FACTOR DETERMINANTS OF FDI INFLOWS INTO INDIA

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One of the economic problems of developing nations is that they do not have sufficient national savings to finance their investment. They are in continuous need of foreign capital either direct or indirect investment. Initially, they took loans from international commercial banks. But in 1980's bank debt crisis forced many economies to reform their investment policies to attract more stable form of foreign capital and FDI appeared to be one of the easiest way to get foreign capital without undertaking any risks linked to the debt. Thus, it became an attractive alternative as a source of capital inflows. Foreign Direct Investment (FDI) is a process whereby the residents of the home source country attain ownership of assets with the intention to control the production, distribution and other activities of a firm in the host country.

In the era of globalization, Foreign Direct Investment flows have been expanding at a faster rate. The statistical data clearly indicates the fact that world's FDI inflows are increasing at a rapid rate. FDI have become an integral and dominant part of every expanding global economy. For developing economies FDI is a source and opportunity for higher and faster economic growth. FDI is also considered as an additional source of capital from developed to developing and least developed countries.

India, being a developing economy, has also emerged as one of the leading FDI destinations in Asia, in the recent years. Actually, the need for import of foreign capital was defined in the Industrial Policy Resolution of 1948. It was followed by Foreign Exchange Crisis of 1948, allowing Foreign Companies to proceed with their capital project in 1963-64, Tax exemption to NRI's in 1965, New Industrial Licensing Policy of 1970, Govt. policy towards Foreign Investment 1972-73, FERA amended in 1973 to attract foreign investment in India. The actual flow of foreign investment started in India in 1980 when the Govt. of India (GOI)released the Foreign Investment policy, in respect of Oil Exporting Developing Countries with a good package of exemption to tap their resources. Looking at the importance of FDI, the GOI introduces Liberalization, Privatization and Globalization (LPG) Policy and opened Indian Economy for foreign players in 1991 as FEMA, with a baseline of less than USD 1 Billion in 1990. Thus, in India, the foreign investment climate drastically changed as a result of major reforms introduced by LPG policy of 1991.

During the last 22 years, there was a remarkable increase in foreign capital inflows into India. FDI inflows were meagre in 1970's and 1980's. But the trends and progress since 1991 seem to be increasing. The year 2008 has seen the highest amount of FDI Inflow i.e. USD 47 Billion. Out of total FDI Inflow of developing economies, India's share was 7 % in the year 2008,but it reduced to USD 31.55 Billion in 2011and USD 35.12 Billion in the year 2012**(Source: UNCTAD's World Investment Report).**

The share of Mauritius in India's FDI inflow is highest followed by Singapore, USA, UK and Netherlands over the period 2000-2011.The sector wise distribution of FDI Equity inflows in India shows that more than half of incoming FDI has moved into Six Sectors i.e. Service sector, Construction, Telecommunication, Computer Software and hardware, Drugs and Pharmaceuticals and Chemicals for the period 2000 to 2013. The statistical data on state wise FDI equity inflows in India also confirms the wide differences among various states. There has been FDI showering in the states of Delhi, Maharashtra, Karnataka, Tamilnadu and Gujarat over the last 12 years. **(Source: Department of Industrial Policy and Promotion, GOI)**

There are various socio-economic factors which may influence the FDI inflows into India. In this context, this paper tries to explore the various factors that determine the FDI inflows in India. This may help to address some of the issues arose towards the goal of increasing India's FDI inflows.

LITERATURE REVIEW

Till now, various empirical studies have been conducted by researchers to identify the factors that influence the inflow of FDI. Nevertheless, the variables which were identified as a determinant of FDI vary from study to study and from country to country. Therefore, it is difficult to derive one list of determinants as some determinants have gained and some have lost the importance over a period of time. This review focuses on empirical studies conducted by various researchers on determinants of FDI in developing countries.

Tsai (1994) in his empirical study of two spans 1975-78 and 1983-86 used economic variables like market size and growth factors, trade balance and hourly wage rate in manufacturing and proved that Market Size and growth have positive impact on FDI inflows. **Singh & Jun (1995)** inferred that export orientation is the

strongest variable and political risk and business operation conditions are also significant determinations of FDI In flows. **Bala subramanyam, Salisu & Sapsford (1996)** arrived at that FDI is a major element of economic growth in developing countries, and that relatively open, export-promoting macroeconomic policy encourages FDI inflows. While **Yang, Groenewold & Tcha (2000**)found that if a host country is relatively closed on the current account, incentives are created for FDI as a means of circumventing the barriers to trade. On the other hand, a relatively closed capital account may discourage FDI.

Kerr & Monsingh (2001) concluded in their study that the wage level, exchange rate, level of interest rates, taxation regime and the degree of openness are the determinants of the level of FDI flows to China over the period 1980 to 1998. **Charkraborty & Basu (2002)** explored the co-integration relationship with the method developed by **Johansen (1990)** and found two long-run equilibrium relationships. The first relationship is between net inflow of FDI, real GDP and the proportion of import duties in tax revenue and the second is between real GDP and unit cost of labour and found unidirectional Granger Causality from real GDP to net inflow of FDI. **Asiedu (2002)** inferred that openness of economy, return on investment and market size are statistically significant variables for fostering FDI whereas infrastructure and political risk are statistically insignificant variables.

Addison & Heshmati (2003) investigated the determinants of FDI inflows to developing countries over a period 1970 to 1999 using Panel data Regression Analysis. Economic Growth and Openness to trade has positive impact on FDI inflows whereas Level of risk affects FDI negatively. It is added democratization and spread of ICT are likely to affect FDI since both Democracy and ICT have significant positive effects. "Economic freedom, openness, prosperity, human capital and size of FDI in previous years positively influence the growth of FDI whereas political instability negatively influences it," added **Quazi & Mahmud (2004**).**Naeem, Ijaz, and Azam (2005)**also supplemented that the economic factors like market size, domestic investment, trade openness, indirect taxes, inflation, and external debt are significant in Pakistan. **Moreira (2009)** in the literature based study in Africa concludes that along with the availability of natural and mineral resources, Africa has managed to lure foreign investment because of its trade openness policies, cost-effective labour, size of market etc. but factors like corruption, lengthy administrative procedures in setting up business have acted as obstacle in attracting more FDI in the region. The study of **Bende-Nabende (2002)** and **(Krugell, 2005**) from same country found market size and growth as one of the most important and long-run determinants of FDI and adds that economy with a large market size attracts more FDI and countries that have high and sustained growth rates receive more FDI flows compared to unstable economies.

Krugellalong with Pigato (2001), Lemi & Asefa (2003) Yasin (2005) and Odenthal (2001), Fedderke & Romm (2006), Asiedu (2006), Schneider & Frey (1985), Culem (1988), Moore (1993), Love &Lage-Hidalgo (2000) explains that availability of cheap labour positively influence FDI inflows, but also adds that along with cost of labour, productivity of labour also matters. Even an availability of skilled human capital is crucial.

Bhati (2006)analysed the factors influencing FDI inflows, in 62 developing countries of the world and summarised that per capita GDP stood as a significant influencer of FDI inflows during each period 1989 –

1994, 1995-99, and 2000-2003. Another significant determinant of FDI for the period 1989-94 and 1995-1999 is exports as a percentage of GDP. The other socio-economic determinants such as adult literacy, external debt, inflation rate and power consumption had insignificant affect in this study. **Wang (2009)** examined the impact of FDI inflows on 12 Asian Economies i.e. Bangladesh, China, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand and Taiwan during the period 1987-97 and found that FDI in manufacturing sector has a significant and positive impact on economic growth in the host economies. **Mottaleb & Kalirajan (2010**) in their study of 68 developing countries i.e. Low income and Lower middle income countries from Asia, Africa and Latin America with data set 2005 to 2007 concluded that GDP Growth rate, Abundant Labour force, improved infrastructure and communication system, Business environments, Foreign Aid are significantly and positively affect FDI inflows. They added that FDI inflows are based towards Asian and Lower middle income countries. **Kok & Ersoy** (2011) investigated the best determinants of FDI in developing countries and found that some determinants have strong positive effects on economic progress while Total Debt Service/ GDP and inflation have a negative impact.

Shumaila, Nadia & Sami (2012) in their study on Pakistan made a case for positive relation between capital inflows (FDI, Export revenue, Remittances) and inflation. **Saleem, Zahid, Shoaib, Mahmood, & Nayab (2013)** conducted a study for a time period of 1990 to 2011 with the help of regression analysis and identified that there exists a positive relationship between foreign direct investment (FDI) and inflation and whereas FDI inflows are negatively influenced by growth of GDP in Pakistan.

The impact of FDI on economic growth of Indian economy was examined by **Hooda (2011)** for the period 1991-92 to 2008-09. The results indicate that FDI is an essential and significant factor influencing the level of growth in Indian economy. She also found that trade GDP, Research and Development GDP, Financial position, exchange rate, Reserves GDP are the important macroeconomic determinants of FDI Inflows in India. **Singhania & Gupta (2011)** concluded that only GDP, inflation rate and scientific research are statistically significant and that FDI Policy changes during years 1995-1997 have had a significant impact on FDI inflows into India. The authors recommend that the Government of India should open more sectors to FDI investments. A study by **Shylajan (2011)**, reviewed the major factors of FDI inflow in India for the period 1993 to 2006 using multiple regression analysis. The study inferred that FDI is related positively with real GDP and previous period FDI inflow but inversely related with inflation. **Sahni (2012**) arrived at that GDP, inflation (WPI) and Trade Openness are important factors in attracting FDI inflows in India during post-reform period and have positive relationship whereas Foreign Exchange Reserve was found to be statistically insignificant variable. While **Sisili. & Elango. (2013**) found that FDI inflows are positively influenced by growth of marker and ratio of domestic investment to GDP but are negatively influenced by fluctuations in exchange rate and size of market. **Karmali (2013)** also found that there exist a long term relationship between FDI inflows, GDP growth, Exchange Rate, External Debt, Domestic Inflation and Trade Openness.

OBJECTIVES AND METHODOLOGY

The main aim of this study is to analyse the trends of FDI inflows in India and to identify the factors that influence the FDI Inflows to 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, IMF, World Bank's World Development Indicators., RBI Bulletins, etc. The definition of variables is explained in the Glossary.

In this study, FDI inflow is the dependent variable and Gross Domestic Product (GDP), GDP per capita, GDP growth, Power consumption per capita, Exchange Rate, Exports as percentage of GDP, Inflation rate, Trade openness, (Import & Export as % of GDP), External debt, Employment growth, Total reserves and Real Interest Rate are the 12 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 inflows and GDP, Exchange Rate, External Debt, Inflation Rate, Trade openness, GDP per capita, GDP Growth, Electric Power Consumption, Employment Growth, Total Reserve, Exports, Real Interest Rate.

ANALYSIS AND DISCUSSION

A) Trends of FDI Inflows in India

The trends and progress of FDI inflows in India since 1991 is increasing. (Figure 1)The twenty two years from 1991 to 2012 saw a remarkable increase in foreign capital inflows into India. In the year 1991, India's FDI inflow was USD 0.15 Billion. The major hike was from the year 2006 when it reached USD 20.32 Billion. The year 2008 seen the highest amount of FDI Inflow i.e. USD 43 Billion. The figure also depicts that India attracted FDI inflow of USD 35.60 Billion in 2009, it reduced toUSD 24.15 Billion in the year 2010 and again increased to31.55 Billion in 2011 and further increased toUSD 35.12 Billion in the year 2012.

Figure No. 1: Trends of FDI Inflows in India
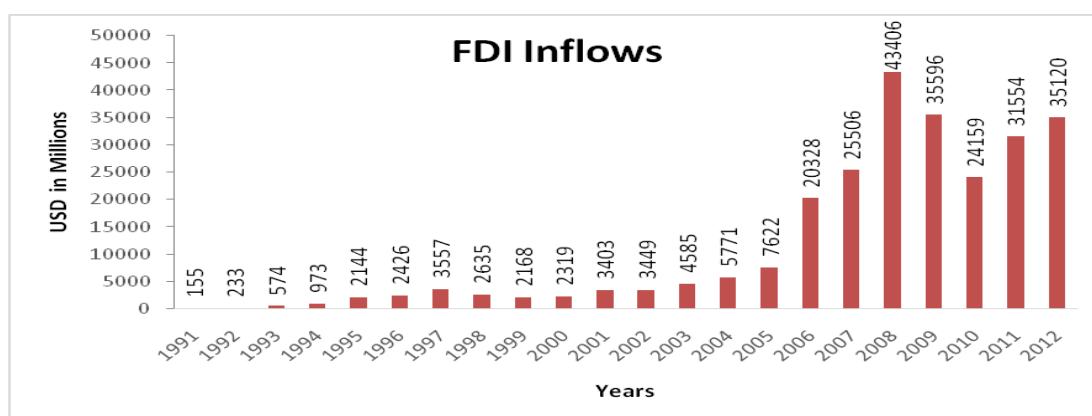
Source: UNCTAD World Investment Report 1997-2012.

B) Factors Influencing FDI Inflows in India

Correlation Analysis: The expected nature (i.e. positive or negative) of relationship between the various independent variables and the dependent variable is shown in Table 1.

TABLE 1.EXPECTED SIGN OF RELATIONSHIP WITH FDI INFLOWS

Sr. No	Variable	Abbreviation	Expected Relationship with FDI Inflows
1	Gross Domestic Product	GDP	Positive
2	Exchange Rate	EXCHR	Negative
3	External Debt	EXTDEBT	Negative
4	Inflation Rate	INFLNRATE	Negative
5	Trade Openness	TRADEOPN	Positive
6	GDP Per Capita	GDPPC	Positive
7	GDP Growth	GDPGR	Positive
8	Electric Power Consumption	ELECPC	Positive
9	Employment Growth	EMPGR	Positive
10	Total reserves	TOTALRES	Positive
11	Export as % of GDP	EXPORT	Positive
12	Real Interest rate	REALINTRATE	Negative

Table 2 exhibits the result of correlation analysis. The Karl Pearson's correlation coefficient (r) explains that there exists strong positive correlation between FDI Inflows and GDP (r=0.901), External debt (r=0.892), Trade openness (r=0.918), Electric power consumption (r=0.911) and Total reserve (r=0.936). Whereas FDI inflows and Exchange Rate has moderate positive correlation (r=0.540).But FDI inflows have strong negative correlation with Employment Growth (r= -0.875), since P-values are 0.00 which are less than 0.01, correlation is significant at 1% level.So, there is correlation between FDI inflows and GDP, Exchange Rate, External Debt, Trade openness, Electric Power Consumption, Employment Growth and Total Reserve.

TABLE NO 2 CORRELATIONS									
		FDI	GDP	Exchr	Exdebt	Tradeopn	ElecPC	EmpGR	TotalRes
FDI	Pearson Correlation	1							
GDP	Pearson Correlation	.901[**]	1						
Exchr	Pearson Correlation	.540[**]	.639[**]	1					
Exdebt	Pearson Correlation	.892[**]	.976[**]	.568[**]	1				
Tradeopn	Pearson Correlation	.918[**]	.946[**]	.712[**]	.889[**]	1			
ElecPC	Pearson Correlation	.911[**]	.990[**]	.725[**]	.960[**]	.962[**]	1		
EmpGR	Pearson Correlation	-.875[**]	-.902[**]	-	-	-.809[**]	-.906[**]	1	

					.607[**]	.911[**]				
TotalRes	Pearson Correlation	.936[**]	.972[**]	.636[**]	.924[**]	.963[**]	.971[**]	-.863[**]	1

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

Regression Analysis

TABLE NO 3 MODEL 6 SUMMARY[B]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
6	.991[a]	.983	.974	2257.969	3.094

a. Predictors: (Constant), TotalRes, Exchr, EmpGR, Exdebt, Tradeopn, GDP, ElecPC

b. Dependent Variable: FDI

Table No: 4 Model Summary and ANOVA (DATA SET 1991-2012)						
Model	R^2	AdjustedR^2	S.E.of Regression	Durbin Watson	F value	P value
1	0.986	0.968	2515.993	3.253	54.367	6.82e -07
2	0.986	0.971	2390.011	3.246	65.725	8.10e -08
3	0.986	0.973	2325.149	3.3	76.344	1.08e -08
4	0.985	0.974	2279.965	3.273	88.16	1.41e -09
5	0.984	0.974	2252.12	3.118	101.559	1.85e -10
6	**0.983**	**0.974**	**2257.969**	**3.094**	**115.315**	**2.73e -11**
7	0.978	0.969	2485.388	2.695	110.466	1.50e -11

Dependent variable: FDI

a) Predictors: (constant) GDP, ExchRate, ExtDebt, InflnRate, Trdopn,GDPPC, GDPGR, ElectPC, EmpGR, TotRes, Export, RIntRate.

b) Predictors : (constant) GDP, ExchRate, ExtDebt, InflnRate, Trdopn, GDPPC, GDPGR, ElectPC, EmpGR, TotRes, RIntRate.

c) Predictors : (constant) GDP, ExchRate, ExtDebt, Trdopn, GDPPC, GDPGR, ElectPC, EmpGR, TotRes, RIntRate.

d) Predictors : (constant) GDP, ExchRate, ExtDebt, Trdopn, GDPGR, ElectPC, EmpGR, TotRes, RIntRate.

e) Predictors: (constant) GDP, ExchRate, ExtDebt, Trdopn, ElectPC, EmpGR, TotRes, RIntRate.

f) Predictors: (constant) GDP, ExchRate, ExtDebt, Trdopn, ElectPC, EmpGR, TotRes

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

Dependent variable: FDI

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	194635	60478	3.2183	0.00619	***
GDP	-71.6907	12.1136	-5.9182	0.00004	***
ExchRate	-661.085	180.75	-3.6575	0.00259	***
Ext_Debt	0.109154	0.0358553	3.0443	0.00875	***
Trd_Opn	1659.61	399.579	4.1534	0.00098	***
Elec_P_C	145.795	71.3644	2.0430	0.06035	*
Emp_Gr	-3894.34	918.158	-4.2415	0.00082	***
Tot_Res	97.9341	25.5377	3.8349	0.00182	***

*.   Significant at 10 % level

***.Significant at 1% level

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

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

The coefficient of Correlation (R) of Model 6 is 0.991 as shown in Table 3 explains that there exist very high correlation between FDI inflows and its determinants 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 0.983 to 0.986, the value of adjusted R^2 is the maximum i.e. 0.974 in case of model six. Thus, around 97.4 % of the variation in FDI inflows is caused by independent variables under the study. This implies that there are very few other factors which have a bearing on FDI inflows to India.

The relationship between FDI inflows 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 is 2.73e-11, which is less than 0.05.Thus, null hypothesis is rejected and alternate hypothesis is accepted. It means there is significant relationship between FDI Inflows and seven independent factors i.e. GDP, Exchange Rate, External Debt, Trade openness, Electric power consumption, employment growth and total reserve. All these factors except employment growth are found to have positive relationship with FDI inflows. The partial regression coefficients for all factors

are significant at 1%level of significance where as only one factor i.e. electric power consumption is significant at 10% level.

CONCLUSION

FDI has been emerged as an important resource for the economic development of developing nations. Increase in FDI inflows of these countries has grabbed the attention of the world. Though many researchers have identified the factors influencing the FDI inflows, but these determinants of inward FDI vary from study to study, period to period and from country to country. This study on the factor determinants of FDI flows in India has brought out the findings that the relationship between FDI inflows and factors such as GDP, Trade openness, Total Reserves and Electric Power Consumption is positive as expected, but the relationship between FDI inflows and Exchange Rate, External Debt is inverse and positive and the relationship between FDI inflows and Employment Growth is inverse and negative. The explanatory power of the model as a whole is of very high level and seven independent factors i.e. GDP, Exchange rate, External debt, Trade openness (i.e. Import and Export as % of GDP) Electric Power Consumption per capita, Employment Growth and Total Reserves stood as significant determinants of FDI inflows in India.

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GLOSSARY

- **Foreign Direct Investment (FDI)**: FDI have been taken as inflows of foreign capital. It is the sum of Equity capital, reinvested earnings, and other long-term and short term capital. The figure of the FDI are in current US $ and collected from various issues of World Investment Report.
- **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.
- **External debt:** Total external debt is debt owed to non residents repayable in currency, goods, or services. Data are in current U.S. dollars and collected from World Bank's WDI.
- **Exchange rate: Official** exchange rate refers to the exchange rate determined by national authorities. It is calculated as an annual average and data is collected from World Bank's WDI.
- **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.
- **Total reserves:** It comprise of holdings of monetary gold, special drawing rights, reserves of IMF members held by the IMF and holdings of foreign exchange under the control of monetary authorities. Data are in current U.S. dollars and is taken from World Bank's WDI.
- **Employment Growth**: Employment to population ratio is the proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population. The data are in form of percentage and is 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.