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## TRENDS AND DRIVERS OF INDIA'S FDI OUTFLOWS

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### ABSTRACT

*In the current era of globalization, the capital flows are very crucial for an economy. India is world's 21<sup>st</sup> largest outward investor, which is significant with regards to FDI outflows. During the last 22 years, there was a remarkable increase in foreign capital outflows from India. Indian annual FDI outflows rose from USD 514 million in 2000 to USD 15 billion in 2010. There are various factors which drive the FDI outflows of India. This paper aims to study the trends of FDI outflows of India and to explore the factors that drive the foreign capital outflows from India. The data set consists of yearly observations for the period 1991-2012. The study concludes that the trend of FDI outflows of India since 1991 is increasing, the highest amount of FDI outflow was in 2008 i.e. USD 21.15 Billion but it started decreasing after 2008 and reached USD 8.58 Billion in the year 2012. Correlation, ANOVA, Regression Analysis (Ordinary Least Square) and Time Series Analysis are used to analyse the data. Fitted Regression model points out that out of nine independent factors, only four factors i.e. Gross Domestic Product, GDP Growth, GDP per capita and Exports stood as significant drivers of FDI outflows of India. The rest of the variables resulted as having insignificant effect in the present study.*

**Keywords:** Trends, Drivers, FDI outflows, India.

## INTRODUCTION

In the current era of globalization, the capital flows are very crucial for an economy. Over the last few years, the capital flows have increased by leaps and bounds in the emerging economies. There has been an enormous increase in foreign investment flows of India. India was world's 43<sup>rd</sup> largest investor in 2000, by 2007, it became 23<sup>rd</sup> largest and now India is world's 21<sup>st</sup> largest outward investor, which is significant with regards to FDI outflows. Annual FDI outflows have jumped from USD 24 million in 1992 to USD 12456 million in 2011. Indian firms began to invest overseas in 1960s but India's restrictive Outward FDI policy limited them to small, minority joint ventures in developing economies. After 1991, with liberalization in FDI outflows and capital Market Policy, Indian companies rushed for international investments especially in IT, Pharmaceutical, Telecommunication, automotive, metal and service sector.

Indian annual FDI outflows rose from USD 514 million in 2000 to USD 15 billion in 2010.(Source: [www.unctadstat.unctad.org](http://www.unctadstat.unctad.org)). India's average annual FDI outflows are higher than those of many developed economies. Moreover, India's FDI outflows gradually increased during the past three decades. This strong performance is reflected in country's FDI outflow stock from USD 1.73 billion in 2000 to USD 118.17 billion in 2012. (Source: [www.unctadstat.unctad.org](http://www.unctadstat.unctad.org)). Manufacturing sector has displaced services and dominated Indian FDI outflows at the end of 2010. Over a half of India's FDI Outflows of 2002 -2009 flows into Developed economies. (Source: [www.finmin.nic.in](http://www.finmin.nic.in)).

In recent years, Emerging Market Economies are increasingly becoming a source of foreign investment for the rest of the world. Strong economic growth and progressive liberalization has induced Indian companies to expand their business in new markets and USA is the largest recipient of Indian FDI outbound investment.

The increase in outward FDI from India has grabbed the attention of the globe. Thus, this study examines the home country determinants of India's FDI Outflows.

## LITERATURE REVIEW

This review focuses on empirical studies conducted by various researchers on home country determinants of FDI outflows of developing economies. Existing studies tried to model the outward FDI experience of individual countries or few countries together. (Athukorala, 2009; Beerannavar, (2013), Buckley et al, 2007; Hattari and Rajan, 2010; Kolstad and wiig, 2012; Kumar, 2007; Wang et al, 2012). The studies that examine the home country determinants of FDI outflows of developing economies are confined to individual country specific experiences. (Buckley et al, 2007; Goh and Wang, 2011; Nunnenkamp et al, 2012; Pradhan, 2004; Sosa et al, 2012; Wang et al, 2012)

**Das Khanindra ch. (2013)** examined various home country determinants of outward FDI for sample of 56 developing countries for the period 1996-2010 using panel data econometric framework. The variable pertaining to home country were one dependent variable i.e. FDI outflows and five dependent variables

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i.e. GDP per capita, exports and imports as a percentage of GDP, political risk index, research and development expenditure as percentage of GDP and Real Effective Exchange Rate Index. The findings of the study indicated that the home country's level of economic development, globalization, political risk, science and technology investments are four important determinants which plays a crucial role in spurring outward FDI from developing countries and results in higher outward FDI.

**Buckle Peter P. J. and others (2007)** investigated the determinants of Chinese outward Direct investment (ODI) by Chinese multinationals (MNEs) and the extent to which three special explanations i.e. capital market imperfections, special ownership advantage of Chinese MNEs and institutional factors need to be nested within the general theory of multinational firm. The data collected between 1984 and 2001. It was found that Chinese ODI were associated with high levels of political risk in and cultural proximity to, host countries throughout and with host market size and geographic proximity (1984 -1991) and host natural resources endowments (1992- 2001) the study strongly support the argument that aspects of special theory help to explain the behavior of Chinese multinational enterprises.

**Wang Chengqi and others (2012)** explained the mechanism through which government impacts the internationalization of Emerging Market Enterprises (EMEs). The period of the study is 2006 to 2007; the study included 1231 manufacturing firms that invested in 1390 overseas projects. Two variables used to measure Government involvement i.e. Degree of staff ownership and government affiliation level. The study demonstrates that an important source of variation is the idiosyncratic manner in which EMEs are affiliated with Government Agencies. Government involvement influences the level of overseas investment, its location (developed Vs developing countries) and its types (Resource v/s Market seeking). These effects depend on firms own resources and capabilities. The study enhances the understanding of how EMEs succeed in expanding overseas and why governments matter.

## OBJECTIVES AND METHODOLOGY

The main aim of this study is to analyse the trends of FDI outflows from India and to identify the factors that drives the FDI Outflows from India. The data set consists of yearly observations for the period 1991-2012 i.e. 22 years for the developing country, India. The required data has been obtained from UNCTAD-World Investment Report, World Development Report, World Bank's World Development Indicators., etc. The definition of variables is explained in the Glossary.

In this study, FDI outflow is the dependent variable and Gross Domestic Product (GDP), GDP per capita, GDP growth, Power consumption per capita, Real Effective Exchange Rate, Exports as percentage of GDP, Inflation rate, Trade openness, (Import & Export as % of GDP) and Real Interest Rate are the 9 independent variables. Statistical tools like Correlation, ANOVA and Regression Analysis (Ordinary Least Square) and Time Series Analysis have been used to analyse the data.

## Hypothesis of the study

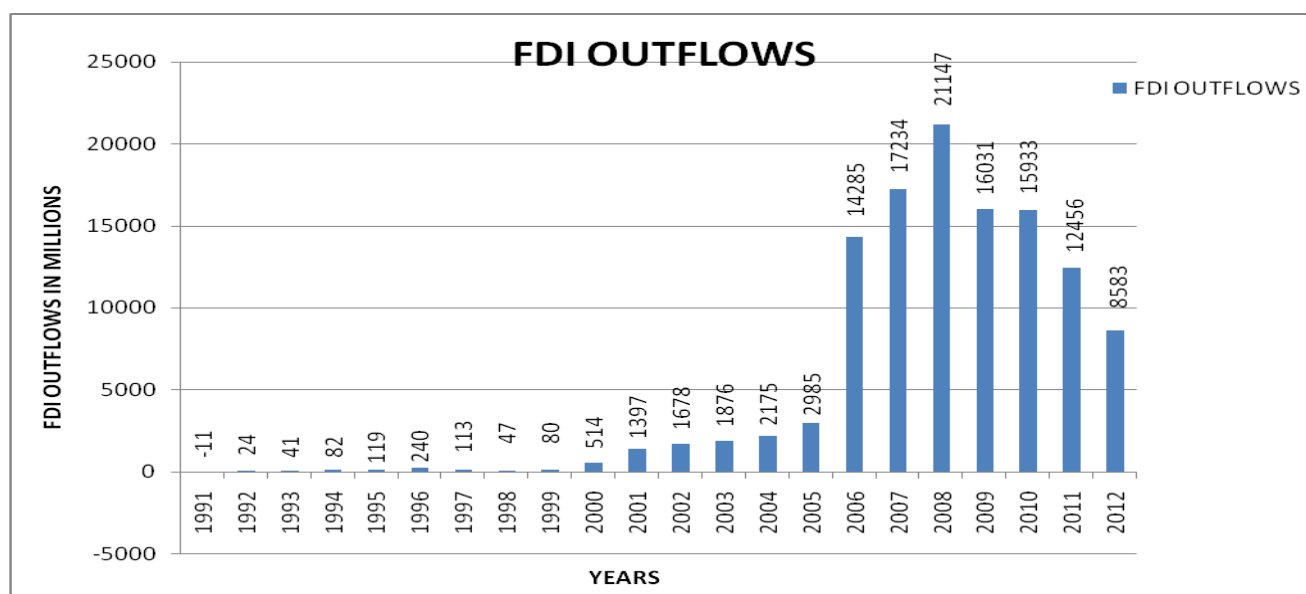
**Ho:** There is no significant relation between FDI outflows and GDP, GDP per capita, GDP Growth, Real Effective Exchange Rate, Exports, Inflation Rate, Trade openness, Electric Power Consumption, Real Interest Rate.

## ANALYSIS AND DISCUSSION

### A) Trends of FDI Outflows From India

The trends and progress of FDI outflows from India since 1991 is increasing (Figure 1). The twenty two years from 1991 to 2012 saw a remarkable increase in foreign capital outflows from India. In the year 1991, India's outbound investment was USD - 11 Million. The major hike was in the year 2001 when it reached USD 1.39 Billion and 2006 when it reached USD 14.29 Billion. The highest amount of FDI outflow was in 2008 i.e. USD 21.15 Billion. The figure also depicts that India's FDI outflow started decreasing after 2008 i.e. USD 16.03 Billion in 2009, USD 15.93 Billion in 2010 and USD 12.45 Billion in 2011 and further decreased to USD 8.58 Billion in the year 2012.

**FIGURE NO. 1 TRENDS OF FDI OUTFLOWS OF INDIA**



Source: UNCTAD statistics.

### B) Factors Driving FDI Outflows of India

**Correlation Analysis:** The nature of relationship between the various independent variables and the dependent variable is shown in Table 1.

TABLE 1. SIGN OF RELATIONSHIP WITH FDI OUTFLOWS

Sr. No	Variable	Abbreviation	Relationship with FDI Outflows
1	Gross Domestic Product	GDP	Positive
2	Real Effective Exchange Rate	REER	Positive
3	Inflation Rate	INFL	Positive
4	Trade Openness	TRDOPN	Positive
5	GDP Per Capita	GDPPC	Positive
6	GDP Growth	GDPG	Positive
7	Electric Power Consumption	PWCONS	Positive
8	Export as % of GDP	EXPORT	Positive
9	Real Interest rate	RINTR	Negative
10	FDI Outflows	FDI OF	-----

Source: Correlation Matrix.

Table 2 exhibits the result of correlation analysis. The Karl Pearson's correlation coefficient ( $r$ ) explains that there exists strong positive correlation between FDI Outflows and GDP ( $r=0.818$ ), GDP Per Capita ( $r=0.825$ ), Export ( $r=0.857$ ), Trade openness ( $r=0.858$ ) and Electric power consumption ( $r=0.844$ ). FDI outflows and Real Effective Exchange Rate has moderate positive correlation ( $r=0.626$ ). Whereas FDI Outflows has very weak positive correlation with Inflation Rate. But FDI outflows have moderate negative correlation with Real Interest Rate ( $r= - 0.510$ ). Since P-values are less than 0.01 or 0.05, correlation is significant at 1% level or 5 % level, thus, there is significant relation between FDI outflows and GDP, GDP per capita, Exchange Rate, Trade openness, Electric Power Consumption, Export and Real Interest Rate.

TABLE NO. 2 CORRELATION MATRIX (PEARSON CORRELATION )

	FDI OF	GDP	GDP GR	GDPP C	REER	TRDO PN	EXPO RT	INFL	PWC ONS	RIN TR
FDI OF	1									
GDP	.818**	1								
GDP GR	.348	.335	1							
GDPPC	.825**	1.000**	.345	1						
REER	.626**	.844**	.098	.843**	1					
TRDOPN	.858**	.946**	.353	.946**	.733**	1				

EXPORT		.857**	.929**	.370	.929**	.719**	.997**	1			
INFL		.126	.114	-.141	.119	.197	-.071	-.107	1		
PWCONS		.844**	.986**	.383	.986**	.793**	.962**	.950**	.033	1	
RINTR		-.510*	-.672**	-.108	- .672**	- .631**	- .581**	- .577**	-.486*	- .614**	1
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

TABLE NO. 3 MODEL 6 SUMMARY<sup>B</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
6	.935 <sup>a</sup>	.875	.846	2826.529	1.559

a. Predictors: (Constant), EXPORT, GDP GR, GDP, GDPPC

b. Dependent Variable: FDI OF

TABLE NO: 4 MODEL SUMMARY AND ANOVA (DATA SET 1991-2012)

Model	R <sup>2</sup>	AdjustedR <sup>2</sup>	S.E.of Regression	Durbin Watson	F value	P value
1	0.907	0.838	2896.453	1.76	13.072	0.000064
2	0.905	0.846	2823.212	1.79	15.433	0.000018
3	0.903	0.854	2746.538	1.69	18.599	4.41 e- 06
4	0.896	0.853	2752.528	1.70	21.427	1.46 e -06
5	0.882	0.845	2837.688	1.43	23.815	6.94 e – 07
<b>6</b>	<b>0.875</b>	<b>0.846</b>	<b>2826.529</b>	<b>1.56</b>	<b>29.786</b>	<b>1.76 e – 07</b>

a Predictors: (Constant), RINTR, GDP GR, INFL, REER, TRDOPN, PWCONS, GDP, EXPORT, GDPPC

b Predictors: (Constant), RINTR, GDP GR, INFL, TRDOPN, PWCONS, GDP, EXPORT, GDPPC

c Predictors: (Constant), RINTR, GDP GR, INFL, PWCONS, GDP, EXPORT, GDPPC

d Predictors: (Constant), RINTR, GDP GR, INFL, GDP, EXPORT, GDPPC

e Predictors: (Constant), GDP GR, GDP, EXPORT, GDPP

TABLE NO. 5 MODEL 6: OLS, USING OBSERVATIONS 1991- 2012 (T = 22)

Dependent variable: FDI Outflow					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-43303.8	8021.57	-5.3984	0.00005	***
GDP	-277.916	65.1907	-4.2631	0.00053	***
GDPG	-574.721	316.963	-1.8132	0.08749	*
GDPPC	365.896	85.0361	4.3028	0.00048	***
EXPORT	942.142	305.809	3.0808	0.00678	***

\*\*\* significant at the 0.01 level\* significant at the 0.1 level

The regression analysis i.e. Ordinary Least Square (OLS) was applied on the data set for the period 1991-2012. The data set includes nine independent variables and FDI outflows as dependent variable. Table No 4 exhibits the results of Regression model fitted. The table also shows the values of Durbin-Watson test, i.e. 1.56 which explains thin positive auto correlation.

The ANOVA Values (F) as shown in Table no. 4 is indicative of the fact that the regression as a whole is significant at 0.01 level. It implies that variation brought into FDI outflows by various independent variables is significant. This evidence of significant variation in FDI outflows allow to proceed further to identify the more important factors driving FDI out of India.

The coefficient of Correlation (R) of Model 6 is 0.935 as shown in Table 3 explains that there exist very high correlation between FDI outflows and its drivers under investigation. Similarly, the value of Coefficient of Determination ( $R^2$  and adjusted  $R^2$ ) under various models indicates high explanatory power of independent variables as a whole. While  $R^2$  ranges from 0.875 to 0.907, the value of adjusted  $R^2$  is the maximum i.e. 0.846 in case of model six. Thus, around 84.6 % of the variation in FDI outflows is caused by independent variables under the study. This implies that there are very few other factors which have a bearing on capital outbound investment of India.

The relationship between FDI outflows and various independent variables is measured to test the hypothesis. The regression coefficients of factors covered under Model 6 could be visualized from Table 5. This table shows that the P Value of the model as  $1.76 \times 10^{-7}$ , which is less than 0.05. Thus, null hypothesis is rejected and alternate hypothesis is accepted. It means there is significant relationship between FDI outflows and four independent factors i.e. GDP, GDP Growth, GDP per capita and Exports. All these factors

have positive relationship with FDI outflows. The partial regression coefficients for all factors are significant at 1% level of significance whereas only one factor i.e. GDP Growth is significant at 10% level.

## CONCLUSION

India is the world's 21<sup>st</sup> largest outward investor. Increase in FDI flows of this country has grabbed the attention of the world. Very few researchers have identified the factors driving the FDI outflows, but these determinants vary from period to period and from country to country. This study on drivers of FDI outflows from India has brought out the findings that the relationship between FDI outflows and factors such as GDP, GDP Growth, GDP per capita, Trade openness, Electric Power Consumption, Exports, Real Effective Exchange Rate and Inflation rate is positive but the relationship between FDI outflows and Real Interest Rate is found to be negative. The explanatory power of the model as a whole is of very high level and only four out of nine independent factors i.e. GDP, GDP Growth, GDP per capita and Exports stood as significant factors driving FDI out of India.

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## GLOSSARY

- **Foreign Direct Investment (FDI)**: FDI have been taken as flow of capital out of India. The figure of the FDI outflows are in current US \$ and collected from UNCTAD Statistics.
- **Gross Domestic Product (GDP)**: GDP is the measure of all final goods and Services produced domestically in a given year. Data are in current U.S. dollars and collected from World Bank's World Development Indicators (WDI).
- **Inflation Rate**: Inflation as measured by the consumer price index. The data is in form of annual percentage and data are collected from World Bank's World Development Indicators.
- **Real Effective Exchange rate** : The real effective exchange rate is calculated as follows. Each of the country's exchange rates against other major currencies (i.e. nominal exchange rates) is deflated by the price indices of the country and the corresponding partner countries to calculate the real exchange rate. The weighted average (geometric mean) of the real exchange rates is then calculated using the annual value of country's trade with the respective countries as its weights. It is then converted into an index and aggregated into various trade and economic country groups. It is collected from UNCTAD Statistics.
- **Trade Openness**: Trade openness is computed as ratio of Imports and Exports of goods and service to GDP. The data is in form of percentage and is taken from World Bank's WDI.
- **Exports of goods and services (% of GDP)** :Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. The data are in form of percentage and is taken from World Bank's World Development Indicators.
- **GDP per capita (current US\$)** : GDP per capita is gross domestic product divided by midyear population. Data are in current U.S. dollars and is taken from World Bank's WDI.
- **GDP growth (annual)**:The data is in form of percentage and taken from World Bank's WDI.
- **Electric power consumption**: It measures the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and power plants. The data is in form of KWH per capita and taken from World Bank's WDI.
- **Real interest rate (%)**: Real interest rate is the lending interest rate adjusted for inflation as measured by GDP deflator. The data is in form of percentage and taken from World Bank's WDI.