# Role and Effect of FDI Inflows on GDP of Service Sector, India: An Empirical Analysis

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**ABSTRACT**

Foreign Direct Investment (FDI) plays important role in the economic development of a country. In 1991, Liberalization, Privatization and Globalization aimed at making the Indian economy a faster growing economy and globally competitive. Service sector is one of the largest and fastest growing sectors in India. The share of services in India's GDP at factor cost (at current prices) rose from 51 per cent in (2000-01) to 57 per cent in (2013–14). This paper highlights the role of FDI in various sectors like financial services, Telecommunication services, Information Technology services, Construction development etc. in the Indian economy and contribution of each sector year wise. The paper has dealt with the effect of FDI inflows on the Indian economy over the period of 2000 to 2014 on the basis of secondary data. A statistical model was developed to investigate the relationship between FDI inflow and Gross Domestic Product in service sector. This analysis has revealed that Foreign Direct Investment has positive and significant impact on GDP.

**Keywords: Foreign Direct Investment, Service Sector, Globalization.**

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## 1. INTRODUCTION

The services sector is a vital component of the Indian economy. This sector in India comprises a wide range of activities, including social and personal services, transportation, communication, financial, real estate and business services and trading. The sector, which accounts for around 60 per cent of the country's gross domestic product (GDP), has emerged as one of the largest and fastest-growing sectors not just in the country but in the global landscape subsequently, its contribution in global output and employment has been substantial. For most countries around the world, service sector is the largest part of their economy. The services sector in India received foreign direct investment $39,417 million during the period April 2000–February 2014, data released by Department of Industrial Policy and Promotion (DIPP). Services constitute a major portion of India's GDP with a 57 per cent share in GDP at factor cost (at current prices) in 2013-14 an increase of 6 percentage points over 2000-01. In 1991, Liberalization, Privatization and Globalization aimed at making the Indian economy a faster growing economic and globally competitive. Foreign capital is seen as a way of filling in gaps between the domestically available supplies of savings, government revenue, foreign exchange and the planned investment necessary to achieve developmental targets. This is very true in case of various developing countries like India. The series of reforms undertaken with respect to Trading ,Financial Sector (Banking & Insurance), Telecommunication , Real Estate, Construction Sector, Tourism, Hotels & Restaurant ,Housing & Townships Business. Such service sector has almost hundred percent investments with different routes and witnessed a major boom and contributes to both employment and national income in the growth of Indian economy after liberalization. It has shown the largest share of investment by Greenfield and Merger & Acquisition. Greenfield tends to where a parent company starts a new venture in a foreign country by constructing new factories and/or stores. In 2013, the value of FDI in Greenfield projects in the services sector grew by 20 per cent to US$ 385 billion as compared to 9 per cent growth in total value of FDI in Greenfield projects. Merger & Acquisition tends to transfer of existing assets from local firms takes place. Services sector declined by 7 per cent to US$ 155 billion in 2013 as compared to 5 per cent growth in total FDI value in M& A as per economic survey in both cases.

## 2. LITERATURE REVIEW

Dr. Rajni Saluja(2017) has observed Foreign Direct Investment has become sin-quo-non for the economic development of both developed and developing countries. As a result of liberalisation, privatization and globalization model, Indian banks have entered international market and global banks have become part of Indian market. Furthermore, FDI in the banking sector ensures to provide the benefits of technology transfer, better risk management, financial stability and better capitalization, integration into global economy, knowledge transfer and increasing competition.

Sharma, M. & Singh, S. (2016). In their paper they examined the major features of FDI and its impact on Indian economy in pre and post liberalization period. They explained the attitude of Indian govt. towards foreign investments from 1950 in 4 phases. Attitude changed a lot from restrictive to open door policy when FERA replaced FEMA. Indian trade turned to new heights after the Second World War. They also talked about economic factors that affect the growth and development of Indian Economy such as GDP, Currency, Stock Market, and Foreign Exchange Reserve etc. After 1990, India realized the power and importance of foreign investments as it was a source of external private finance. They suggested the main sectors where there were opportunities of foreign investments like service sectors, construction & development sector etc.

Rahaman, A. & Chakraborty, S. (2015). They had done empirical research in Bangladesh to analyze the relationship between foreign direct investments and gross domestic product. FDI is an important medium for accelerating economic growth. FDI had positive impact on the economic growth as it results in HR development, advance technologies came into own country. They used secondary data for analyzing the trend in GDP. The upward Trend was shown during the period 1987-2011. They concluded that inflows of foreign investments in the Bangladesh (as a developing country) is very low and to improve this situation govt. had to take steps i.e. develop skills of labours, develop infrastructure and remove power shortage problem, investment friendly framework etc.

Malla Reddy (2014) highlighted that FDI through providing capital, strengthening efficiency, and new job opportunities plays are some important things for economic development. FDI as a non debt inflows helps in improving the technical knowledge taking capabilities. Malhotra,B. (2014). In her paper she analyzed the challenges facing by India in positioning itself favourably at global level in context of FDI and also examined the impact of FDI on the Indian Economy. FDI acts as a bridge to fulfill the gap between investment and savings of the country. She suggested that for equal growth govt. has to invest equally in the rural areas as invested in urban areas. Govt. should liberalized FDI policy to make markets more investment friendly.

Bedi, P., & Kharbanda, E. (2014). in their paper they analyzed the status of FDI in India and find the issues & problems why India was a less attractive destination of FDI inflows even after India had low labour cost, talented & skilled workforce. Paper is based on secondary data. Major negative aspects considered while doing business were corruption, inadequate supply of infrastructure, complicated tax structure and restrictive labour regulations. They suggested that this was the right time rather it's been too late for India to make reforms in their policies and make them liberalized so that foreign investment inflows increased as compared to other developing countries. Only then India can think of increase in FDIs in coming years.

Anitha,R. (2012). In his paper "Foreign Direct Investment and Economic Growth in India" he talked about the role of FDI in the development of developing and underdeveloped countries. FDI in such countries bridges the gap between available financial resources and required financial resources. In his paper he analyzed the trends of FDI inflows in the country from 2010 to 2015. He mentioned the reasons for the poor performance of India in attracting FDI inflows such as political instability, poor infrastructure, tariff laws, labour law etc. in his study he concluded that global share of FDI in India is very less as compared to other developing countries even after increased in the flow of FDI. To improve this situation govt. has to adopt innovative policies and good corporate governance practices to attract more & more foreign capital.

Singh, J., et.al. (2012). In their paper "Role of Foreign Direct Investment in India: An Analytical Study" they showed that FDI played a major role in attracting International Economic Integration in every economy. Main sectors where investments were flowing more were: real estate & business, insurance sector etc. The objective of the study was to know the amount of foreign investments required for growth and analyzing its trend. There are two routes of FDI inflows i.e. automatic route (liberalized route) and government route (or approval route). They also talked about the main determinants of FDI (a) in host country were policy framework, international agreements, trade policies, rules regarding entry & operations etc. (b) economic determinants such as market size, market structure, labour, technology etc. in their study they found that saving rate is very low and route of investment inflows were FDI & FIIs both. The highest amount 6878 billion dollars in India came from Mauritius. They concluded that India should welcome foreign investments as it is favorable for Indian Economy and also helped govt. in achieving their goals such as favourable BOP, removal of poverty, economic development etc.

Louzi,B.M & Abadi, A. (2011). In their paper "The Impact of Foreign Direct Investment on Economic Growth in Jordan" they talked about FDI- led Growth in Jordan. Their study is based on time series data from 1990 to 2009. FDI plays vital role in the economic growth of the country. They also explained the situation during 1991-2009 that FDI at global level increased at 25% whereas developing countries as group showed increase at the rate of 22% at constant prices. The first major inflows of FDI started after liberalization in FDI policies. Many studies done earlier showed that FDI and Growth had a positive relation but with their study they concluded one more thing that FDI was not the sole and independent factor that influenced the growth of the country. Net Attitude revealed the investment climate of Jordan. The suggested that appropriate measures should be taken by the govt. such as transparency in trade policies, flexible labour markets, tariff structure etc.

Sudhir Naib (2005) in his book „Disinvestment in India- Policies, Procedures and Practices‟ stated that state owned enterprises reforms have many dimensions such as privatization, introduction of competition in product and factor markets, hard budget constraint, financial sector reforms and changes in the relationship between the government and state owned enterprises managers. Reforms are motivated by a variety of goals and present complex strategic choices. These are creating a market economy, encouraging private enterprises, promoting competition, improving self-sufficiency and distribution of income, reducing the influence of labour union etc.

## 3. OBJECTIVE AND RESEARCH METHODOLOGY

- To find out the Role and effect of FDI inflows has significant effect on our GDP (service sector)

For that statistical hypotheses are:

- *H01: There is no significant relationship between FDI inflow and percentage growth of service sector GDP*
- *H11: There is a significant relationship between FDI inflow and percentage growth of service sector GDP*

- *H02: There is no significant relationship between Service sector GDP and overall GDP.*
- *H12: There is a significant relationship between Service sector GDP and overall GDP.*

Correlation Analysis we used the technique of correlation to test the statistical significance of the association between FDI and GDP (in service sector). Correlation helps to measures the strength and direction of a linear association between two variables.

Regression analysis is one of the most commonly used statistical techniques used in almost all fields. Its main objective is to explore the relationship between a dependent variable and one or more independent variables (which are also called predictor or explanatory variables).

*Model Formulation:*

SGDP= f (FDI)

SGDP= a + b (FDI) (i)

GDP= f (SGDP)

GDP= a+b(SGDP) (ii)

Where

FDI is Foreign Direct Investment which is the explanatory variable.

GDP is Gross Domestic Product which is the dependent variable.

SGDP is Services Gross Domestic Product which is dependent in first in form of percentage and explanatory in second model in form of index.

a) Regression Coefficient (to be estimated) measures how much units of GDP would be changed with a unit change in FDI.
b) Intercepts the Y-axis.

## 4. DATA ANALYSIS

The data set consists of FDI inflow (US$ mn) in different service sectors and percentage growth of GDP (in Service Sector) through FDI. The data set is secondary and covers the time period of 2000-2014 and collected the data from the Department of industrial policy & promotion, Economic Surveys, journals and RBI annual Publications.

### Service Sector and GDP

Service sector has a major contribution to country GDP and it is increasing rapidly. Financial services has been raised from 3.5 in 2000-01 to 12.9 in 2013-14, whereas community social and personal services raises with slow pace as 4.6 to 5.6 from 2000 to 2014 but Communication, Hotels & Restaurant Services GDP has been decline as per table -1 below.

Overall services GDP has grown 10.5 up to 2009-10 but later on declines.

Annual representation of overall GDP and services sector GDP has been shown below in figure 1 which shows service sector GDP always high as compare to overall GDP of Indian economy except in the year 2003-04.In year 2013- 14 overall GDP is 4.7 whereas service sector GDP is 6.8

**Table 1: India's services GDP annual growth at factor cost**

| Years | Trade Hotels & Restaurant Transport Storage Comm. | Financial Services | Community ,Social & Personal Services | Services GDP | GDP at Factor cost |
|---|---|---|---|---|---|
| 2000-01 | 6.4 | 3.5 | 4.6 | 5.1 | 4.1 |
| 2001-02 | 8.6 | 6.2 | 4.0 | 6.3 | 5.4 |
| 2002-03 | 8.3 | 7.2 | 3.8 | 6.4 | 3.9 |
| 2003-04 | 11.2 | 5.3 | 5.3 | 7.3 | 8.0 |
| 2004-05 | 9.5 | 7.7 | 6.8 | 8.0 | 7.1 |
| 2005-06 | 12.0 | 12.6 | 7.1 | 10.9 | 9.5 |
| 2006-07 | 11.6 | 14.0 | 2.8 | 10.1 | 9.6 |
| 2007-08 | 10.9 | 12.0 | 6.9 | 10.3 | 9.3 |
| 2008-09 | 7.5 | 12.0 | 12.5 | 10.0 | 6.7 |
| 2009-10 | 10.4 | 9.7 | 11.7 | 10.5 | 8.6 |
| 2010-11 | 12.2 | 10.0 | 4.2 | 9.3 | 8.9 |
| 2011-12 | 4.3 | 11.3 | 4.9 | 6.6 | 6.7 |
| 2012-13 | 5.1 | 10.9 | 5.3 | 7.0 | 4.5 |
| 2013-14 | 3.0 | 12.9 | 5.6 | 6.8 | 4.7 |

(Source-Compiled from Economic Survey 2013-14) [15]

## FDI in Service Sector

**Table 2: Sector attracting highest FDI (US $ in Miliion)**

| Sectors | 2011-12 | 2012-13 | 2013-14 | Commulative:00-14 | Total Inflow in Service Sector (%) |
|---|---|---|---|---|---|
| Services sector (Financial & non financial) | 5216 | 4833 | 2225 | 39460 | 18 |
| Construction Development | 3141 | 1332 | 1226 | 23306 | 11 |
| Telecommunication | 1997 | 304 | 1307 | 14163 | 7 |
| Computer software & Hardware | 796 | 486 | 1126 | 12817 | 6 |
| Hotel & Tourism | 993 | 3259 | 486 | 7118 | 3 |
| **Total top five services** | **12143** | **10214** | **6370** | **96864** | **45** |

(Source- Department of industrial policy & promotion, GOI , Economic survey 2012-14)

Foreign direct investment in services sector is 45 percent out of overall FDI in Indian economy as per table 2 above. Service sector (Financial & non financial) is much contributed which is 18 percent but after 2011-12 foreign investment in service sector has been declined, where as in Telecommunication and IT sectors it has grown in year

2013-14. The estimated result of Correlation Analysis tells us the association between FDI inflows and growth of GDP (in Service Sector) is 0.758 and as per Table 1 of service sector GDP and GDP of economy is 0.855 which is positive and significant at 0.01 level of significant and it is shown in Table 4 and 5.

The results of the regression model are estimated as SGDP =52.55+7.193E -5*FDI

**Table 3: Financial year wise growth of GDP in service sector through FDI**

| Financial Year | FDI Inflow(US $ Million) | Growth of GDP in Service Sector(%) |
|---|---|---|
| 2000-01 | 4029 | 51.83 |
| 2001-02 | 6130 | 53.02 |
| 2002-03 | 5035 | 53.18 |
| 2003-04 | 4322 | 53.04 |
| 2004-05 | 6051 | 53.06 |
| 2005-06 | 8961 | 53.87 |
| 2006-07 | 22826 | 52.71 |
| 2007-08 | 34843 | 53.93 |
| 2008-09 | 41873 | 54.72 |
| 2009-10 | 37745 | 55.14 |
| 2010-11 | 34847 | 56.37 |
| 2011-12 | 46553 | 54.90 |
| 2012-13 | 34298 | 56.30 |
| 2013-14 | 36396 | 57.00 |

(Source- Department of industrial policy & promotion, GOI ,Economic survey 2012-14)

Table 5 shows the goodness of fit test. Here Coefficient of determination (*R* square) is 0.574 and adjusted *R*-square is 0.539. It means that 53.9% of variations in the GDP (in service sector) by FDI and standard error of the estimate is 1.061.As per model second 70.8% of variation in economic GDP with the help of service sector GDP. Table 6 shows the overall significance of the model. For this purpose Analysis of Variance *F*- statistics is used. The value of the *F*-statistics is 16.174 significant at 1% level of significance. Table 7 shows expected value of percentage growth of GDP in service sector with variations as per regression model. Whereas, Table 8 the coefficients of the regression equation, their respective level of significance even at lower than 1% level of significance. Therefore the estimated results of the model demonstrate that there is a positive impact of the FDI on the GDP (in service sector).

**Table 4: Correlations**

| | | FDI inflow | Service Sector GDP |
|---|---|---|---|
| FDI inflow | Pearson Correlation | 1 | .758** |
| | Sig. (2-tailed) | | .002 |
| | N | 14 | 14 |
| Service Sector GDP | Pearson Correlation | .758** | 1 |
| | Sig. (2-tailed) | .002 | |
| | N | 14 | 14 |

Note:**Correlation is significant at the 0.01 level

**Table 5: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .758 | .574 | .539 | 1.061 |
| 2 | .855 | .730 | .708 | 1.138 |

**Table 6: ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 18.195 | 1 | 18.195 | 16.174 | .002 |
| | Residual | 13.499 | 12 | 1.125 | | |
| | Total | 31.694 | 13 | | | |

Table 7: Expected value of % growth of GDP in service sector

| Financial Year | Growth of Services GDP (Actual in %) | Growth of Services GDP(Expected in%) | Variation (%) |
|---|---|---|---|
| 2000-01 | 51.83 | 52.84 | 1.94 |
| 2001-02 | 53.02 | 52.99 | 0.05 |
| 2002-03 | 53.18 | 52.91 | 0.50 |
| 2003-04 | 53.04 | 52.86 | 0.33 |
| 2004-05 | 53.06 | 52.99 | 0.13 |
| 2005-06 | 53.87 | 53.19 | 1.26 |
| 2006-07 | 52.71 | 54.19 | 2.80 |
| 2007-08 | 53.93 | 55.06 | 2.09 |
| 2008-09 | 54.72 | 55.56 | 1.53 |
| 2009-10 | 55.14 | 55.26 | 0.21 |
| 2010-11 | 56.37 | 55.06 | 2.32 |
| 2011-12 | 54.90 | 55.90 | 1.82 |
| 2012-13 | 56.30 | 55.02 | 2.27 |
| 2013-14 | 57.00 | 55.17 | 3.21 |

Table 8: Regression coefficients

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 52.555 | .502 | | 104.774 | .000 |
| FDI inflow | 7.193E-5 | .000 | .758 | 4.022 | .002 |

## 5. CONCLUSION

The study concludes that FDI inflows have shown significant growth from 2000 to 2010 especially in service sector. Later on declines up to 2.67 % and reach near to 54.49 % but again raises 57 % in year 2013-14. Overall growth from 2000-14 is near to 6 %. Economic and financial crisis in the world have made a deepening impact on FDI flows and growth of Indian economy. Though FDI as a strategic component of investment is needed by India for its sustained economic growth. The current study showed a positive and significant impact of foreign capital inflows on Indian economy sectors. In future work, computational model will be designed to enhance the accuracy of our growth model using other economic variables like Gross output, Export and Labour productivity in service sector.

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