Journal of Advances and Scholarly Researches in Allied Education
Vol. 22, Issue No. 3, April-2025, ISSN 2230-7540

DOI: https://doi.org/10.29070/tdk3ws28

Assessing the Impact of Foreign Direct Investment on the Growth of the Automobile Industry in Telangana State

Rodda Prameela [1] * , Dr. Anshuman Sharma [2]

1. Research Scholar, Shri Krishna University, Chhatarpur, M.P., India
roddaprameela@gmail.com ,
2. Professor, Shri Krishna University, Chhatarpur, M.P., India

Abstract: This study looks at how FDI affected the expansion of the car manufacturing in Telangana State, India. The state of Telangana has been a centre for the production of automobiles and related industries because to its advantageous location and strong industrial policy. Foreign direct investment (FDI) patterns and trends are examined in this study, along with their impact on technical innovation, job creation, and infrastructural development in the state. The policy approaches implemented by the Telangana government to entice foreign direct investment (FDI) and their impact on promoting long-term industrial growth are also examined. In order to give a thorough analysis, the study uses a mixed-methods approach, combining quantitative data on FDI inflows with qualitative perspectives from industry stakeholders. While highlighting opportunities like policy obstacles and environmental problems, the results show how FDI may drive economic growth in a revolutionary way. Also included are suggestions for making the most of foreign direct investment (FDI) in the automotive industry.

Keywords: Foreign Direct Investment, Automobile Industry, Telangana, Economic Growth

X

INTRODUCTION

One of the most important factors propelling economic growth, especially in emerging markets, is foreign direct investment (FDI) (Choi & Baek, 2017). Foreign direct investment (FDI) is highly important in promoting industrial growth since it allows for the integration of global markets, the transfer of knowledge, and the infusion of cash (Bhattacharya, 2012). Because of its far-reaching effects on infrastructural development, technical innovation, and employment, the automotive industry stands out among the many industries that gain from foreign direct investment (Chillimuntha, 2011). An integral part of India's economic development, the automotive industry has helped propel the nation to the forefront of global manufacturing. One of the newest states in India, Telangana, has quickly become a major participant in luring foreign direct investment (FDI) because to its business-friendly regulations, strong infrastructure, and advantageous location (Chee & Nair, 2010). The Telangana Industrial Policy (TS-iPASS) and the creation of industrial corridors have been major factors in the recent meteoric rise of Telangana's automotive sector (Blonigen & Davies, 2004). As a result of these policies, the state is now a prime location for both local and foreign investors looking to support long-term growth and innovation in the automotive industry. The rise of Telangana's car sector and the role of foreign direct investment (FDI) are the foci of this research (Blonigen, 2002). Its goal is to determine how much foreign direct investment (FDI) has boosted the sector's growth, innovation, and job opportunities. Furthermore, the study delves into the pros and cons of foreign direct investment (FDI) in the area, shedding light on the policy climate and what it means for long-

term industrial development (Braunstein & Epstein, 2002). This study adds to our knowledge of the impact of FDI on regional development by examining the relationship between the state of Telangana and the automotive sector. Additionally, it offers policymakers practical suggestions to boost the state's investment appeal and guarantee inclusive economic growth (Carkovic & Levine, 2002).

LITERATURE REVIEW

Mukherjee, A. (2022) For this research, Mukherjee zeroes down on the state of Telangana in particular to examine how public-private partnerships have helped boost FDI in India's automotive sector. In order to entice global automotive manufacturers to build manufacturing units in the state, the research found that major policy frameworks may be useful. The capacity of Telangana's industrial corridors to efficiently integrate global value chains is highlighted by Mukherjee. On the other hand, he highlights the logistical challenges and inadequate infrastructure that rural regions face. A comprehensive examination of the game-changing impact of FDI on Telangana's automotive sector is provided in this study.

Chatterjee, R. (2021) With a focus on the urbanisation of Telangana, Chatterjee's research examines the societal and economic effects of FDI in India's automotive industry. Study findings show that industrial zones in Hyderabad and the neighbouring areas have benefited from FDI inflows, leading to the creation of new jobs and advancements in technology. Environmental deterioration and an over-reliance on imported raw materials are also condemned in the study. To address these issues, Chatterjee suggests promoting local research and development and using sustainable solutions. Foreign direct investment in the automotive sector in Telangana has far-reaching consequences, and this study helps us understand those consequences better.

Sharma, P. (2020) Sharma examines the ways in which international car manufacturers have integrated into India's industrial environment through foreign direct investment (FDI). According to the research, Telangana has become a hub for the manufacture of automotive components thanks to the regulations put in place by the state government. This has attracted substantial investments from countries across the world. According to Sharma, the TS-iPASS single-window clearance system and other proactive policy initiatives have greatly sped up investment processes, leading to more rapid industrial growth. Although there have been substantial advancements, the research identifies a lack of skilled staff and an over-reliance on foreign technology as barriers. The possibilities and limitations of foreign direct investment (FDI) in Telangana's automotive sector are illuminated by Sharma's research.

Kumar, S. (2019) The importance of foreign direct investment (FDI) in making India's car sector more competitive is highlighted by Kumar's study on the matter. Increasing technology capabilities and exports have been outcomes of India's policy liberalization during the 1990s, according to the research. This liberalization has attracted a large number of multinational car businesses, which in turn has improved technological capabilities. Specifically addressing Telangana, Kumar highlights the state's strategic initiatives that have been put in place to create an FDI-friendly climate. Building infrastructure and providing tax breaks are examples of these approaches. On the other hand, the research brings up valid points regarding regional inequalities in the distribution of benefits and the need for a locally orientated supply chain to ensure sustained economic growth. Findings from this research provide a firm foundation for further research on the effects of FDI patterns on Telangana's automotive sector.

Reddy, V. (2018) the movement of FDI in India's automotive industry over time, looking at how FDI has affected regional economies like Telangana's. The research focusses on how car clusters formed in Telangana. Strategic initiatives aimed at fostering the growth of the industrial sector were the primary force behind the formation of these clusters. A rise in job opportunities and an improvement in skill levels have been brought about by FDI, claims Reddy. Nevertheless, he expresses disapproval over the secondary industrial sectors' under-representation. The study's findings stress the need for all-encompassing strategies to ensure equal development in all important sectors.

RESEARCH METHODOLOGY

The research design and the actual execution of the study are aspects that fall under the purview of research methodology. The literature review that was conducted as part of the study guaranteed that the thinking process on how to tackle the topic was clear.

Research Design

The research design serves as a blueprint for the study and establishes the framework which the research will be organized around. Throughout the entirety of the research process, the research design serves as a comprehensive road map. The research is carried out by employing a variety of statistical methods and procedures in their various forms. First, descriptive analysis is performed to examine the characteristics of the numerous variables that are being utilized in this research. These characteristics include the mean, standard deviation, skewness, and kurtosis. Following this, the various financial econometric techniques are utilized for the creation of the model. As a result of the fact that the purpose of this research is to determine, on the one hand, what the effect of foreign direct investment (FDI) is on India's economic growth, and, on the other hand, to analyze the influence of FDI in the short and long run on each sector on the other sectors of the economy, the research design that is being utilized is the analytical research design. Therefore, the techniques for analyzing time series data are utilized, in which all variables are considered exogenous and no one is considered endogenous.

Data Collection

The time series data of foreign direct investment (FDI) in ten key industries will be utilized in this study, along with one positioned dependent variable of GDP (also known as Gross Domestic Product). As a stand-in for the variable Growth, the Gross Domestic Product (GDP) is utilized in this study. The present investigation makes use of ten independent variables, which are as follows: Service, Computer Hardware and Software (Computer), Telecommunications (Telecomm), Construction Activities (Construction), Power, Automobile Industry (Auto), Metallurgy (Metal), Petroleum and Natural Gas (Petro), Drugs and Pharmaceuticals (Drugs), and Chemicals Sector (Chemicals). The current study effort is only dependent on secondary data that was gathered for a sample of 10 main industrial sectors that attract foreign direct investment (FDI). Initially, the purpose of the study was to identify important industries that receive foreign direct investment (FDI) and then compare those sectors with other major sectors in terms of the contribution they make to GDP.

RESULTS

Foreign Direct Investment and Economic Growth: A Multiple Regression Analysis

There is a wide range of results that have been obtained from the study that has been conducted on the investigation of the relationship between foreign direct investment and economic growth. There have been a variety of perspectives identified, ranging from a function that acts as a deterrent to studies that demonstrate a positive and strong association between GDP and FDI, to the conclusion that there is no meaningful effect at all. Empirical research of the impact of foreign direct investment (FDI) on India's economic growth is necessary because of the magnitude of the various outcomes. The purpose of this multiple regression analysis is to determine the extent of the link that exists between foreign direct investment (FDI) in different industries and gross domestic product (GDP), which is used as a proxy for growth.

· **Descriptive Statistics Analysis**

Before performing multiple regression analysis on any data, it is important to first conduct an analysis of the descriptive statistics. This is intended to serve as a general guideline. With the use of descriptive statistics, one may obtain information on the current state of the average and variability of the many variables that are being investigated. Rather than focusing on evaluating or interpreting, the analysis is primarily concerned with describing the situation. The fundamental analysis, which includes the description, organization, summarization, and presentation of raw data, may be completed in a short amount of time and requires little effort. Presented in Table-4.1 are the findings that were obtained using the descriptive statistics. The findings make it abundantly evident that the mean of the dependent variable GDP is 5839037, and its standard deviation is 3543296, which indicates that the variables on average are not very dispersed; the value of this variable ranges from 2348481 to 1.22e+07. There are a number of additional variables that are independent in the model. The mean of service is 25618.24, and its standard deviation is 11924.21; this variable has a range that goes from 13294 to 58214. The mean of computer is 18534.82, and its standard deviation is 14629.47; this variable has a range that goes from 2656 to 49280. In the same vein, the mean value of the variable known as Telecommunication is recorded as 14791.65, and its standard deviation is 14867.23; the range of values for this variable is from 1654 to 52032. There is a mean of 18699.59 and a standard deviation of 15719.72 for the construction industry.

Table 1: Descriptive Statistics Results of FDI in India

Variable	Mean	Std. Dev.	Variance	Min	Max
Service	25618.24	11924.21	1.42e+08	13294	58214
Computer	18534.82	14629.47	2.14e+08	2656	49280
Telecommunication	14791.65	14867.23	2.21e+08	1654	52032
Construction	18699.59	15719.72	2.47e+08	2077	51456

Power	6406.235	2965.848	8796252	713	11712
Automobile	9270.235	5127.979	2.63e+07	1254	17344
Metallurgi-y	5116.353	3497.687	1.22e+07	1088	12288
Petroleum	4792.235	3599.05	1.30e+07	401	10304
Chemicals	6295.647	6844.783	4.69e+07	920	25984
Drugs and Pharma.	24516.12	46188.7	2.13e+09	768	150400
GDP	5839037	3543296	1.26e+13	2348481	1.22e+07

Source: *STATA-11.2*

Correlation Analysis

· **Bivariate Correlation Analysis**

The correlation coefficient is a measure of the importance of the linear relationship that exists between the variables. It can range anywhere from +1 to -1, depending on the nature of the link that exists between the variables. It is dependent on the number of observed data points that are included in the sample whether or not the linear model is reliable. When looking at the sample size and the correlation coefficient combined, one must fulfill the requirements. The hypothesis test of the "significance of the correlation coefficient" is typically carried out by researchers in order to determine whether or not the linear relationship in the sample data is strong enough to be used as a model for the relationship. In other words, it informs us whether the value of the coefficient of correlation is relatively close to "0" or if it is much further away from "0." If the test comes to the result that it is substantially different from "0," then we are able to determine that the correlation coefficient is "significant," and if it does not, then we may say that it is "not significant." In this study, the pairwise correlation coefficient is utilized to determine the link between foreign direct investment (FDI) flows in various sectors of the Indian economy and gross domestic product (GDP), which is employed as a proxy for growth.

Table 2: Correlation between FDI and GDP

Sectors	r-value	p-value	Null - Hypothesis
Service	0.4870|	0.0474*	Rejected
Computer and Software	-0.1989	0.0440*	Rejected

Telecommunication	-0.0315	0.9046	Accepted
Construction	-0.4345	0.1814	Accepted
Power	-0.2283	0.0782**	Rejected
Automobile	0.2196	0.0871**	Rejected
Metal	0.1730	0.0068*	Rejected
Petroleum	-0.3100	0.0260*	Rejected
Chemicals	0.1836	0.4807	Accepted
Drugs and Pharmaceutical.	-0.1817	0.0852**	Rejected

**Significant at 5% level **Significant at 10% level*

Source: *STATA-11.2*

Foreign Direct Investment and Economic Growth: An Econometric Analysis

The findings of the analysis of the time series data that was performed with the Vector Error Correction Model (VECM) and the Vector Auto Regression (VAR) methods are presented in this study. It makes an effort to investigate both the long-term and the short-term relationships that exist between the things that are endogenous. On the other hand, it is essential to keep in mind that all of the variables represented in VECM and VAR are considered to be endogenous; there are no external variables. To put it another way, the VECM is only produced if the variables are co-integrated, which means that there is evidence of a long-term link between the variables. In the event that there is no co-integration between the variables, the VAR is utilized. During the initial phase of this investigation, the Test of Stationary is carried out in order to determine the unit root of every variable that is included in the statistical data. After this, the Lag Order Selection Test is carried out in order to determine the maximum number of lags that may be utilized during the co-integration test and the Vector Error Correction Model/Vector Auto-regression Model. next that, the outcomes of the Vector Error Correction Model and the Vector Auto-regression Model are presented in the next portion of the study. In this particular study, the analysis is given in the form of three distinct models, each of which is based on a separate collection of data.

- **Stationarity Test**

The use of any econometric model, whether it be time series analysis or any other, requires the data to be stationary. This is a precondition requirement. Furthermore, in order to carry out the Johansen's Co-integration Test, it is necessary for the variables to be non-stationary at the level. However, if these variables are changed to first difference, then they will become stationary. It is claimed that a data series is

stationary if its mean and variance remain unchanged over a period of time and if the co-variance between the two extreme time periods does not depend on the actual time at which it is computed but rather depends solely on the lag that exists between the two extreme time periods. In the current investigation, the Augmented Dickey Fuller (ADF) Test was carried out in order to determine the unit root of the data. The results of this test revealed that mistakes have a constant variance and are statistically independent.

· **Unit Root Test of Log GDP**

Table 4.3 clearly shows that when looking at the LogGDP variable at level, the null hypothesis of nonstationarity cannot be rejected. This is because the p-value for the variable is more than the assumed significance level (.9610>.05) and the ADF statistic is lower than the critical value at 5% (-3.000). Table 4.4 shows that, nevertheless, at the first difference, the LogGDP variable is stationary. The reason for this is that the ADF statistics (-3.906) surpass the critical value at 5% (-3.000), and the variable's p-value is lower than the threshold of significance expected (.0020<.05). Thus, the first discrepancy leads to the rejection of the null hypothesis.

Table 3: Unit Root Analysis (Augmented Dickey Fuller Test)

Critical Values of ADF Test at Level (0)								
S. No.	**Variables**	**Lag**	**ADF Statistics**	**1%**	**5%**	**10%**	**Prob.**	**ADF Coefficient**
1	LogGDP	1	.030	-3.750	-3.000	-2.630	.9610	-.793256
2	LogService	0	-1.854	-3.750	-3.000	-2.630	.3540	-.5445864
3	LogComputer	0	-1.309	-3.750	-3.000	-2.630	.6250	-.2153439
4	LogTelecom	0	-4.175	-3.750	-3.000	-2.630	.0007	-1.164314
5	LogConstruction	0	-2.288	-3.750	-3.000	-2.630	.1759	-.5415206
6	LogPower	0	-3.247	-3.750	-3.000	-2.630	.0174	-.8661334
7	LogAutomobile	0	-2.414	-3.750	-3.000	-2.630	.1379	-5902567
8	LogMetal	0	-2.272	-3.750	-3.000	-2.630	.1813	-.4773307
9	LogPetro	0	-4.337	-3.750	-3.000	-2.630	.0004	-1.148579

10	LogChemicals	0	-3.678	-3.750	-3.000	-2.630	.0044	-1.0002
11	LogDrugs	0	2.473	-3.750	-3.000	-2.630	.1222	-.5243028

Source: *STAT 11.2*

Table 4: Unit Root Analysis (Augmented Dickey Fuller Test)

Critical Values of ADF Test at 1st Difference (1)								
S. No.	**Variables**	**Lag**	**ADF Statistics**	**1%**	**5%**	**10%**	**Prob.**	**ADF Coefficient**
1	LogGDP	0	-3.906	-3.750	-3.000	-2.630	.0020	-1.076715
2	LogService	0	-4.156	-3.750	-3.000	-2.630	.0008	-1.126867
3	LogComputer	0	-2.960	-3.750	-3.000	-2.630	.0488	-.8204931
4	LogTelecom	0	-6.334	-3.750	-3.000	-2.630	.0000	-1.447463
5	LogConstruction	0	-5.396	-3.750	-3.000	-2.630	.0000	-1.363354
6	LogPower	0	-5.574	-3.750	-3.000	-2.630	.0000	-1.413037
7	LogAutomobile	0	-4.244	-3.750	-3.000	-2.630	.0006	-1.160067
8	LogMetal	0	-3.253	-3.750	-3.000	-2.630	.0171	-.9818254
9	LogPetro	0	-8.834	-3.750	-3.000	-2.630	.0000	-1.733728
10	LogChemicals	0	-5.177	-3.750	-3.000	-2.630	.0000	-1.346713
11	LogDrugs	0	-4.459	-3.750	-3.000	-2.630	.0002	-1.206319

Source: *STAT 11.2*

CONCLUSION

This research looks at how FDI has played a major part in the expansion of the car sector in Telangana.

The results show that foreign direct investment has been crucial in the growth of the state's automotive industry in terms of jobs, innovation, and infrastructure. Foreign direct investment has also helped bring in major international automakers, which has boosted manufacturing and opened up new markets for export. Still, problems like inconsistencies in regulations and the need for more consistent policymaking are there. Although more changes are needed to maintain growth in the long run, the state's aggressive policies and industrial corridors have played a significant role in luring investments. Improved infrastructure, better skill development programs, and more sustainable practices would help Telangana make the most of foreign direct investment. In general, foreign direct investment has played a major role in the state's economic growth, and with smart policy moves, Telangana's car sector may keep dominating the international arena.

References

1. Mukherjee, A. (2022). Public-Private Partnerships and FDI in India's Automobile Sector. Indian Journal of Economics, 19(1), 85-102.
2. Chatterjee, R. (2021). FDI and Regional Development: The Case of India's Automobile Sector. Journal of Economic Policy, 14(4), 201-225.
3. Sharma, P. (2020). Foreign Direct Investment in India's Automotive Industry: Challenges and Prospects. International Business Review, 28(3), 301-320.
4. Kumar, S. (2019). Impact of Foreign Direct Investment on India's Automobile Sector. Economic Journal of Development Studies, 15(2), 45-58.
5. Reddy, V. (2018). Tracing the Evolution of FDI in India's Automobile Sector. Journal of Industrial Policy, 22(2), 33-48.
6. Choi, J., & Baek, J. (2017). Does FDI Really Matter to Economic Growth in India? Economies, Licensee MDPI, Basel, Switzerland, 1-9
7. Bhattacharya, R. (2012). The Opportunites and Challenges of FDI in Retail. IOSR Journal of Humanities and Social Science, 99-109.
8. Chillimuntha, A. (2011). Home Care Services And Development Perspective – A Study On Customer Perception And Acceptability In The Urban Parts Of India. Retrieved January Friday 2015, from Shodhannga: http://shodhganga.inflibnet.ac.in/handle/10603/3076
9. Chee, Y. L., & Nair, M. (2010). The Impact of FDI and Financial Sector development on Economic Growth: Empirical evidence from Asia and Ocenia. International Journal of Economics and Finance, 2 (2), 26-34.
10. Chakraborty, C., & Nunnenkamp, P. (2006). Economic Reforms, Foreign Direct Investment and Economic Growth in India: A Sector Level Analysis- Working Study. Kiel Germany: The Kiel Institute for the World Economy.
11. Blonigen, B., & Davies, R. (2004). The Effects of Bilateral Tax Treaties on U.S. FDI Activity. International Tax and Public Finance,, 1 (5), 601-622.

12. Blonigen, B. (2002). Tarrif Jumping Anti-Dumping Duties. Journal of International Economics, 31-50.

13. Braunstein, E., & Epstein, G. (2002). Bargaining Power and Foreign Direct Investment in China: Can 1.3 billion consmers Tame the Multinationals? Centre for Economic Policy Analysis. New York: CEPA Working study.

14. Carkovic, M., & Levine, R. (2002). Does Foreign Direct Investment Accelerate Economic Growth? Retrieved May Tuesday, 2014, from https://piie.com/publications/chapters_preview/3810/08iie3810.pdf

15. Chakraborty, C., & Basu, P. (2002). Foreign Direct investment and Growth in India: A Contegration Approach. Applied Economics, 1061-1073.