Determinants of Foreign Direct Investment In India:
A Study of the Pre and Post-liberalization Period

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Abstract

Foreign Direct Investment (FDI) is an important instrument in the economic development. In the economy to attract FDI major changes are recorded. The purpose of the study to know the trends and difference between pre and post liberalization of FDI inflows and identified relevant determinants of FDI in India by applying Ordinary Least Square Regression. Data from 1980 to 1990 used as pre liberalization FDI trend in India and for post liberalization data is used from 1991 to 2010. Data from 1991 to 2014 has been used to identifying the determinants of FDI inflows. Empirical results revealed that market size, external debt, trade openness, Inflation and infrastructure are the important economic determinants of FDI. This study explores the factors that contribute to the explanation of FDI in India and test whether the variables do really influence the flow of FDI into India. This paper suggest that to make our economic policy more effective towards increasing inflows of FDI, infect results shows that infrastructure is the most important determinant has significant positive impact on FDI inflow in India.

INTRODUCTION

Foreign Direct Investment (FDI) in India is the major monetary source for economic development in India. The Indian government's favorable 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 defense, PSU oil refineries, telecom, power exchanges, and stock exchanges, among others. According to Department of Industrial Policy and Promotion (DIPP), the total FDI inflows soared by 24.5 per cent to US$ 44.9 billion during FY2015, as compared to US$ 36.0 billion in FY2014. FDI into India through the Foreign Investment Promotion Board (FIPB) route shot up by 26 per cent to US$ 31.9 billion in the year FY2015 as against US$ 25.3 billion in the previous year.

This paper focuses on two major issues

1) To know the difference between pre and post liberalization FDI inflows to India

2) To identifying the determinants of FDI inflows.

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This paper is organized as Section II focuses on the literature Review on the FDI inflows. Section III analyses the pre and post liberalization FDI inflows to India. Section IV discusses about the data and variables of determinants of FDI taken for study. Finally, Section V concludes the article with a remarks and policy implications.

LITERATURE REVIEW

There are several theories that have to explain the factors of foreign direct investment in India.

Park (2004), has examined India's experience with FDI inflows, since 1991 and look ways to promote FDI inflows from a Korean perspective. The Indian Government's attitude towards foreign investment has been changing in the post-independence period. The new regime places special emphasis on attracting a large amount of foreign capital.

As per Bhalla and Shiv (2005), liberalization can help get more FDI, but alone it is not enough. Investment now requires stronger locational advantage and more focused efforts at promotion. Getting FDI in technologically advanced or export oriented activities is even more demanding.

Singh (2005), has analyzed FDI flows from 1991-2005. A sectoral analysis in his study reveals that while FDI shows a

gradual increase and has become a staple of success in India, the progress is hollow. The telecommunications and power sector are the reasons for the success of infrastructure. He comments that FDI has become a game of numbers where the justification for the growth and progress is the money that flows in and not the specific problems plaguing the individual sub sectors. He finds that in the comparative studies the notion of infrastructure has gone a definitional change. FDI in sectors is held up primarily by telecommunications and power and is not evenly distributed.

According to Badar (2006), India is emerging as a top destination for FDI in services. Accordingly, services exports have emerged as a major driving force in promoting exports. In the early 1990s, India's services exports were amounted to just US $ 0.5 billion. Presently, this figure has touched an all time high figure of US $ 12 billion.

Gupta (2007), made an attempt to review the change in sectoral trends in India due to FDI Inflows since liberalization. This paper also examines the changed policy implications on sectoral growth and economic development of India as a whole.

Sharr (2000), study focused that FDI does not have a statistically significant role in the export promotion in Indian Economy. The study also argues that the foreign firms are more interested in the large Indian market rather than aiming for global market.

Kaugler (2001), study observed on the sectoral diffusion of spillovers from FDI finds that the greatest impact of MNCs in Colombian manufacturing is across rather than within the subsidiaries own industries. To the extent that FDI affects other industries than that where the foreign investor operates. It is thus obvious that there is a risk that effect negative as well as positive which are underestimated.

Kumar (2001), analyses the role of infrastructure availability in determining the attractiveness of countries for FDI inflows for export orientation of MNC production. He posits that the investment by the governments in providing efficient physical infrastructure facilities improve the investment climate for FDI. He first constructs a single composite index of infrastructure availability of transport, telecommunication, and information and energy for 66 countries over 1982-94 periods using principal component analysis. The role of infrastructure index in explaining the attractiveness of foreign production by MNCs is evaluated in the framework of an extended model of foreign production. The estimates corroborate the fact that infrastructure

availability does contribute to the relative attractiveness of a country towards FDI by MNCs, holding other factors constant. These findings suggest that infrastructure development should be an integral part of the strategy to attract FDI inflows in general and export oriented production from MNCs in particular.

Kumar (2003), examined the impact of WTO framework on investment flows to developing countries. The study suggests that investment should be pro development and balanced to benefit developing countries with adoption of WTO framework.

Shajahan (2006), focuses on Foreign capital inflows can affect the health of the financial system if the mistakes are committed while lending for nonproductive consumption loans, directed lending at lower rates, lending to individuals who are not credit worthy, lending heavily to real estate sector and if investment is allowed through secondary markets.

Boghoon (2009), in his article elaborately discussed the FDI in India According to him from 2006 onwards FDI inflows has shown a rising trend. Country wise and sector wise FDI inflow is explained by him According to him there are some significant conflicts in Indian internally regarding FDI issues. From the view of central government dimension policies are improving but conflict with state government is causing delay of investing too.

Bohra et al., (2011), emphasize on contribution of Services Sector to the Indian GDP. The Sector of Services in India has the biggest share in the country's GDP for it accounts for around 53.8% in 2005 lead to many foreign consumers to show interest in the country's service exports. This is due to the fact that India has a large pool of highly skilled, low cost, and educated workers in the country. This has made sure that the services that are available in the country are of the best quality. The foreign companies seeing this have started outsourcing their work to India especially in the area of business services which includes business process outsourcing and information technology services. This has given a major boost to the Services Sector in India, which in its turn has made the sector contribute more to the India GDP.

Foreign Direct Investment Inflows in India

FDI play multidimensional role in the overall development of the host country. It may generate benefits through bringing non-debt creating foreign capital resources, technology up gradation, skill enhancement, new employment, spillovers and allocate efficiency effects. FDI

plays a complementary role in over all capital formation and filling the gap between domestic saving and investment. At the macro level it is a non-debt creating sources of additional external finances. At the micro level it is expected to boost output, technology, skill level, employment and linkages with other sectors and the regions of the host economy. FDI has grown considerably in its importance in Indian economy. After liberalization its role has changed significantly. Earlier the amount of FDI was low conforming to some selected sectors, but now the inflow of FDI has grown tremendously and almost in all the sectors of the economy.

FDI Inflows In Pre-Reform Period

After independence the cautious FDI policy was resulted in a low level of FDI inflow in India. The amount of FDI increased from US$ 79 million in 1980 to reach a peak level US $ 252 million in 1989 thereafter it declined US $ 237 million in 1990 (Table 1). The overall FDI inflow during 1980 to 1990 was fluctuating. FDI increased three times during the period of 1980-1990 and the CAGR (actual) was19.05% during the same period of time.

Table 1: FDI Inflow in India: Approval Vs Actual during 1980-90

Table1:FDI Inflow in India: Approval Vs Actual during 1980-90

Year	Approval	Actual	% Growth (Actual)
1980	11.2	79	-
1981	12.5	92	16.5
1982	66.2	72	-21.7
1983	61	6	-91.7
1984	99.4	19	216.7
1985	102.9	106	457.9
1986	84.9	118	11.3
1987	83.1	212	79.7
1988	172.3	91	-57.1
1989	195.2	252	176.9
1990	73.3	237	-6

Source: Compiled from India's Investment Center, New Delhi and UNCTAD, World Investment Report (various issues).
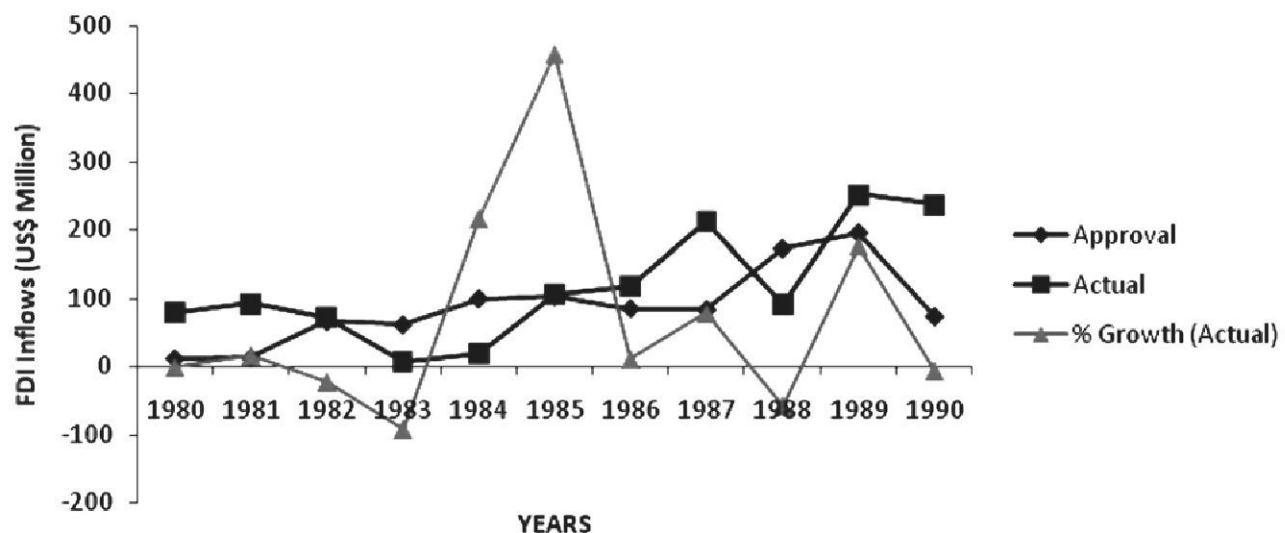

Fig1: FDI Inflow in India, Approval vs. Actual during 1980-90

Country-Wise Break-Up Of FDI Flows During Pre-Reform Period:

There was almost a fluctuating trend during the 1981 to 1990. The important feature is that except Germany almost all the countries have positive trend in FDI in inflows in India. In the year 1981 the top five investing countries were Germany, USA, UK, Japan and Switzerland and together they accounted for 86% of total FDI inflows. In 1990, the top five investing countries are USA, Switzerland, Germany, UK and Italy and together, they accounted nearly 57% of FDI inflows

Table 2: FDI Inflows by Country of origin during 1981-1990 (In US$ million)

Year/ Country	USA	Germany	Japan	UK	Italy	Switzerland	Others	Total
1981	2.6	6.2	0.7	0.8	0.1	0.5	1.6	12.5
1982	5.3	3.7	26.5	1.7	4.2	1.2	23.6	66.2
1983	13.7	4.8	15.9	9.7	1.1	1.1	14.7	61
1984	7.9	2.5	5.4	1.6	0.7	0.4	80.9	99.4
1985	32.3	9.6	12.7	3	5.6	0.7	38.1	102
1986	23.3	16	4.6	6.1	1.9	2.6	30.4	84.9
1987	22.8	7.6	5.3	6.5	2.3	6.8	31.8	83.1
1988	69.8	22.3	12.5	10	22	1.2	34.5	172.3
1989	38.3	74.2	5.4	20.6	4.3	4.8	47.6	195.2
1990	19.7	5.4	2.9	5.2	3.9	7.7	28.5	73.3

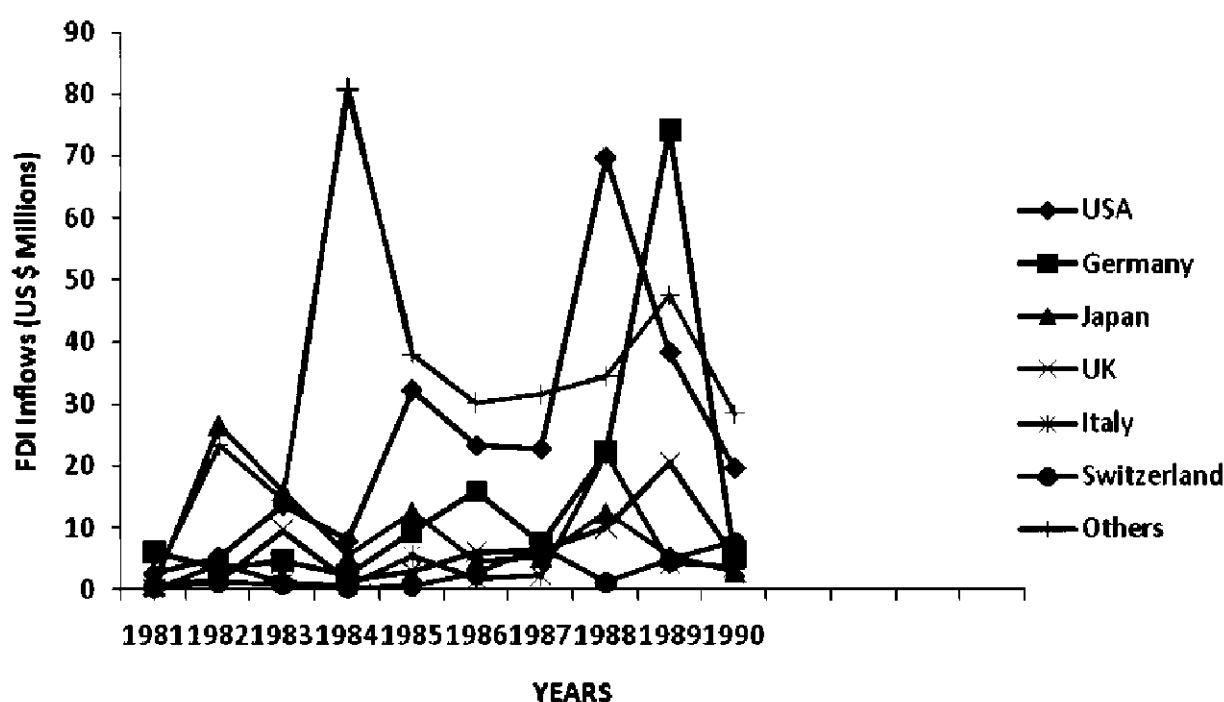**Source: Compiled from Indian Investment Center.**

Fig 2: FDI Inflows by Country of Origin during 1981-1990

SECTOR-WISE BREAK-UP OF FDI INFLOW DURING PRE-REFORM PERIOD

The top five sectors which have attracted the bulk of FDI were industrial machinery, chemicals, mechanical engineering, electrical and electronics and metallurgy and together they accounted for 54.87% in the year 1981. In 1990, the top five sectors were electrical and electronics, chemicals, industrial machinery, mechanical engineering and metallurgy and together they accounted 68.14% of the total FDI inflows.

Table 3: Sector-Wise Distribution of FDI Inflows during 1981-1990 (In US million)

| Years	Chemicals	Electricals & Electronics	Industrial Machinery	Mechanical Engineering	Metallurgy	Others	Total	% Share of Top five Sectors
1981	1.2	1	2.7	1.2	0.1	5.1	11.3	54.87
1982	35	1	2.1	0.6	0.3	20.4	59.4	65.66
1983	0.8	7.7	2	2.3	0.5	20.4	33.7	39.47
1984	62.4	5	4.7	4	2.2	0.7	79	99.11
1985	7.1	24.4	2.7	6.8	12	10.7	63.7	83.2
1986	23.8	23	0.8	6.4	10.9	1	65.9	98.48
1987	31.3	14.2	6.2	1.3	1	5.8	59.8	90.3
1988	25.1	28.3	3.1	9	9.5	30.3	105	71.23
1989	57.5	24.4	2.5	3.9	12.4	25.8	126	79.6
1990	8.6	9.8	4.5	3.6	1.3	13	40.8	68.14
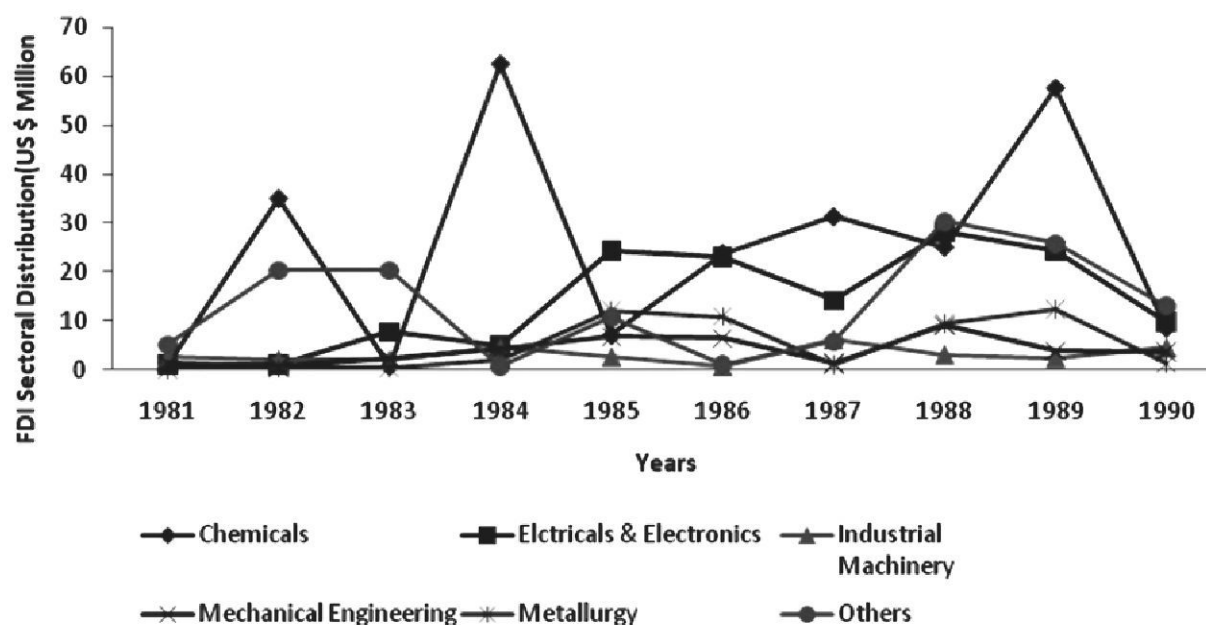
Fig 3: Sector-Wise Distribution of FDI Inflows during 1981-1990

FDI INFLOWS IN POST-REFORM PERIOD SINCE 1991: COUNTRY-WISE BREAK-UP OF FDI INFLOWS DURING POST- REFORM PERIOD

Changing composition of FDI inflows by country of origin is another feature observed during post-reform period. The important feature is that almost all the leading investing countries have responded positively in response to liberalization policies. Mauritius is a major source of FDI inflows because of its "Tax Haven" status. Double taxation avoidance agreement that India entered with Mauritius had become an additional benefits in the form of reducing tax liability for TNCs from the USA and the UK to route their investments through Mauritius. Although the share of USA has declined considerably, however these countries are still the largest source of FDI inflows. During the period 1992 to 2008 percentage shares of FDI inflows from top ten countries underwent a compositional shift in favour of Mauritius, Singapore and the USA comprising 45.12%, 10.04% and 9.92% of the total inflows of FDI worth US$ 72718 million. With share of the UK 5.8%, Germany 3.3%, and Netherlands 4.3% and so on. Together they account for nearly 84.9% of total FDI inflows.

Table 4: FDI Inflows by Country of Origin during 1991-2010 (US$ million)

Ranking	Country	FDI Inflows August 1991 - March'2010 (In US $ Million)	% Share of Total Inflow
1	Mauritius	50 847.56	38.4
2	USA	10 728.55	8.1
3	Singapore	10 534.14	7.95
4	UK	6 554.48	4.95
5	Netherlands	5 114.94	3.86
6	Japan	4 611.91	3.48
7	Cyprus	3 925.06	2.96
8	Germany	3 470.59	2.62
9	France	1 809.78	1.37
10	UAE	1 560.00	1.18
	Total	130 214.00	100

Source: Department of Industrial Policy & Promotion, Govt. of India, 2010
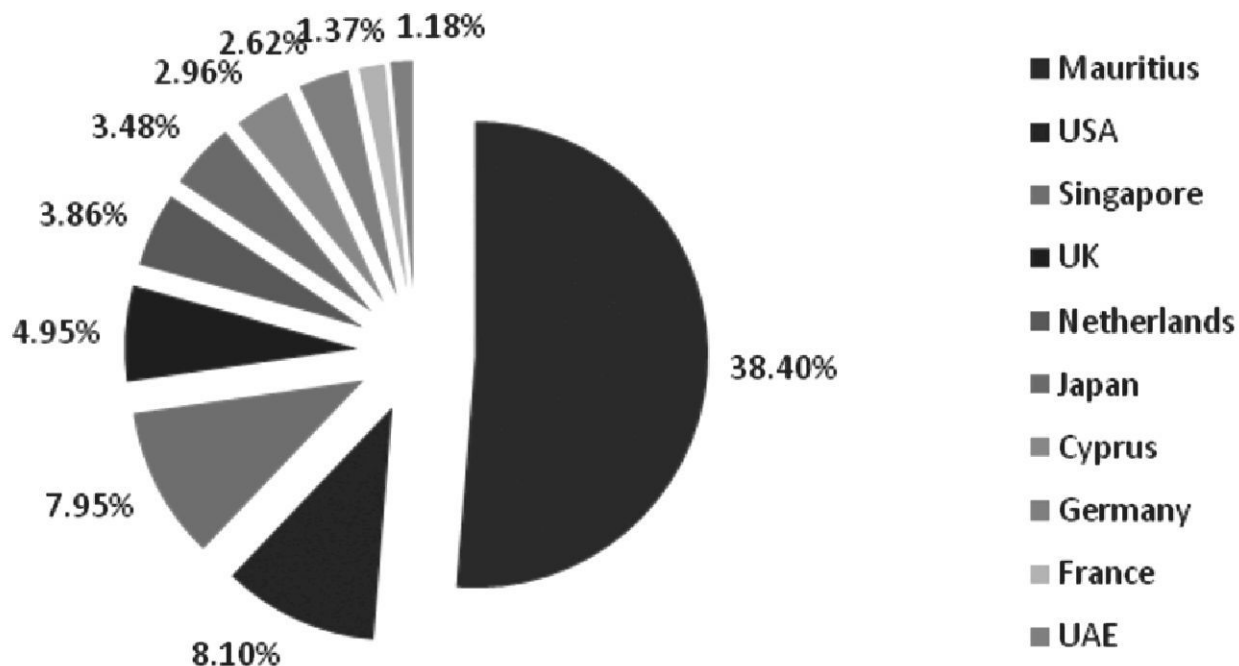
Country Wise FDI Inflow to India

Fig4:FDI Inflows by Country of Origin during 1991-2010

FDI Inflow Before and After Liberalization in India

India is at 5th position among the major emerging destinations of global FDI inflows. The other preferred destinations apart from China and above to India are Brazil, Mexico and Russia. It is found that FDI inflows to India have increased from 11% in 1990-99 to 69% in 2000-2010. Maximum FDI has taken place in the service sector including the telecommunication, information technology, travel.FDI describe as a source of economic development, modernization and employment generation. People investing in India because of strong and stable government, proactive government policies quality work culture, peaceful life, abundant skilled manpower, incentive packages, and investor friendly. The largest flow of FDI occurs between the industrialized countries North America, Japan, Western Europe. But flows of non industrialized countries are increasing sharply.

Hypothesis I

H0: There is no significant difference in the FDI inflow before and after liberalization in India.

H1: There is significant difference in the FDI inflow before and after liberalization in India.

Table: 5 Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
	FDI before Reforms	120506000'00	10	86234944'992	27269884'007
air 1	FDI after Reforms	1840816676.40	10	300211336.17 5	411162926.188

Table: 6 Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	FDI before Reforms & FDI after Reforms	10	.732	.016

Since the correlation coefficient is 0.732, there exist a strong correlation between FDI inflow before and after liberalization in India. Hence at p=0.016 null hypothesis is rejected and it can be stated that liberalization has significant impact on FDI inflow.

Table: 7 Paired Samples Test

	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
FDI before Reforms - FDI after Reforms	-1720310676.400	1238518198.046	391653842.939	-4.392	9	.002

The output table shows that the 2-tailed significance of the test is .002, from the last column titled "2-tailed Significance" This is the p-value and it is less than the level of .05. There is significant difference in FDI inflow after liberalization since 1991. So, reject the null hypothesis.

Data and Variables of Determinants of FDI

For this study data was collected for the period of 1991-2014. There are so many variables of FDI in the economy as suggested by literature review. These variables have been used extensively in literature (Cheng and Yum, 2000; Lunn, 1980) and various combinations of the explanatory variables of determinants of FDI have been used. In 1990s due to reform in Indian economy New Economic Policy has been adopted. Essential data for this time period have been collected from World Bank Data Statistics.

These variables are selected on the previous national and international literature.

Dependent Variable: Foreign Direct Investment (FDI)

Independent Variable: Infrastructure, market size, interest rate, openness and inflation.

Market Size

Market size is measured in terms of GDP is expected to have positive relationship with FDI. Countries have high GDP growth rate can attract more FDI. (Coughlin and Segav, 2002; Azam and Lukman, 2010). The market size of host countries is very important location factor for market oriented FDI. It means more potential to consume goods and services in the host country.

Openness

Openness of a country generally measured as annual total exports and imports divided by gross domestic product. The more an emerging market tries to open its economy to outside external trade, more FDI can attract this host country.

Inflation

A high rate of inflation is a sign of internal economic tension and of the inability or unwillingness of the government and the central bank to balance the budget and to restrict the money supply. As a rule, the higher the inflation rate, the less will be the FDI inflows. A negative relationship is expected.

Inflation rate measured as consumer price index. Low inflation rate is considered to be sign of internal economic stability in the host country. High inflation rate shows instability in the host countries economy. It is expected to

give negative impact on FDI (Banga, 2003).

Infrastructure

The establishment of industry requires a highly developed infrastructure. The development of roads, rails, electricity and communication system are important infrastructural facilities which are vital for the development of the industry. These factors are responsible for the attraction of FDI and the lack of them becomes a hindrance.

Infrastructure is measured as electric power consumption. It is assumed if infrastructure is improved more FDI can attract. Infrastructure growth is taken as the evidence of FDI inflows in previous studies also (Rudra prakash pradhan, 2008).

Interest Rate

Interest rates affect the cost of capital in a host country, directly affecting one of the determinants of the investment decision. The effects of interest rates on FDI are smaller than on domestic investment because MNCs normally have a greater choice of sources of financing.

Interest rate is considered as a interest rate percentage GDP deflator. Rate of interest is low the rate of return will high and vice-versa rate of interest is high then rate of return will be low. If interest rate is lower than other countries will attract more FDI.

Model

According to various studies (Dunning, 1994; Lucas, 1993; Caves, 1974) various variables that affect the flow of FDI are per capita GDP, trade openness, external debt, inflation, Foreign exchange reserves current account deficit in balance of payment, transport and communication etc. To determine the impact of various variables a multiple regression model has been fitted.

FDI= $\beta 0+ \beta 1$ (MR) + $\beta 2$ (IR) + $\beta 3$ (INFL) + $\beta 4$ (INFRA) + $\beta 5$ (OPEN) + ut .... (1)

Where

FDI= Foreign Direct Investment (BoP US $)
MS= Gross Domestic Product (in percentage)
IR= Real Interest Rate
INFL= Inflation Rate (consumer Price Index)
INFRA= Infrastructure (Electricity Power Consumption)
OPEN= Trade Openness (X+M/GDP)

Where, $\beta 0$, $\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$ and $\beta 5$ are the coefficient of elasticity's and after taking the logarithm model it is converted into following equation:

LnFDI= $\beta 0+ \beta 1$ (LnMR) + $\beta 2$ LlnIR) + $\beta 3$ (LnINFL) + $\beta 4$ (LnINFRA) + $\beta 5$ (LnOPEN) + ut   (2)

In regression equation (2), Ln is the logarithm of individual determinant and ut is the error term. This is expected FDI to be positively related to the host country's market size, interest rate, infrastructure and interest rate. However, FDI is expected to be negatively related to inflation. SPSS 21 is used to estimate the regression model.

RESULTS AND DISCUSSION

There is logarithm of the time series data because requirement of concise data for the regression model. With a larger sample or data the relevant results could not be obtained, so with the help of log large data converted into small data. A small variance is required for the accurate result of regression model. For example the time series of FDI is now a natural log of FDI. After taking the logarithm on FDI, new term is LnFDI.

Table: 8 Descriptive Statistics of FDI and Its Determinants

	Mean	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
LnFDI	22.41	1.68	-.780	.354	18.11	24.49
LnINFRA	6.08	.26	-.23	-.65	5.68	6.61
Ln OPEN	2.79	.57	-.89	.40	1.34	3.57
LnINFL	1.98	.44	.49	-1.36	1.30	2.63
LnIR	1.75	.34	-.447	-.709	1.02	2.22
LnMS	1.79	.49	-2.23	7.15	1.06	2.30

Table: 9 Correlation Analysis

	LnMS	LnIR	LnOPEN	LnINFLA	LnINFRA
LnMS	1.000				
LnIR	-.463	1.000			
LnOPEN	-.567	.344	1.000		
LnINFLA	.113	.526	-.145	1.000	
LnINFRA	-.573	.738	.366	.347	1.000

On the basis of Durbin Watson Test there is no higher correlation in this time series. The observations are sampled independently.

Multi-collinearity

It is a state of very high inter-correlation or inter-association among the independent variables. It is therefore a type of disturbance in the data, if present in the data the statistical inferences made about the data may not be reliable. But, here multi-collinearity was not observed. After checking collinearity statistics the value of tolerance is less than 0.2 or 0.1, simultaneously, the value of VIF is less than 10, so here is multi-collinearity.

Table: 10 Collinearity Statistics

	Coefficients	t-statistics	Sig.	Collinearity Statistics	
				Tolerance	VIF
(Constant)	-19.488	-2.845	.014		
LINFRA	6.474	7.092	.000	.380	2.631
LnOPEN	0.33	1.053	.312	.635	1.576
LnINFLA	-0.33	-.750	.467	.522	1.917
LnIR	1.09	1.522	.152	.326	3.063
LnMS	.09	.238	.816	.454	2.203

Table: 11 Re gession Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		Durbin-Watson
					F Change	Sig. F Change	
1	.950[a]	.903	.866	.61398	24.179	.000	1.509

The empirical result of regression model depicted that R Square is .903 it means the regression model is 90% fit for LnFDI with specified variables because the value of Adjusted R Square is significant 0.866. The multi-collinarity problem is not observed after taking tolerance and Variance Inflation Factor (VIF). Durbin Watson test value is 1.5, which shows no serial correlation.

The estimation regression equation of the relevant determinants of FDI in India is:

LnFDI= -19.49+ 6.74 (LnINFRA) + 0.33 (LnOPEN) -0.33 (LnINFL) + 1.09 (LnIR) + .09 (LnMS)

$\beta 1$ coefficient of infrastructure is estimated to be 6.74 found to give positive and statistically significant impact indicating 1% Change in infrastructure will raise FDI by 6.74%.

$\beta 2$ coefficient of 0.33 has been calculated so far as the

openness as a determinant of FDI is concerned showing 1% increase in openness would bring 0.33% variation in FDI. It shows that the more an emerging market tries to open its economy to outside external trade, the more it can attract FDI.

Inflation is also estimated to be statistically significant variable affecting FDI as it explains that 0.33 variation in FDI due to 1% change in inflation. The value of β3 coefficient is estimated to be -0.33 depicts the negative impact of inflation on FDI.

β4 coefficient is interest rate is found to be variable having positive and significant impact on FDI as the coefficient of this variable is registered as which shows that 1 % change in this variable has tendency to bring 1.09 % increase in FDI.

β5 coefficient is market size is found to be variable having positive and significant impact on FDI as the coefficient of this variable is registered as which shows that 1 % change in this variable has tendency to bring 0.09 % increase in FDI.

In this model the coefficient determination R2 reflects that the systematic variation in FDI inflows in India is about 90% and is statically supported by the F-statistics.

CONCLUSION

It is observed from the above analysis that Infrastructure, Market Size, Openness to trade, Interest Rate and inflation are main determinants of FDI inflows to India. Above mentioned models revealed that Infrastructure, Interest Rate, Market size and Openness to trade shows a positive relationship with foreign direct investment whereas inflation shows negative relationship with foreign direct investment.

Thus, it is concluded that the above analysis is successful in identifying those variables which are important in attracting FDI inflows to the country. The study also reveals that FDI is a significant factor influencing the level of economic growth in India. This analysis also helps the future aspirants of research scholars to identify the main determinants of FDI at sectoral level because FDI is also a sector-specific activity of foreign firms' vis-a-vis an aggregate activity at national level.

Finally, the study observes that FDI is a significant factor. In the country needs to improve a quality infrastructure, better infrastructure can increase more FDI inflows. High inflation rate will decrease FDI inflows in the country so it needs to be maintained.

REFERENCES

Azam, M. & Lukman, L. (2010). Determinants of foreign direct investment in India, Indonesia and Pakistan: A quantitative approach. Journal of Managerial Science, 4(1), 31-44.

Badar, I. A., (2006). Quarterly Journal of Indian Institute of Foreign Trade, vol. XLI No. 2, July- September, 75.

Banga, R. (2003). Impact of Government Policies and Investment Agreements on FDI Inflows, Indian Council for Research on International Economic Relations (ICRIER), Working Paper (116), November.

Bonghoon Kim (2009). "Recent Trends and Prospects, A FDI in India" http://www.bricsinfo.org.

Bohra. Narendra Singh and Arjun Singh Sirari (2011). "Foreign Direct Investment (FDI) in India Service Sector (A study of post Liberalization)", International Journal of Economics. Res., 2(2), ISSN: 2229-6158, pp.10-18.

Caves, R. E. (1974). Causes of direct investment: Foreign firms' share in Canadian and United Kingdom manufacturing industries, Review of Economics and Statistics, 5,272-293.

Cheng, L. K., & Kwan, Y.K. (2000). What are the determinants of the location of foreign direct investment? The Chinese experience. Journal of International Economics 51, 379-400.

Cherunilam, F., (2009). International Business: Text and Cases, PHI Learning Pvt. Ltd. New Delhi, Fourth Edition, 340.

Coughlin, C., & Segav, E., (2002). Foreign direct investment in China: A Spatial Econometric study, DOI: 10.1111/1467-9701.t01-1-00260.

Datt, R., & Sundaram, K.P.M, (2003). Indian Economy, S. Chand & Company Ltd, New Delhi, 48th edition, pp, 794.

DIPP. (2015). Consolidated FDI Policy Circular of 2015. Retrieved from

http://dipp.nic.in/English/Policies/FDI_Circular 2015.pdf

Dunning, J. H. (1994). The Governance of Japanese and US manufacturing affiliates in the UK: some country-specific Differences, in Kogut B (Ed.), country competitiveness, Oxford University Press, Oxford.

Government of India. (1999-2000). Economic survey, Ministry of Finance, New Delhi.

Government of India. (2014). Foreign Direct Investment Policy. Department of Industrial Policy and Promotion, Ministry of Commerce and Industry.

Gujarati, D., (2012). Basic Econometrics. Fifth Edition. New York: McGraw-Hill Companies, Inc.

Gupta, S. (2005). Multinationals and Foreign Investment in Economic Development Basingstoke (Palgrave McMillan), 198-211.

Kaugler (2001). "The Economics of Foreign Direct Investment Incentives, Impact of Foreign Direct Investment on Indian Economy: A Sectroal Level Analyses", www.google.com.

Kumar, N. (2001). "Infrastructure Availability, FDI Inflows and their Export Orientation: A Cross Country Exploration", Research and Information System for Developing Countries, No. 1.2

November 20, India.

Kumar, N. (2003). "Investment on WTO Agenda a Developing Country Perspective and way" forward for Cancum Ministerial Conference, Economic and Political Weekly, July 26, 2003.

Lucas, R. B. (1993). On the determinants of direct foreign investment: Evidence from East and Southeast Asia, World Development, 21(3), 391-406.

Park, J. (2004). Korean Perspective on FDI in India Hyundai Motors Industrial Cluster, Economic and Political Weekly Vol. XXXII, July 31, 35-51.

Pradhan, R. P. (2006). Impact of foreign direct investment on Indian economy: An empirical analysis. The Indian Economic Journal, 87-95.

Sharr (2000). "Impact of Foreign Direct Investment on Indian Economy: A Sectroal Level Analyses", www.google.com.

Shajahan, S. (2006). "International Business", Macmillan India Limited, First Published, pp-185.

Singh, K. (2005). Foreign Direct Investment in India: A Critical Analysis of FDI from 1991-2005, Center for Civil Society, Research Internship Programme, New Delhi.

UNCTAD (2011). The world investment report 2011: Non Equity modes of international production and development. Geneva, Switzerland: United Nations.

World Bank (1990-2014). Data: World Development Indicators. Retrieved from http://data.worldbank.org/data-catalog/world.development.indicators.

Multi-collinearity

It is a state of very high inter-correlation or inter-association among the independent variables. It is therefore a type of disturbance in the data, if present in the data the statistical inferences made about the data may not be reliable. But, here multi-collinearity was not observed. After checking collinearity statistics the value of tolerance is less than 0.2 or 0.1, simultaneously, the value of VIF is less than 10, so here is multi-collinearity.