Analysis of Role of Foreign Direct Investment in India's Economic Development

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Abstract

Foreign Direct Investment is a kind of investment that helps to foster the growth of the economy by attracting foreign capital in the country. With the help of foreign capital, the country will be able to enhance their level of productivity, and employment opportunity, improving working skills, technical advancement, and infrastructure development. That is why; FDI is the best way for the economic development. Nowadays, every country needs to explore them globally and avail the opportunities available in the global market. So, that FDI is one of the mediums for developing the emerging sectors of the economy. The present study investigates the flow of FDI in India and its significant relation with GDP. This study is based on secondary data from the financial year 2011-12 to 2020-21. Data is analyzed by using Trend analysis and Regression analysis. Therefore, it has been found that the Trend analysis showed a positive trend from the year 2011-12 to 2020-21 and the Regression analysis showed that there is significant relation of foreign direct investment inflows with GDP in the computer software and hardware sector followed by the service sector, and telecommunication sector.

Keywords

Foreign Direct Investment (FDI), Gross Domestic Product (GDP), Economic development, Reserve Bank of India (RBI), Trend analysis, Regression analysis, and FDI flows.

1. Introduction

Foreign direct investment (FDI) is the most attractive kind of investment for economic expansion. Economic expansion is depending upon various constituents. So, investment is one of the constituents of economic expansion, without investments no country will be able to expand its economy. Especially in the case of developing countries, because developing countries are not self-reliant to develop their economy world at large. The government of such countries takes various steps to boost their economy and attract foreign capital in their country. In view of this fact, these countries have no adequate funds. Therefore, they require overseas capital in the form of foreign direct investments.

FDI takes place when the individual, entity, or corporate invest a certain amount of money in another country in the form of investment for making more return or capturing the market share of another country and acquiring investments and controlling ownership in a business of a foreign entity because FDI flows rapidly as compare to any other type of investments. At present time FDI become a very significant criteria for the growth of the economy.

Therefore, FDI becomes the key to the development of the country. The main objective behind the investment is to make better utilization of resources available in the country. FDI has a significant role in globalization, by adopting such practices across the country helps to accelerate the growth of the economy. Therefore, most of the developed countries gave more importance to FDI and they are heavily dependent upon it.

2. Review of the Literature

According to **Sinha, M. (2021)**. FDI is the key for the development of the economy and it helps to generate employment and technological enhancement in their study entitled a study on the trend of FDI in India and its impact on Indian GDP. The purpose of this study is to examine the FDI inflows in India and study its effect on GDP. The main findings of the study show a positive trend of FDI in India and it increases in a significant manner. GDP rates were also very higher in the year 2016-17. This research is based on secondary data is analyzed by using trend analysis and growth percentage.

Shalini, S. (2020). Their study attempted to find out the pattern of the flow of FDI in India and know the interconnection between foreign direct investments and GDP. For analyzing the data various statistical tools like trend analysis, and correlation was used. The result of the study reveals the service sector plays a crucial role in captivating FDI inflows in India and some other sectors also include in this way namely the manufacturing, service industry, the telecommunication sector is one of the major sectors for FDI. It also concluded that there is no significant association between FDI and GDP.

According to **Nidhumolu, R.S., Madasu, P. (2020)**. FDI is crucial in foreign trade and the economic development of the country. In their studies, they investigate the growth among the various sectors by introducing FDI and critically assess the interrelation between FDI and economic growth. For achieving the objectives of the study various statistical tools were used for analyzing the data viz. regression analysis and analysis of variance (ANOVA). Based on this analysis, the study reveals that there is a significant relationship between FDI and economic growth.

Mishra, R., Palit,S, (2020). Reveals the role of FDI on employment scenario in India. the main objective of this study is to examine the association among the FDI, GDP growth rate, and employment opportunities in India. The researcher has been concluded that the service sector in India attracted FDI for the year 2002-2012 and there were a large number of employment opportunities available in-the service sector rather than this there were not so good employment at that time so the government needs to take the effective initiative to improve the employment opportunities in India.

According to Pasupathi,S., Sakthi,V. (2019). Indian economy is experiencing a positive trend in FDI, and it's going up at a good pace. They also distiguish that the Indian economy is the investment hub for various nations. Their study titled with recent trends of foreign direct investment in India and its impact on economic growth examine the association between foreign direct investment and economic upturns in India by using trend analysis data analyzed from 2014 to June 2018. On the basis of the above analysis, it has been concluded that the most attractive sector for FDI in India is the service sector which is 19.51 percent of the total FDI.

Sultanuzzaman, R., fan, H., Akash, M.,Wang,B., Shakij, U.S. (2018). Explores the association among FDI inflows, exports, and economic growth by using autoregressive distributed lag (ARDL). So, the finding of this study is that there is significant association of FDI with the economic development of the country in the long run and short run. The study found that FDI inflows has a positive relationship with GDP and is negatively associated with export in the long run.

3. Need of the Study

FDI has a significant role in the development of any country. Therefore, countries try to attract overseas capital by adopting different ways. In India FDI also has great significance because it helps to mitigate and overcome various challenges. After studying various previous literatures, it has been observed that most of the previous studies are based upon the comparative study of foreign direct investment in India and the USA, the role of foreign direct investment (FDI) in India- an overview, role of FDI on employment scenario in India. Therefore, this study "Analysis of Role of Foreign Direct Investment in India's Economic Development" has been taken into consideration.

4. Objectives of the Study

Following are the objectives of the study:

4.1 To analyze the Foreign Direct Investments Inflows in India.

4.2 To study the relationship between Foreign Direct Investments Inflows and GDP.

4.3 To study the relationship between sector-wise Foreign Direct Investment Inflows and GDP.

5. Research Hypotheses

H_{01}: There is no significant relation between FDI inflows and GDP.

H_{02}: There is no significant relation between FDI inflows of computer software and hardware sector and GDP.

H_{03}: There is no significant relation between FDI inflows of the service sector and GDP.

H_{04}: There is no significant relation between FDI inflows of the telecommunication sector and GDP.

H_{05}: There is no significant relation between FDI inflows of the automobile sector and GDP.

H_{06}: There is no significant relation between FDI inflows of the chemical sector and GDP.

H_{07}: There is no significant relation between FDI inflows of drugs and the pharmaceuticals sector and GDP.

H_{08}: There is no significant relation between FDI inflows of the construction development sector and GDP.

6. Research Methodology

Research Methodology for this study is analytical in nature. Secondary data of selected sector of ten year has been used for achieving the objective. Trend analysis, correlation and regression is used for the analyses purpose.

Research design

The research design for this study is analytical in nature.

Sample Size and Selection Criteria

To achieve the objectives of the study top seven sectors has been taken into consideration for the analysis of data. This sector has been shortlisted based on the availability of data over the past ten years. Following are the sectors which has been taken into consideration is as follow:

Table: 1 List of Sectors

S. No.	Sectors
1.	Computer Software and Hardware Sector
2.	Service Sector
3.	Telecommunication Sector
4.	Automobile Sector
5.	Chemical Sector
6.	Drugs And Pharmaceuticals Sector
7.	Construction Development Sector

Source: *Author Compilation*

7. Duration of the Study

For the purpose of analysis of data period of ten years has been taken into consideration. i.e. from the financial year 2011-12 to 2020-21.

8. Types of Data

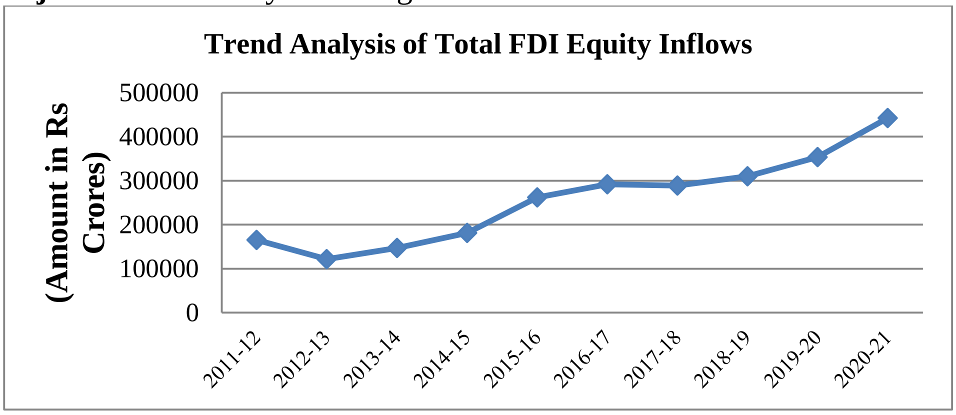
This study is based on secondary data. Data was collected from the Department of Promotion Industrial and Internal Trade (DPIIT) and Reserve Bank of India (RBI) websites.

9. Data Analysis and Presentation Tools

For the analyses of data various tools has been used namely, percentage, trend analysis and correlation, regression. For presenting data graphs and charts has been used.

10. Results and Discussion

Objective -1 To study the foreign direct investment inflows in India.



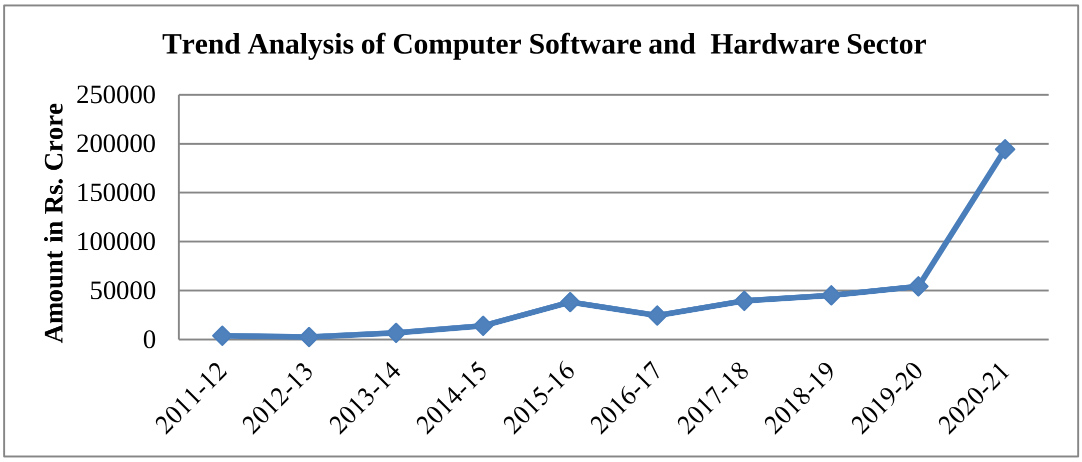
Source: Author Computation

Graph 1: Total FDI Inflows of India from the Year 2011-12 to 2020-2021

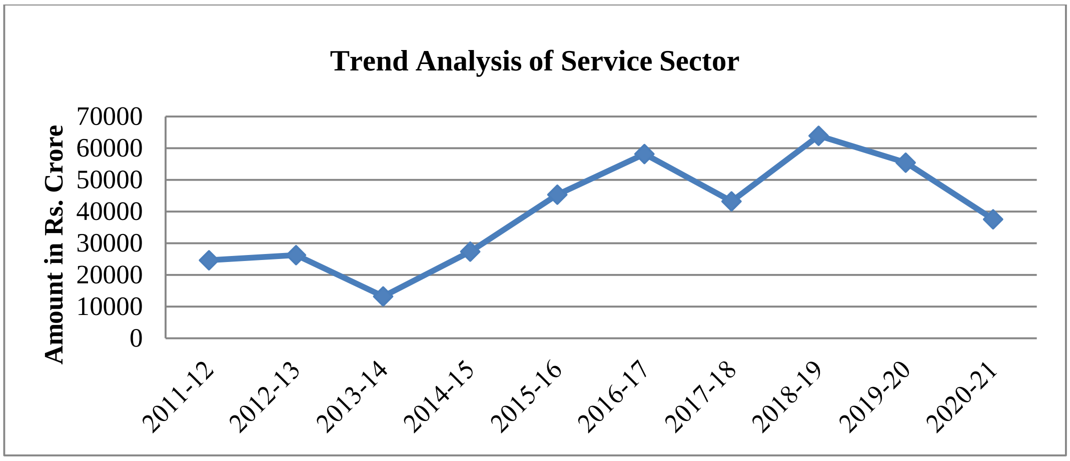
The above graph 1 of the FDI inflows trend shows a positive trend over the years from 2011-12 to 2020-2021. In the graph it has been showed that there were some fluctuations in the commencing years but thereafter, it has increased. In the year 2011-12 the amount of FDI inflows in India is Rs. 165146 crores. But in the year 2020-21 it stands at an amount Rs. 442569 crores which shows that a huge amount of investment over the years. In the year 2020-2021the growth percentage over the last year is 2 percent as per the data of DPIIT.

Trend analysis has been showing the fluctuations. There are various reasons behind this fluctuation. In the starting time period, there were very less development in India. Therefore, very few countries invest their amount in India. As per this analysis, it has been observed that the year after 2015-16 shows a positive trend line which means that there is a great impact of government initiatives for attracting FDI inflows in India like Make in India policy and other government initiatives also which has been taken for the development of the economy.

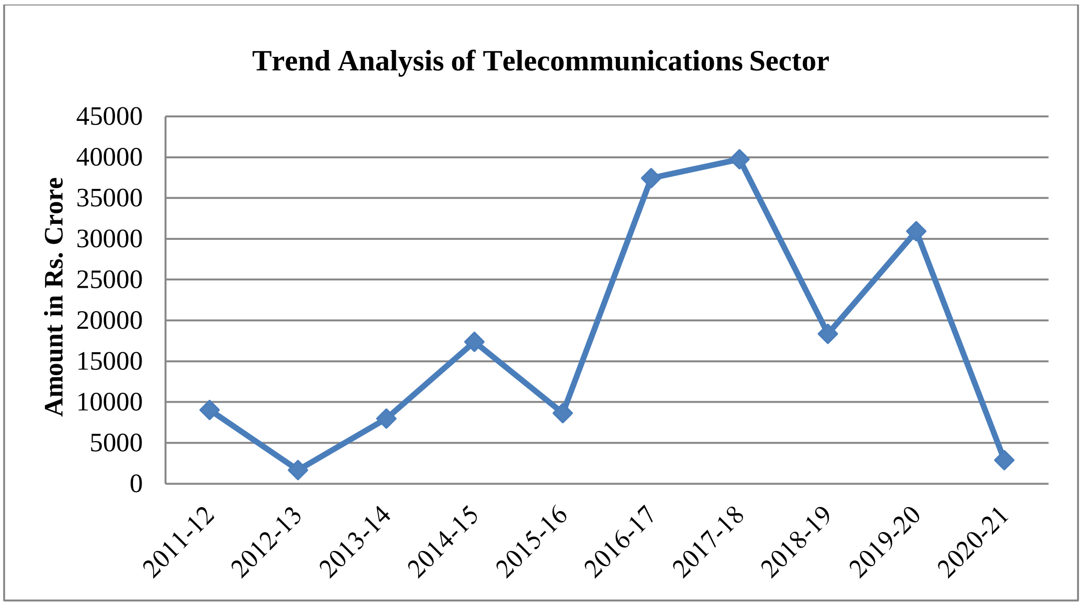
Sector Wise FDI Inflows Trend Analysis from the Year 2011-12 to 2020-2021



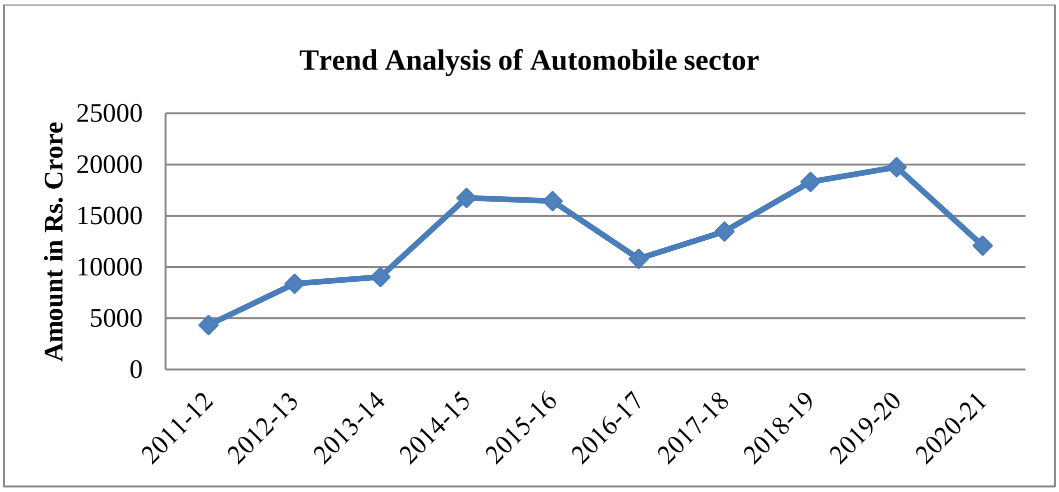
Graph 2: Trend Analysis of Computer Software and Hardware Sector



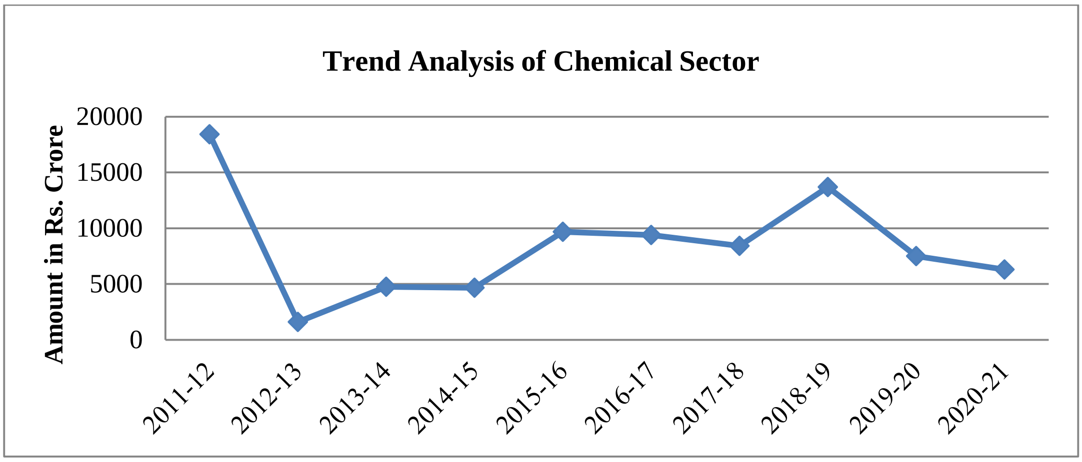
Graph 3: Trend Analysis of the Service Sector



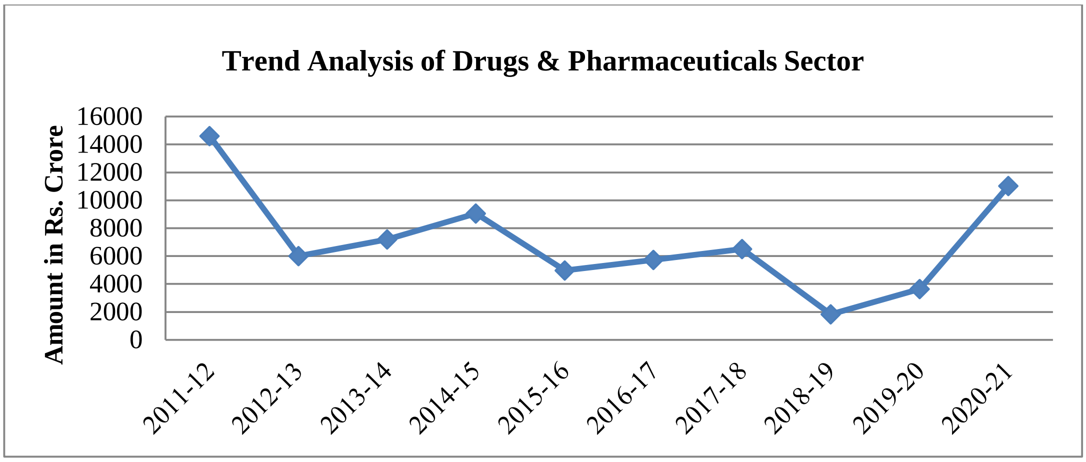
Graph 4: Trend Analysis of Telecommunications Sector



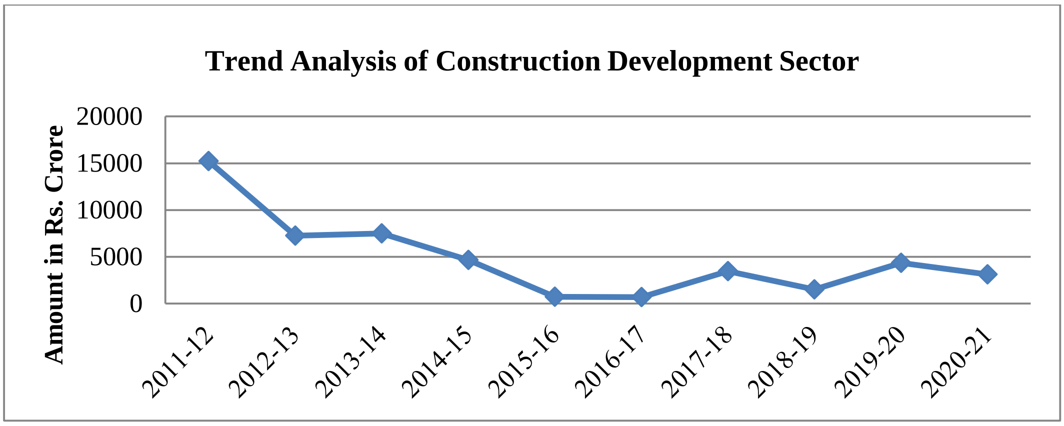
Graph 5: Trend Analysis of Automobile Sector



Graph 6: Trend Analysis of the Chemical Sector



Graph 7: Trend Analysis of Drugs & Pharmaceuticals Sector



Source: Author Computation

Graph 8: Trend Analysis of Construction Development Sector

Trend analysis of FDI inflows in India of different sectors as per the result of the above analysis it has been observed that there is a huge investment in the computer software and hardware sector.

In the year 2011-12 to the amount of investment in computer software and hardware was Rs. 3804 crores but as the year passes this sector attracts more investments as compared the other sector due to the technological advancement in this sector. The amount of investment in the year 2020-21 was Rs. 194291crores. after this sector, there are other sectors also which are contributing for the development of the economy like the service sector, automobile sector, drugs, and pharmaceuticals sectors also.

Objective– 2 To study the relationship between FDI inflows and GDP.

Table 2: Total FDI Equity and GDP Data from the Year 2011-12 to 2020-21

YEAR	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total FDI Equity	165146	121907	147518	181682	262322	291696	288889	309867	353558	442569
GDP	8736329	9944013	11233522	12467959	13771874	15391669	17090042	18886957	20351013	19745670

Source: DPIIT, RBI website

H_{01}: there is no significant relationship between foreign direct investment inflows and GDP.

Table 3: Regression Results

Regression Statistics	
Multiple R	0.924
R Square	0.854
Adjusted R Square	0.836
P-value	0.000
Observations	10

Table 3 shows the result of regression statistics, which observed that the correlation coefficient (multiple R) shows a high degree of co-relation between total FDI inflows and GDP. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is 0.854. It showed that model explains approx. 85 percent of the variation. And shows the result of the regression coefficient which concluded that the null hypothesis (H_{01}) will be rejected as the p-value of is less than 0.05. Hence, it can be concluded that there is a significant relation between total FDI inflows and GDP.

Objective– 3 To study the relationship between Sector wise Foreign Direct Investment Inflow and GDP.

H_{02}: there is no significant relation between FDI inflows of computer software and hardware sector and GDP.

Table 4: Regression Results

Regression Statistics	
Multiple R	0.676
R Square	0.457
Adjusted R Square	0.389
P-value	0.031
Observations	10

Table 4 shows the result of regression statistics, which observed that the correlation coefficient (multiple R) shows high degree of correlation between FDI inflows of computer software and hardware sector and GDP. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is 0. 457. It showed that the model explain approx. 45 percent of the variation. And shows the results of the regression coefficient which concluded that the null hypothesis (H_{02}) will be rejected as the p-value Is less than 0.05. Hence, it can be concluded that there is a significant relation between FDI inflows of computer software and hardware and GDP.

H_{03}: there is no significant relation between FDI Inflow of the service sector and GDP.

Table 5: Regression Results

Regression Statistics	
Multiple R	0.749
R Square	0.561
Adjusted R Square	0.506
P-value	0.012
Observations	10

The Table 5 shows the result of regression statistics which observed that the correlation coefficient (multiple R) shows correlation between FDI inflows of the service sector and GDP. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is 0.561. It showed that the model explains approx. 56 percent of the variation. And shows the result of the regression coefficient which concluded that the null hypothesis (H_{03}) will be rejected as the p- value is less than 0.05. Hence, it can be concluded that there is significant relation between FDI inflow of the service sector and GDP.

H_{04}: there is no significant relationship between FDI Inflows of the telecommunication sector and GDP.

Table 6: Regression Result

Regression Statistics	
Multiple R	0.454
R Square	0.206
Adjusted R Square	0.107
P-value	0.187
Observations	10

Table 6 shows the result of regression statistics, which observed that the correlation coefficient (multiple R) shows the correlation between FDI inflows of the telecommunication sector and GDP. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is 0.206. It showed that the model explain approx. 20 percent of the variation. And shows the result of the regression coefficient which concluded that the null hypothesis (H_{04}) will be accepted as the p- value is greater than 0.05. Hence, it can be concluded that there is no significant relationship between FDI inflows of the telecommunication sector and GDP.

H_{05}: there is no significant relation between FDI Inflows of the automobile sector and GDP.

Table 7: Regression Result

Regression Statistics	
Multiple R	0.710
R Square	0.504
Adjusted R Square	0.442
P-value	0.021
Observations	10

Table 7 shows the result of regression statistics, which observed that the correlation coefficient (multiple R) shows the correlation between FDI inflows of automobile sector and GDP. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is 0.504. It showed that the model explain approx. 50 percent of the variation. And shows the result of the regression coefficient which concluded that the null hypothesis (H_{05}) will be rejected as the p-value is less than 0.05. Hence, it can be concluded that there is significant relationship between FDI inflow of the automobile sector and GDP.

H_{06}: there is no significant relation between FDI Inflows of the chemical sector and GDP.

Table 8: Regression Results

Regression Statistics	
Multiple R	0.602
R Square	.5041
Adjusted R Square	0.124
P-value	0.995
Observations	10

Table 8 shows the result of regression statistics, which observed that the correlation coefficient (multiple R) shows no correlation between the variables. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is .5041. It showed that the model explain approx. 50 percent of the variation. And shows the result of the regression coefficient which concluded that the null hypothesis (H_{06}) will be accepted as the p- value is greater than 0.05. Hence, it can be concluded that there is no significant relationship between FDI inflows of chemical sector and GDP.

H_{07}: there is no significant relationship between FDI Inflows of the Drugs and Pharmaceuticals Sector and GDP.

Table 9: Regression Result

Regression Statistics	
Multiple R	0.477
R Square	0.228
Adjusted R Square	0.131
P-value	0.162
Observations	10

Table 9 shows the result of regression statistics which observed that the correlation coefficient (multiple R) shows the correlation between FDI inflows of drugs and pharmaceuticals sector and GDP. R square the coefficient of determination; is the squared value of the correlation coefficient the value of R square is 0.228. It showed that model explain approx. 22 percent of the variation. And shows the result of the regression coefficient which concluded that the null hypothesis (H_{07}) will be accepted as the p-value is greater than 0.05. Hence, it can be concluded that there is no significant relationship between FDI inflows of drugs and pharmaceuticals sector and GDP.

H_{08}: there is no significant relation between FDI inflows of construction development sector and GDP.

Table 10: Regression Result

Regression Statistics	
Multiple R	0.670
R Square	0.449
Adjusted R Square	0.381
P-value	0.033
Observations	10

Table 10 shows the result of regression statistics, in which its observed that the correlation coefficient (multiple R) shows the correlation between FDI inflows of the construction development sector and GDP. R square, the coefficient of determination, is the squared value of the correlation coefficient the value of R square is 0.449. It showed that the model explain approx. 44 percent of the variation. And the table 1.16 shows the result of the regression coefficient which concluded that the null hypothesis (H_{08}) will be rejected as the p- value is less than 0.05. Hence, it can be concluded that there is a significant relationship between FDI inflows of the construction development sector and GDP.

11. Findings

- India has largest the total FDI inflows in the year 2020-21 and the lowest in the year 2012-13.
- In India, computer software and hardware sector has been attract the highest inflow of FDI in the last decade.
- The service sector is the second highest sector that attracts FDI in India.
- The construction development sector has the lowest amount of FDI in India.
- GDP rates highest in the year 2019-20.
- As per the regression analysis, it has been found that correlation coefficient of FDI inflows has significant relation with GDP is 0.92
- The value of R square, the coefficient of determination of FDI inflows is 0.854. It showed that the model explains the 85 percent variation in data.

12. Conclusion

FDI in India is playing a dominant role in the growth of the country because there are numbers of nations who sustain with inadequate domestic funds. So, they are unable to invest in the development. Overseas capital helps to boost economic activities which further helps to develop various sectors like service, infrastructure, and pharmaceutical sector, etc. There are major challenges faced by countries while they explore capital like – political influence, restrictive policies, shortage of resources, and corruption. This study basically focused on current trend and pattern of foreign direct inflows and critically examined the association between FDI inflows and GDP in India. Therefore, on the basis of the above analysis, it can be concluded that FDI in India shows a positive trend over the years. It increases in a significant manner. Further, based on regression analysis it can be concluded that there is a significant relationship between total FDI inflows and GDP. There is various sector in which FDI inflows and GDP has significant relation i.e., computer software and hardware, service sector, automobile sector, and construction development. In the telecommunication sector, the chemical sector, and drugs and pharmaceuticals sector have no significant relation with FDI inflows and GDP. The most emerging sector in India is computer software and hardware and further followed by various other sectors. At present, India needs to enhance its regulatory policies by introducing effective monetary and fiscal deficits and by giving a friendlier environment to foreign investors so that they can easily do investments.

13. Scope for Further Research

The present study is based on the analysis of the role of FDI in India. In this study includes a few economic variables it can be explored by using more variables taken into consideration for further research. Moreover, this study can be elaborate by using the different sectors, states, regions, and countries as well by extending the data for more years in which different statistical tools can also be implemented to make research more worthy and fruitful for society.

14. References

1. Ibrahim, M.S., & Muthusamy, A. (2014). Role of Foreign Direct Investment (FDI) In India's Economic Development – An Analysis. *Journal of International Relations and Foreign Policy*, 2(2), 101-113.
2. Malhotra, B. (2014). Foreign Direct Investment: Impact on Indian Economy. *Global Journal of Business Management and Information Technology,* 4(1), 17-23.
3. Mallick, H., Mahalik, M. K., & Padhan, H. (2020). Does globalization exacerbate income inequality in two largest emerging economies? The role of FDI and remittances inflows. *International Review of Economics*, 67(4), 443-480.
4. Mishra, R., & Palit, S. (2020). Role of FDI on Employment Scenario in India. *International Journal of Recent Technology and Engineering*, 8(6), 1481- 1489.
5. Nidumolu, R.S., & Madasu, P. (2020). Economic Development in India – Role of FDI. *International Journal of Research and Analytical Reviews*, 7(2), 894- 911.
6. Pasupathi, S., & Sakthi, V. (2019). Recent Trends of Foreign Direct Investment in India and Its Impact on Economic Growth. *IOSR Journal of Business and Management,* 08-11.
7. Shalini, S. (2020). The Role of Foreign Direct Investment (FDI) In India- An Overview. *International Journal of Research and Analytical Reviews*, 7(1), 91-100.
8. Singhania, M., & Saini, M. (2021). Demystifying pollution haven hypothesis: Role of FDI. Journal of Business Research, 123, 516-528.

9. Sinha, M. (2021). A study of trend of FDI in India and its impact on Indian GDP. *Psychology and Education*, 58(5), 1011- 1015.
10. Sultanuzzaman, R., Fan, H., Akash,M., Wang,B., & Shakij, U.S. (2018). The Role of FDI Inflows and Export on Economic Growth in Sri Lanka: An ARDL Approach. *Cogent Economics and Finance,* 1-17.