International Journal of Psychosocial Rehabilitation, Vol. 23, Issue 04, 2019
ISSN: 1475-7192

# A Linear Curve Fit Analysis of FDI Flows in Selected Sectors in India

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***Abstract---*** *This paper attempts to analyze Foreign Direct Investment flows in three selected sectors such as Service, Telecommunication and Drug and Pharmaceutical industry. An analytical research is attempted to investigate the Minimum, Maximum, Mean and Standard deviation of FDI flows in the years 2010 -2015. A linear fit has also be done for the FDI flows. Suitable suggestions are given based on flows in selected sectors.*

***Keywords---*** *Foreign Direct Investment, Linear Fit, Service, Telecommunication and Drug and Pharmaceutical Industry.*

## I. INTRODUCTION

A foreign direct investment (FDI) is an investment made by a firm or individual in one country into business interests located in another country.

Resident of one economy have interest in investing for longer period in another country, such cross border investment is known as Foreign Direct Investment and a 10 per cent of voting power in decision making is given.

The host country aspires to receive FDI inflows because of the potential benefits. The most established benefit is that FDI supplements the domestic savings of a nation. Other payoffs include access to superior international technologies, exposure to better management and accounting practices and improved corporate governance. FDI is likely to expand and diversify the production capacity of the recipient country which, in turn, is expected to improve trade. On the other side, foreign investors are motivated by profits and access to natural resources. Therefore, large and growing domestic markets will get more FDI. Countries with abundant natural resources such as mines, oil reserves and manpower appear prominently on the investment maps of foreign investors. While the objectives of FDI can be different from the home country and investing country's perspectives, one of the major aims of attracting FDI is overall development of the recipient country keeping some specific courses of action. FDI has a major role in globalization during the past two decades. The rapid expansion in FDI by multinational enterprises since the mid-eighties may be attributed to significant changes in technologies, greater freedom in trade and various investment patterns, and deregulation and privatization of markets in many countries including developing countries like India. Capital formation is an important factor contributing to economic growth. While domestic investments add to the capital stock in an economy, FDI plays a complementary role in overall capital formation and to bridge between investment and savings. FDI provides the country to expand its finance without debt. Also FDI is expected to boost output, technology, skill levels, and employment to create a link between the various sectors of host country.

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**Received: 10 Sept 2019 | Revised: 10 Oct 2019 | Accepted: 10 Nov 2019** 

## II. OBJECTIVES OF THE STUDY

- To examine the sector wise composition of FDI in selected sectors in India.
- To conduct a linear curve fit analysis of FDI flows in selected sectors in India.
- To give suggestions to improve the FDI flows in selected sectors in India.

## III. RESEARCH DESIGN

The design adopted for the study is Analytical Research Design, as the study is concerned with analysis of FDI in India during the particular period.

## IV. PERIOD OF STUDY

The study analyzed 10 years data from 2005-2015 in India using the FDI Fact Sheet.

## V. FDI INFLOWS IN SERVICE INDUSTRY

Table 1.1: The Table showing the Mean and Standard deviation of FDI Inflows in Service Industry

**(US$ mn)**

| Industry | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Service | 10 | 2565 | 28411 | 17795.10 | 8801.162 |

The above table shows the foreign direct investment inflow from Service industry. The mean and standard deviation used to measure the ten years inflow foreign direct investment in India and year wise FDI is varying from average value. Thus the calculated mean value is 17795.10 and the value of standard deviation is 8801.162. Hence, the average foreign direct investment shows a low standard deviation.

Table 1.2: The Table showing the Curve Fit- Linear of FDI Inflows in Service Industry

| Dependent | Methodology | Rsq | D.F | F Value | Sig P | B0 | B1 |
|---|---|---|---|---|---|---|---|
| **Service** | Linear | 170 | 8 | 1.64 | .236 | 11199.0 | 1199.29 |

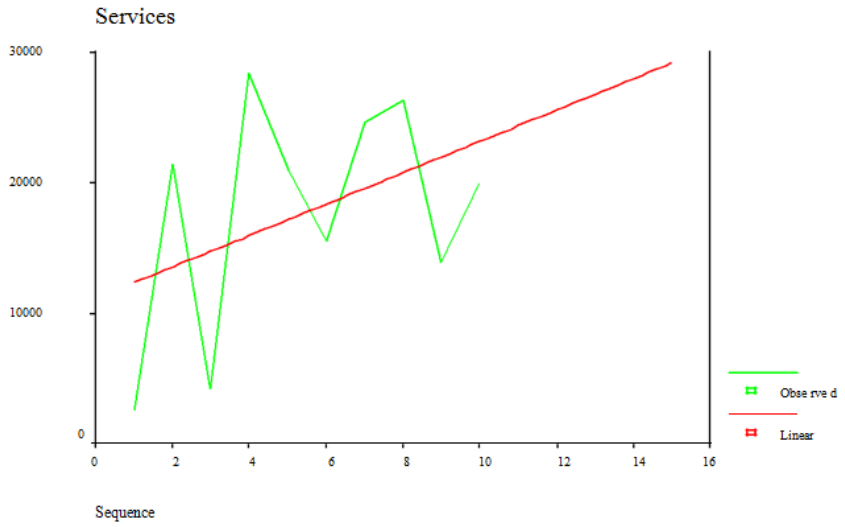
**$H_0$:** There is no significant difference between time and FDI inflows.

**$H_1$**: There is significant difference between time and FDI inflows.

The above table shows the values for the linear curve fit of FDI Inflows from Service industry for the past ten years in between 2005 to 2015.

Since the calculated P Value= .236 is greater than significant value of .05, the Null hypothesis is accepted. There is no significant difference between period of FDI and FDI inflows in India from Service industry.

**Received: 10 Sept 2019 | Revised: 10 Oct 2019 | Accepted: 10 Nov 2019** 




1.1 Chart showing the Curve Fit- Linear of FDI Inflows in Service Industry

## VI. FDI INFLOWS IN TELECOMMUNICATION INDUSTRY

Table 1.3: The Table showing the Mean and Standard Deviation of FDI Inflows in Telecommunication Industry

**(US$ mn)**

| Industry | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Telecommunication Industry | 10 | 1654 | 17372 | 7791.30 | 5043.594 |

The above table shows the foreign direct investment inflow from Telecommunication industry. The mean and standard deviation used to measure the ten years inflow foreign direct investment in India and year wise FDI is varying from average value .Thus the calculated mean value is 7791.30 and the value of standard deviation is 5043.594. Hence the average foreign direct investment shows a low standard deviation.

Table 1.4: The Table showing the Curve Fit- Linear of FDI Inflows in Telecommunication Industry

| Dependent | Methodology | Rsq | D.F | F value | Sig P | B0 | B1 |
|---|---|---|---|---|---|---|---|
| Telecommunication Industry | Linear | 259 | 8 | 2.79 | .133 | 3132.00 | 847.145 |

**$H_0$:** There is no significant difference between time and FDI inflows.

**$H_1$:** There is significant difference between time and FDI inflows.

The above table shows the values for the linear curve fit of FDI Inflows from Telecommunication industry, for

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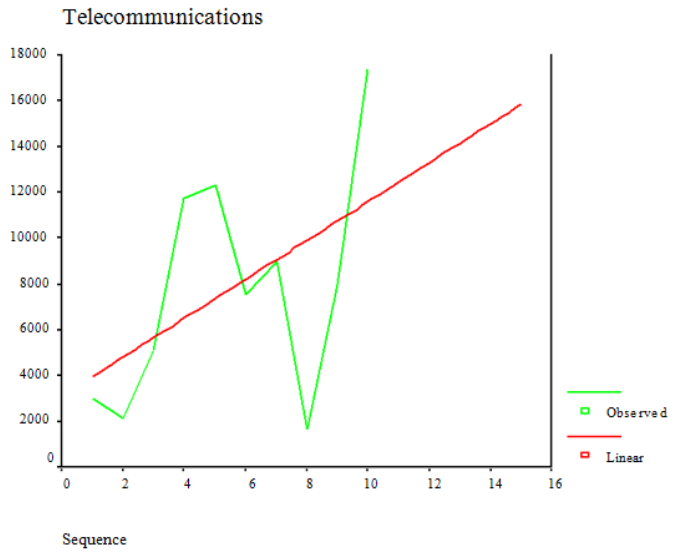
the past ten years in between 2005 to 2015. Since the calculated P Value= .133 is greater than significant value of .05, the Null hypothesis is accepted. There is no significant difference between period of FDI and FDI inflows in India from Telecommunication industry.




1.2 Chart showing the Curve Fit- Linear of FDI Inflows in Telecommunication Industry

## VII. FDI INFLOWS IN DRUG & PHARMACEUTICAL INDUSTRY

Table 1.5: The Table showing the Mean and Standard Deviation of FDI Inflows in Drug and Pharmaceutical Industry

**(US$ mn)**

| Industry | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Drug and Pharmaceutical Industry | 10 | 30 | 14605 | 4171.60 | 4903.134 |

The above table shows the foreign direct investment inflow from Drug and Pharmaceutical industry. The mean and standard deviation used to measure the ten years inflow foreign direct investment in India and year wise FDI is varying from average value .Thus the calculated mean value is 4171.60 and the value of standard deviation is 4903.134. Hence the average foreign direct investment shows a high standard deviation.

Table 1.6: The Table showing the Curve Fit- Linear of FDI Inflows in Drugs and Pharmaceutical Industry

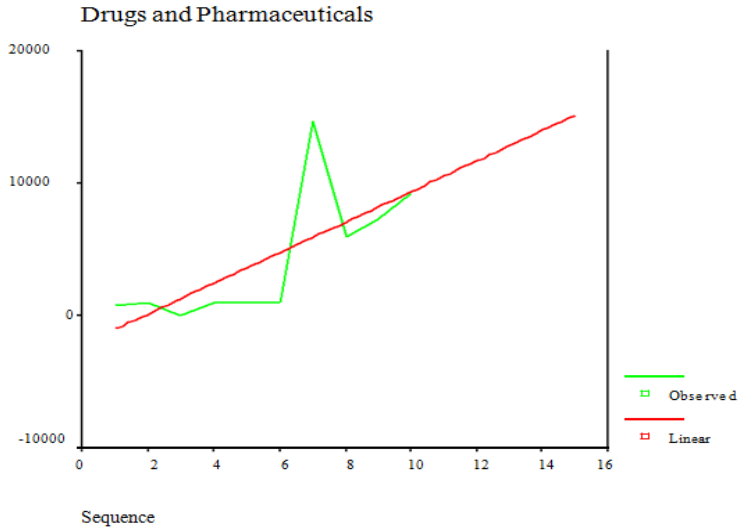
| Dependent | Methodology | Rsq | D.F | F value | Sig P | B0 | B1 |
|---|---|---|---|---|---|---|---|
| Drug and Pharmaceutical Industry | Linear | 508 | 8 | 8.25 | .021 | -2174.0 | 1153.75 |

**Received: 10 Sept 2019 | Revised: 10 Oct 2019 | Accepted: 10 Nov 2019** 

**$H_0$:** There is no significant difference between time and FDI inflows.

**$H_1$:** There is significant difference between time and FDI inflows.

The above table shows the values for the linear curve fit of FDI Inflows from Drug and Pharmaceutical industry, for the past ten years in between 2005 to 2015. Since the calculated P Value= .021 is less than significant value of .05, the Null hypothesis is rejected. There is significant difference between period of FDI and FDI inflows in India from Drugs and Pharmaceutical.




1.3 Chart showing the Curve Fit- Linear of FDI Inflows in Drug and Pharmaceutical Industry

## VIII. FINDINGS

1. The mean value of FDI inflow from Service sector during the period 2005-06 to 2014-15 is found to be 17795.10 and the value of standard deviation is 8801.162 which is lower than the mean.
2. The mean value of Foreign Direct Investment from Telecommunications Industry during the period 2005 to 2015 is 7791.30 and the standard deviation is 5043.594 which is lower than the mean.
3. The mean value of Foreign Direct Investment from Drugs and Pharmaceutical Industry during the period 2005 to 2015 is 4171.60 and the standard deviation is 4903.134 which is higher than the mean.
4. The linear curve fit of FDI Inflows from Service industry, for the past ten years in between 2005 to 2015. Since the calculated P Value=.236 is greater than significant value of .05.
5. The linear curve fit of FDI Inflows from Telecommunication industry, for the past ten years in between 2005 to 2015. Since the calculated P Value=.133 is greater than significant value of .05.
6. The linear curve fit of FDI Inflows from Drug and Pharmaceutical industry, for the past ten years in between 2005 to 2015. Since the calculated P Value= .021 is less than significant value of .05.

## IX. SUGGESTIONS

1. The Curve Fit Linear results of FDI inflow in Services Industry and Telecommunication Industry shows low significant value. Hence, the Service and Telecommunication industry has to attract more FDI to stabilize its business in global market and also the government has to formulate a favorable policy to attract foreign investors to invest in the Indian Service and Telecommunication industry.
2. The Curve Fit Linear results of FDI inflow in Drug and Pharmaceutical Industry shows high significant value. Hence, Drug and Pharmaceutical has to make remarkable changes to sustain their share in the global market.
3.

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**Received: 10 Sept 2019 | Revised: 10 Oct 2019 | Accepted: 10 Nov 2019** 