CURVE ESTIMATION ANALYSIS OF FDI & GDP (FOR THE PERIOD BETWEEN 2000 & 2010)

Rahul Singh*

rahulbais.1980@gmail.com

ABSTRACT

With the advent of globalization, developing countries, particularly those in Asia, have been witnessing a massive surge of FDI inflows during the past two decades. Even though India has been a latecomer to the FDI scene compared to other East Asian countries, its significant market potential and a liberalized policy regime has sustained its attraction as a favorable destination for foreign investors. This article aims to examine the impact of inward FDI on the Indian economy, particularly after a decade of economic reforms, and analyzes the challenges to position itself favourably in the global competition for FDI. In this context, the article further investigates the likely impact on FDI inflows to India as a result of increasing competition from another major emerging market economy, i.e., China, in the wake of its accession to the WTO and the opportunities and challenges present before it.

INTRODUCTION

Foreign Direct Investment (FDI) is considered to be the lifeblood for economic development as far as the developing nations are concerned. Since the liberalization of the Indian economy inflows of foreign direct investment has greatly increased. As far as forting direct investment is concerned, its flow in India is very small as compared not only to China but also to India's potential. Economic Survey for 2005-06 points out that India has potential to absorb $150 billion FDI in the infrastructure sectors alone by 2010.Most of the FDI inflows come from a few countries. Between 1991 and 2005, investments of 10 countries accounted for 71 percent of FDI, the main investor countries being the USA, the Netherlands, Japan, and the United Kingdom. With regard to FDI, U.S. is one of the largest foreign direct investors in India. India is becoming an attractive location for global business on account to its buoyant economy, its increasing consumption market, and its needs in infrastructure and in the engineering sector. Opening and FDI have really created new opportunities for India's development and boosted the performances of local firms as well as the globalization of some of them. Such a trend has undeniably raised Indian's stature among developing countries.

REVIEW OF LITERATURE

A brief review of literature on FDI and related aspects is provided below .Anand J and Delios A (1996) found that positive impact of FDIs can be seen through the success of Japanese MNCs throughout the world especially in India and China. Caves 1996, analyzed that these MNCs can transfer their resources to national firms through creating creating creative collaboration whih can either be equity based or not.Cheng (1993) emphasized on the most neglected area of FDI, R&D, which is neglected by MNCs in host nations. Fujita, Masahisa, Paul Krugman, and Anthony J. Venables, (1999) elaborated the benefits of FDI through his empirical study. Geske (2000) tried to find out the relationship between FDI and trade development in Latin America and found positive correlation between them. Feinberg, Susan & Majumdar, Sumit K. (2001) analyzed technology spillover effect due to FDI with special reference to India pharmaceutical industry.

INDIA PERSPECTIVE

India is the second largest country in the world, with a population of over 1 billion people. As a developing country, India's economy is characterized by wage rates that are significantly lower than those in most developed countries. We

* *Assistant Professor, School of Business Management, Indus International University, Una (HP)*

can say that these are the main features of Indian economy that make it qualify as destination source for a multinational corporation's investment. Until recently, however, India has attracted only a small share of global FDI and FII primarily due to government restrictions on foreign involvement in the economy. But beginning in 1991 and accelerating rapidly since 2000, India has liberalized its investment regulations and actively encouraged new foreign investment, a sharp reversal from decades of discouraging economic integration with the global economy.

OBJECTIVE OF THE STUDY

The main objective of the study is to analyze the FDI inflows in India . The other objectives of the study are

1. To study the year-wise FDI inflows in India for last 10 years.
2. To study the year-wise FDI growth in India for last 10 years.
3. To apply curve estimation analysis using linear programming between FDI and GDP growth rate.

RESEARCH METHODOLOGY:

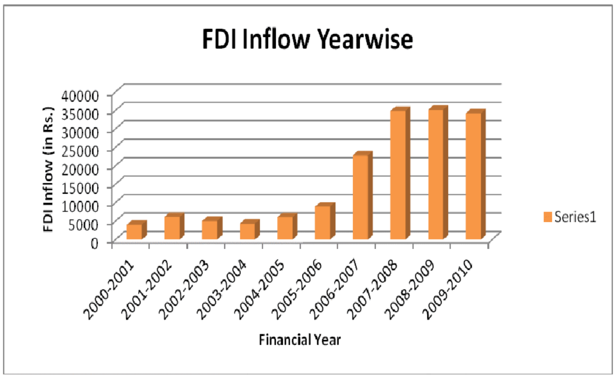
Data Collection

The study is based on secondary data and the facts and figures collected from various sources such as Fact Sheets on FDI, Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, Government of India(GOI).

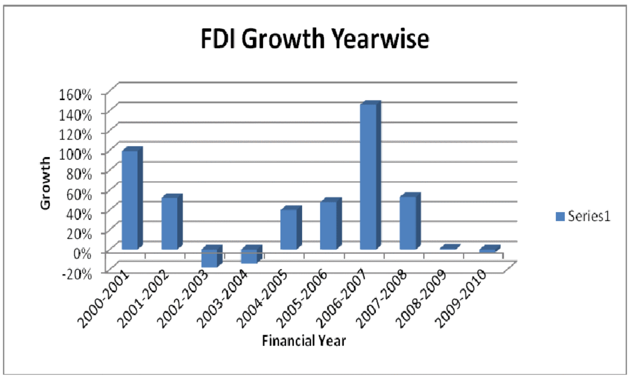
Correlation: We have used the Correlation tool to determine whether two ranges of data move together - that is, how the GDP growth rate are related to the FDI which may be positively related, negatively related or no relation.

For understanding the relationship, GDP growth rate has been taken as dependent variable. FDI is taken as independent variable.

Analysis



It can be seen quite clearly by the graph presented above that FDI inflow has constantly upward movement. However in first six years inflow was saturated with sharp rise in year 2006-2007 . however after that again it look like that FDI inflow has saturated once again.



It can be seen quite clearly by the graph presented above that growth rate FDI inflow has lots of ups and downs. In first two years growth rate was as high as 100% and just after that in next two years growth dipped in negative zone. Again in for next four years and touched highest of 140% in year 2006-2007.Again in next two year growth was ranging between 1% and -4%.It can be said that growth rate has no such clear direction.

Curve Estimation Analysis

Model Description

Model Name	MOD_1
Dependent Variable 1	GDP
Equation 1	Linear
Independent Variable	FDIinflow
Constant	Included

Variable Whose Values Label Observations in Plots Unspecified

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.941	.885	.870	495975.981

The independent variable is FDIinflow.

Here R^2 is 0.885 which says the observation will fall with near about perfection in the fitted regression line.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.510E13	1	1.510E13	61.393	.000
Residual	1.968E12	8	2.460E11		
Total	1.707E13	9			

The independent variable is FDI inflow.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
FDI inflow	93.033	11.873	.941	7.835	.000
(Constant)	1.974E6	247762.139		7.969	.000

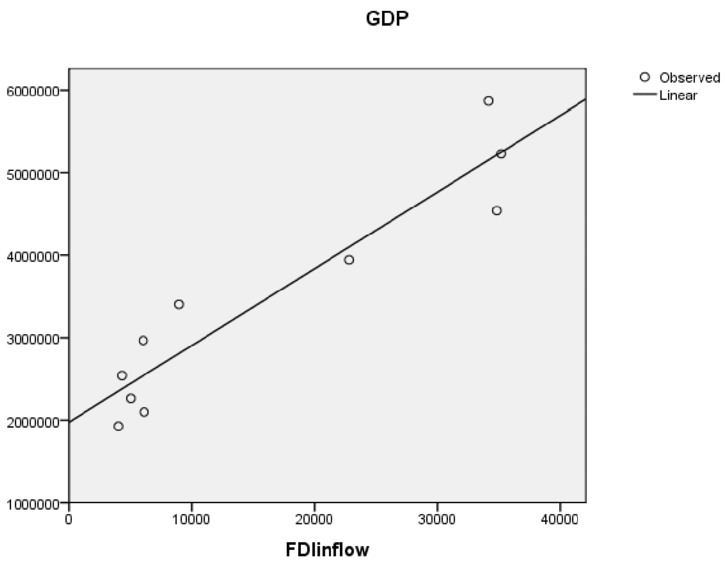
FDI flows and GDP growth rate are strongly correlated in

India. The correlation coefficients between different measures of FDI flows and GDP growth rate during period between 2001 and 2010 is shown in Table above.

The calculations show that

there exists a relationship between FDIs and GDP growth rate since 8 out of10 years indicate a positive correlation in the case of Net FDI Investment and GDP growth rate.

The behavior of the foreign portfolio investors matched the behaviors of GDP growth rate during this period. Net FII investment in the Indian capital markets started fluctuating sharply during February and it turned negative. Net FDI investment in the Indian economy was positive from 2000 to 2010. During this period, the GDP growth rate and net FDI investment showed positive correlation for the period of 2000- 2010 showed a correlation as positive as 0.941. On the whole, there exists a high positive correlation between FDIs and GDP growth rate. It can be further justified by curve estimate analysis chart using linear programming.



The systemic way in which GDP varies as a function of FDI is identified as a straight line, the regression line of Y on X. The regression line goes perfectly through all means of the conditional probability distributions of Y , given value of X .

CONCLUSION:

A large number of changes that were introduced in the country's regulatory economic policies heralded the liberalization era of the FDI policy regime in India and brought about a structural breakthrough in the volume of the FDI inflows into the economy maintained a fluctuating and unsteady trend during the study period. It might be of interest to note that more than 50% of the total FDI inflows received by India during the period from 2000 - 2010 came from Mauritius, Singapore and the USA. The main reason for higher levels of investment from Mauritius was that the fact that India entered into a double taxation avoidance agreement (DTAA) with Mauritius were protected from taxation in India. Among the different sectors, the service sector had received the larger proportion followed by computer software and hardware sector and telecommunication sector. According to findings and results, it is concluded that FDI did has significant impact on GDP growth rate. Also FDI is not the only factor affecting the GDP growth rate. There are other major factors that influence the GDP growth rate in the country but FDI can be termed as one of the major factor contributing to GDP growth.

REFERENCES

1. Anand, J. and Delios, A., "Competing globally: How Japanese MNCs have matched goals and strategies in India and China", Journal of World Business. 31, 3, Fall 1996, pp.50-62.
2. Aditya KR Bajaj and Swastik Nigam (Dec 2007) "Globalization in the Indian Pharmaceutical Industry - FDI spillovers and implications on Domestic Productivity: 1991-2007", is a research project done under IIM Ahmedabad.
3. FDI Inflows in Indian Industry and Bhupal Singh (2005). "Methodology, Compilation and Reporting of Foreign Direct Investment Statistics: The Indian Experience," Reserve Bank of India, Mumbai
4. Caves, Richard. 1996. Multinational Enterprise and Economic Analysis, 2nd ed. Cambridge: Cambridge University Press.
5. Cheng, Joseph L.C. 1993, " The management of Multinational R& D : A neglected topic in international business research", Journal of International Business Studies, 24(1) ;1-18.
6. Dijkstra, A. Geske. 2000. "Trade Liberalization and Industrial Development in Latin America," World Development, vol. 28, no. 9, pp. 1567-1582.
7. Feinberg, Susan & Majumdar, Sumit K. 2001. "Technology spillovers from foreign direct investment in the Indian pharmaceutical industry," Journal of International Business Studies, vol. 32, no. 3 (Third Quarter), pp. 421-437
8. Fujita, Masahisa, Paul Krugman, and Anthony J. Venables, 1999, The Spatial Economy (Cambridge, Massachusetts: MIT Press).
9. Lee, J.Y. & Mansfield, E. 1996. Intellectual Property Protection and US Foreign Direct Investment. Review of Economics and Statistics, 78: 181-186.
10. Garg, R., G. Kumra, A. Padhi & A. Puri. 1996. Four Opportunities in India.s Pharmaceuticals Market. McKinsey Quarterly, 4: 132-144.