of both the economies – India and China. However, a marginally higher correlation between FDI inflows and GDP was observed in the Chinese economy. Also relatively, the change in GDP is more explained by FDI inflows in the Chinese economy.

References

- Basu, P., Chakraborty, C. & Reagle, D. (2003). Liberalization, FDI, and growth in developing countries: A panel co-integration approach. *Economic Inquiry*, 41(4), 510-516.
- Bhalla, V. K. (1994). *Foreign Investment and New Economic Policy*. Anmol Publications.
- Chakraborty, C. & Basu, P. (2002). Foreign direct investment and growth in India: A cointegration approach. *Applied Economics*, 34(9), 1061-1073.
- Dash, R. K. & Sharma, C. (2011). FDI, trade, and growth dynamics: New evidence from the post-reform India. *The International Trade Journal*, 25(2), 233-266.
- Hollis, C. & Ahulwalia, M. S. (1974). *Redistribution with Growth*. London: Oxford Press.
- Hunt, D. (1989). Economic theories of development: An analysis of competing paradigms. *Harvester Wheatsheaf*, 4(1), 112-113.
- Kamath, G. B. (2008). Impact of Foreign direct investment in India. *The Icfai University Journal of International Business*, 3(4).
- Rao, A. V. V. S. K. (1995). Foreign Direct Investment-Policy Responses, Trends in India and China. *A Comparative Study of FDI in China and India*. Hyderabad: Osmania University.
- United Nations Conference on Trade and Development. (2006). Geneva: UNCTAD: World Investment Report 2005.
- Wessa, P. (2013). Free Statistics Software, Office for Research Development and Education, Version 1.1.23-r7. Retrieved from URL <http://www.wessa.net/>