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THE INDIAN ECONOMIC KALEIDOSCOPE: REFLECTING ON FDI AND GDP PATTERNS THROUGH GRANGER CAUSALITY AND ARDL TESTS

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ABSTRACT

FDI and GDP are very significant parameters of every economy. The present research focuses on measuring the trends in FDI and GDP in India, by the application of Granger Causality and auto-regressive distributive lag tests. This research paper aims to measure the impact of FDI on GDP to suggest policy implications to the Indian government. To meet this research objective, firstly, the Granger causality test was applied followed by the unit root test and ARDL test. After the application of tests, it was found that FDI impacts GDP as per the results of the Granger causality test. GDP was found to be statistically significant at level add FDI was found to be statistically significant at the first difference in the context of the unit root test. Considering the ARDL model on the application of the test it was found that long-run cointegration exists between the variables. Considering the policy implication for the policymakers sitting in the parliament of India, it is observed that it has been the objective of every government to establish an increasing trend in the GDP. To achieve this many steps are taken by the government by integrating various determinants of GDP. FDI is one of the important determinants which is clear from the present research hence more steps are required to be taken while formulating policies to boost FDI and then GDP.

Keywords: GDP,FDI,ARDL,Granger Casualty, Patterns .

INTRODUCTION

In the multidimensional mosaic of the world economy, India occupies a significant place, being a vibrant and dynamic player that is always developing and evolving to meet the changing economic conditions (Alam et al., 2019; Dube et al., 2018). This research paper, titled "The Indian Economic Kaleidoscope: FDI and the GDP Patterns in India is the proposed topic that will unwrap the complex links between “Foreign Direct Investment (FDI)” and the “Gross Domestic Product (GDP)” in the Indian context. Since the early 1990s, India went on a path of considerable economic reforms, hence, makes for a very intriguing case study to look at how inward foreign direct investments and national GDP growth interact (Jiang & Ji, 2016).

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A country can benefit from a rise in GDP by involving FDI in an appropriate way in order to ensure the sustainability of economic growth (Dangwal et al., 2022). Having in place a fertile climate for foreign investors that provides a sound political and economic policy base, transparent legal frameworks, and efficient infrastructure, countries will be able to attract substantial foreign direct investment (Puah et al., 2007). Such funds may also be channelled into areas of particular interest, such as manufacturing, technology, and services, which can eventually translate into recruitment, skills development, transfer of technologies, and management practice (Munkongsujarit, 2018). An improvement of domestic manufacturing as "FDI" is going to have a "positive effect" on the GDP growth. Additionally, FDI can promote market competition, fuel innovation and increase productivity, which essentially lead to the fast growth of the economy (Taneja et al., 2023). Promoting linkages of foreign companies with local organizations is an essential tool that helps the dissemination of best practices in home investment enterprise (Fan & Hao, 2020). Besides that, this authority will have to devote its efforts to the establishment of policies which guarantee the reinvestment of profits and provide for the development of output-oriented industries, that in their turn provoke GDP growth. A good investment strategy of FDI should address all strengths and weaknesses of such investment, which may ensure the highest economic growth of the country and thereby, social development and the improvement of standards of living (Nguse et al., 2021).

Gross Domestic Product (GDP) is of paramount importance for policymakers as it is a sum that reflects the whole performance of an economy. It stands for the full monetary worth of all the products and services that were created within the confinement of a certain "country's borders" during a "specific period" (Gherghina et al., 2019). For the policy makers, GDP is an important indicator of the economic activity in the country, which consequently has a direct impact on the fiscal or monetary policies. Increasing GDP can tell about a dynamically functioning economy (Fakieh et al., 2016), that can be a source of a stable state income which can be spent on public services, infrastructure projects, and social programs. While a shrinking GDP may motivate policymakers to implement stimulus measures, such as cutting interest rates or raising government spending, this is usually done to stimulate the economy (Sejian et al., 2015). Interestingly, GDP growth rates are very convenient indicators of the effectiveness of the existing policies and any adjustments that may be necessary in that regard. In the international context, a country's GDP is mostly a benchmark used for comparing performance of economy of a different country, thus influencing decisions related to foreign investment and trades. In general, GDP is a valuable instrument which helps policymakers in designing strategies, assuring stability, and enhancing the well-being of the people of the nation.

Particularly for the policy-makers, the "Foreign Direct Investment (FDI)" is the factor of preeminent importance, which in its essence performs the leading function of national economic development and growth. The portfolio investment of FDI focus on the capital investment, cutting-edge technology, expertise in management, and new markets access. All these function in the increasing of productivity, job creation, and the competitiveness on the global market. Policy makers believe that FDI can serve as the key factor for the economic diversification, such in the emerging countries where the national resources are rather limited. The key to dealing with the challenges is to make FDI inflow work, therefore, policymakers

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can incentivize the growth of economy, diversification toward other sectors, and integration of their economy into global value chains. Also, in is the possibility of brain drain and technology gap in the local workforce, hence there is need for human capital development. To achieve the target of drawing and maintaining the foreign entrepreneurs authorities usually shape the friendly regulated environment, offer tax advantages and create political and economic stability. The effect of FDI on the economy, which is directionally set by the policymakers toward the achievement of desired economic conditions, is a key phenomenon that affects important decisions related to trade, investment policies, as well as bilateral agreements. To a nutshell there is an essential Instrument for economist use to reach the target of increasing growth, competitiveness and sustainable development goals when FDI capacities are enhanced.

The aim of the paper is to conduct a detailed examination of the tendencies, challenges, and possibilities in the Indian economy under the heading of FDI and GDP. Through studying backdrop, present state and coming up prospects of these economic indices, the research goal is to throw some light on the operations that are facets of Indian economy growth. Additionally, it seeks to critically investigate the influence of FDI on several India's sectors of its economy as well as how it can improve GDP growth. By launching such a study, the present paper aims to supply particular pieces of information which may be referred to by people engaged in making policies, investment and researching of India's economic development.

The readers who are seeking the answers and relevance of this Research Paper, it picks up a myriad of opportunities. The main focus here is the discussion of the submerged dynamics between “Foreign Direct Investment (FDI)” and GDP within the Indian economy, which is explained in a clear and full manner, resulting in conclusions that are both informative and educational. The paper furnishes details on the historical trends as well as the present and future prospects of FDI and GDP to equip readers with insights that can help them understand and harness the economic forces affecting the growth rate of India. Furthermore, it provides the verity of the FDI of different sectors in attention on the chances and problems to which Indian economy is exposed in the world level. Policymakers can utilize these findings to formulate the plans which understand the economy issues in depth, while the investors and business leaders would be in a position to make the complete decision in the Indian market based on the findings. Research papers and student will have got extensive material for subsequent study and their contribution to this discourse can not be overrated. Lastly, this paper comes as a key reference manual for those who are bent upon the multiple facets of Indian economics and foreign direct investments as the sole beds of sustainable growth.

The value of this research lies within its rigorous examination of the delicate “relationship between Foreign direct Investment (FDI) and Gross domestic income (GDP)” particularly in the Indian economic landscape. This paper offers an exhaustive study of the relationship between the FDI and GDP patterns, which in turn, will, to a great extent, enlighten the public on the economic phenomena of foreign investments. It covers inspiring factors behind foreign direct investment that affect different sectors, creating economic growth as well as the whole GDP. This research will be helpful for countries competing in the world region to enjoy increased foreign investments. Inflation generates a negative impact on the investment

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decision makers. From a perspective of the country that has turned into a major influencer to the worldwide market, India, a matter of huge importance is to understand the forces that affect the foreign direct investment and GDP and to formulate policy as required. This paper adds to the scientific manifolds by saying something new and that can be remarkably useful for all economists, officials and company leaders which is, I should say, a valuable contribution to this discipline of economics and international business.

In the next part, we will put forward the underlying theoretical framework that causes the link between the FDI and the GDP to be addressed, analyze the literature, and present an empirical data analysis showing the economic performance of India. This research aims to portray a vivid image of Indian economic kaleidoscope in order to give a nuanced depiction of those foreign private investments and GDP contributions patterns in modifying the course of the nation's destiny.

LITERATURE REVIEW

The influence of “foreign direct investment (FDI)” upon “gross domestic product (GDP)” is among the areas of economics that have received an extensive amount of study over the years (Tahmad & Adow, 2018). The importance of “foreign direct investment” and its role in “economic growth,” especially on the emerging economies like India, has been explored across several studies. Another ground breaking research in this field is that of Borensztein, Nhlengethwa who explained that “FDI has positive economic growth effect in host countries, but the magnitude of such impact is depended on human capital in the receiving countries (Nhlengethwa et al., 2021). Along the same lines, Cho & Yoo noted that FDI is of great significance because it leads to economic growth, however, how robust this link is heavily depends on the domestic financial environment (Cho & Yoo, 2021). In Indian context the works of Bhuyan and Jaswal have indeed produced upbeat findings showing positive relationship between FDI inflows and GDP growth (Bhuyan et al., 2020; Jaswal & Singh, 2022). Accordingly, they are of the opinion that FDI capital not only comes in but also there is the transfer of technology, management know-how, and competition in domestic market, & therefore, it leads to higher economic development (Mahapatra et al., 2022). Besides, studies have also been carried out on the influence of FDI on different fields of the Indian economy. Horobet has investigated the effect of FDI on manufacturing sector and found out that it has caused a significant important production and effectiveness (Horobet et al., 2021). In tune, Traksel investigated the services sector and it found that FDI has actually played a crucial role in that sector' services sector' development (Wawrosz & Traksel, 2023).

Although, many positive effects have been observed, several studies also highlight challenges that come with FDI (Karangwa & Su, 2023). Le & Dang capture the fact that FDI has been a boon to economic growth and negative consequences such as increased regional disparities and income inequality. To this end, the policies should be directed towards achieving the even distribution of the gains that come with FDI (Le & Dang, 2022).

Needless to say, Chiriluș in his view reflected that the country must concentrate on creating a more favorable environment for the Foriegn Direct Investment by making the road network and other means of transport efficient, reducing regulatory bottlenecks, and providing

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nurturing ground for skilled workers in order to future the positive impact of the FDI (Chiriluș & Costea, 2023).

RESEARCH GAP

The implications of the connection between Foreign Direct Investment (FDI) and Gross Domestic Product (GDP) in India is one area of research that remains unexplored, and therefore, it is necessary to conduct further research on this subject. Though existing literature has laid the groundwork for the positive correlation of the FDI and GDP growth, economic landscape of the country is changing due to various reasons so it is necessary to research about the dynamic nature of a causal link in the context of India. Moreover, the investment sector was puzzled with multiple questions regarding the effect of FDI on India's economy, especially after the liberalization, and this required a more detailed study to find out the industry-specific impacts. Besides that, India's own situation of distinct socio-economic and regulatory features and FDI in the perspective of difficult and opportunity are not tapped completely. Therefore, this critical gap exists in the current state of affairs which has direct implications on policy, investment and planning strategies in India. Elimination of this gap will definitely give the accurate information on the satisfactory ways of using of the FDI for the sustainable economic growth and development in India and due to this issue this is for the scholars to study and for the policymakers to give opinions for the benefits of FDI.

RESEARCH METHODOLOGY

The present research uses 2 variables consisting of foreign direct investment (Foreign direct investment, net inflows: % of GDP) as the independent variable and gross domestic product (GDP growth: annual %) as the dependent variable. The data is collected from the official website of the World Bank covering the period from 1993 to 2021 and further analysis was made in the software of E-views.

Considering the review of literature available in the form of related studies, it was found that few researchers says GDP causes FDI, and few researchers say that FDI causes GDP. Hence, from the related studies, it was not clear which variable would act as the dependent variable and which variable would act as the independent variable. So to have clarity on this aspect of dependency, the Granger causality test was applied which stated that FDI causes GDP.

$$\text{“}y_t = a_0 + a_1 y_{t-1} + a_2 y_{t-2} + \cdots + a_m y_{t-m} + \text{error}_t\text{.”}$$

$$\text{“}y_t = a_0 + a_1 y_{t-1} + a_2 y_{t-2} + \cdots + a_m y_{t-m} + b_p x_{t-p} + \cdots + b_q x_{t-q} + \text{ error }_t\text{.”}$$

Unit root test was applied after bifurcation of variables into dependent and independent through relevant tests and correlogram by application of the following equations:

$$\text{“}\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \cdots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t\text{”}$$

$$\text{“}c_h = \frac{1}{N-h} \sum_{t=1}^{N-h} (Y_t - \bar{Y})(Y_{t+h} - \bar{Y})\text{”}$$

Finally based on following regression equation off auto regressive distributed lag the impact of FDI on GDP is measured:

$$GDP_t = \alpha + \beta_1 GDP_{t-1} + \beta_2 FDI_t + \beta_3 FDI_{t-1} + e$$

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DATA ANALYSIS

Figure one contains time series projection of the 2 variables used in the research that is FDI and GDP. Considering the first variable in the first segment of figure it can be observed that for indirect investment seems to have an upward trend over the period whereas volatility can be observed in the pattern of GDP growth.

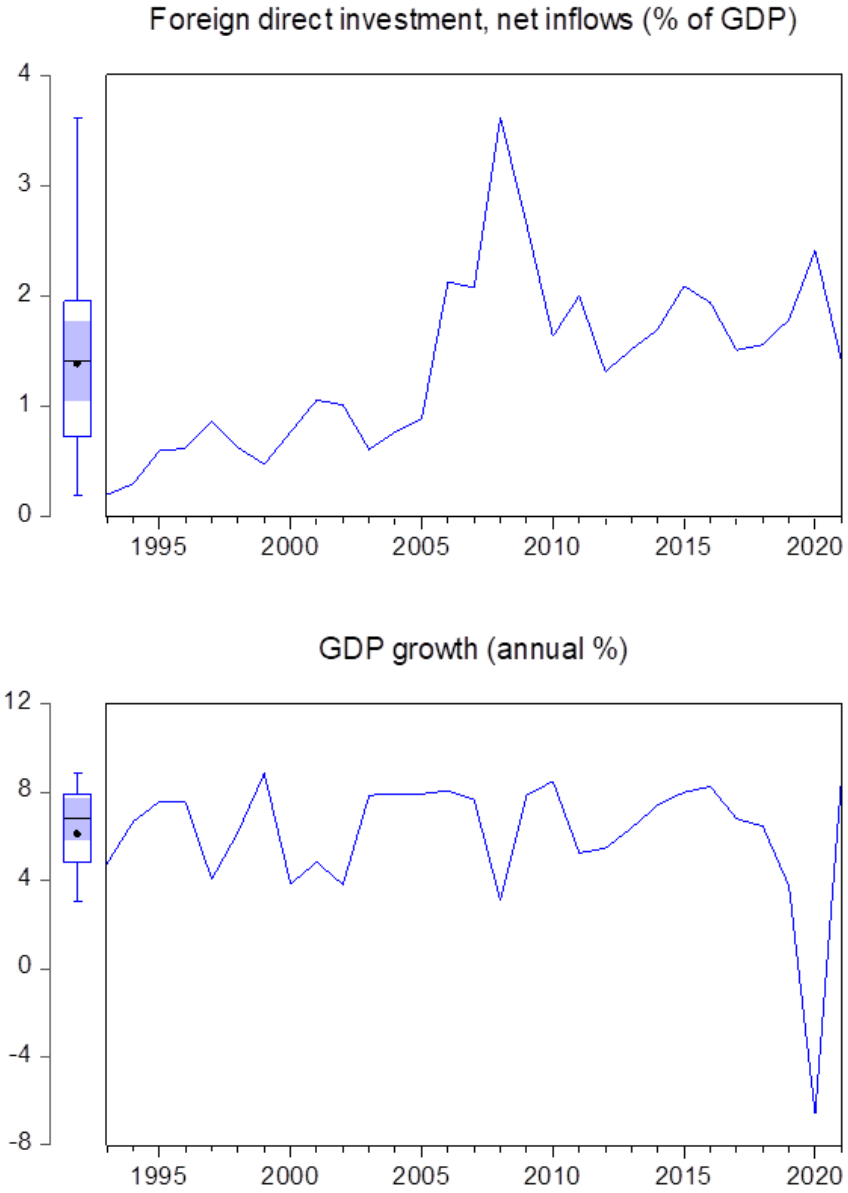

Figure 1: Time Series Graph of FDI and GDP

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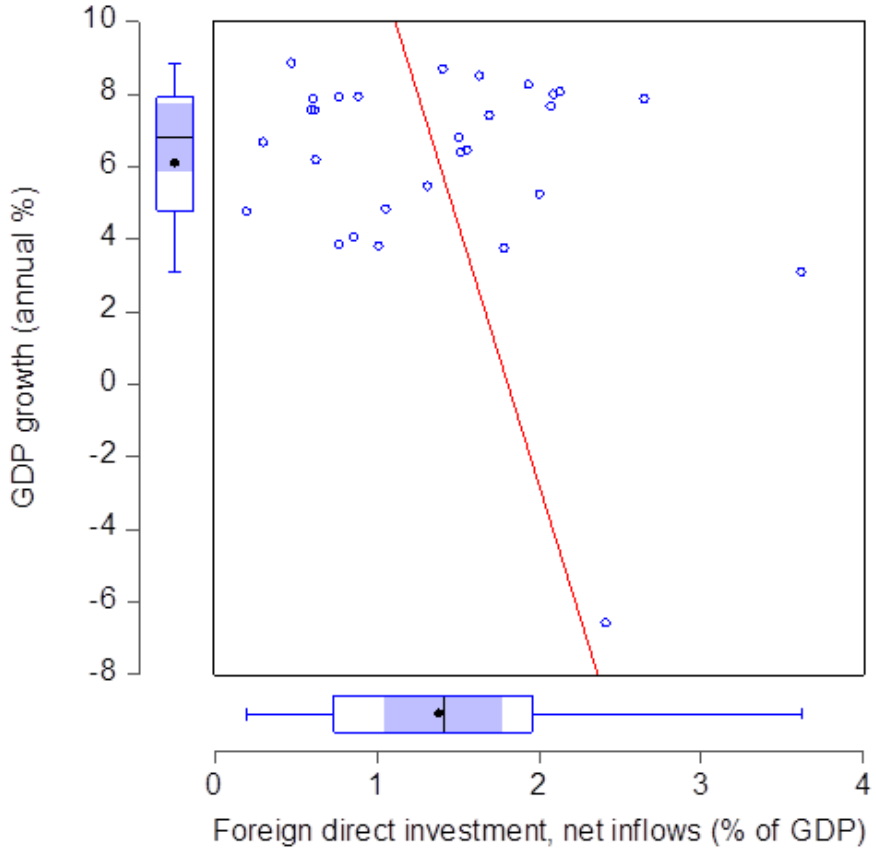

Figure 2: Scatter Plot Diagram of the variables

Figure 2 contains the scatter plot diagram of GDP and FDI which is fitted through the red-colored regression line. In the diagram X axis contains GDP growth in the percentage form computed annually and the y axis contains net inflows of foreign direct investment which is calculated as the percentage of GDP. From the scatter plot plotted in the diagram, it can be observed that the correlation between the variables is very minimal. This is a good sign of running regression analysis because if correlation is low results of regression coefficients are considered more robust.

Table 1: Descriptive Statistics

	"Foreign direct investment, net inflows (% of GDP)"	"GDP growth (annual %)"
Mean	1.382644	6.095724
Median	1.408159	6.795383
Maximum	3.620522	8.845756
Minimum	0.197056	-6.59608
Std. Dev.	0.79339	2.984228
Skewness	0.700106	-2.74826
Kurtosis	3.342272	12.30492
Jarque-Bera	2.51061	141.1252

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Probability	0.284989	0
Sum	40.09666	176.776
Sum Sq. Dev.	17.6251	249.3573
Observations	29	29

Table 1 contains the descriptive statistics how the 2 variables that are the part of present research. The objective of this table is to describe the present status of FDI and GDP based on significant statistical parameters constituting mean comedian, standard deviation, and other particulars that are presented in the table. Such calculations are relevant to provide an overall insight in the trend analysis of the data,

Table 2: "Pairwise Granger Causality Tests"

"Null Hypothesis:"	"Obs"	"F-Statistic"	"Prob."
"GDP Cause FDI"	27	3.19276	0.0606
FDI Cause GDP		3.29580	0.0468

Table 2 contains Pairwise Granger Causality Tests which are based on the 2 null hypotheses and is put to test one by one. The first null hypothesis is that GDP causes FDI to have a probability value of 0.06 which is less than 0.05. Hence it can be interpreted that GDP causing FDI is not producing statistically significant results. Whereas, the results of the null hypothesis: FDI causes GDP to produce a p-value of 0.04 which is less than 0.05. Hence it can be interpreted that FDI causes GDP. Granger causality test is applied with a lag value of 2 covering 1993 to 2021.

Table 3: "Group unit root test"

"Method"	"Statistic"	"Prob.**"	"Cross-Sections"	"Obs"
"Null: Unit root (assumes common unit root process)"				
"Levin, Lin & Chu t*"	-1.93004	0.0268	2	56
"Null: Unit root (assumes individual unit root process)"				
"Pesaran and Shin W-stat"	-2.32045	0.0102	2	56
"ADF - Fisher Chi-square"	16.0349	0.0030	2	56
"PP - Fisher Chi-square"	15.7765	0.0033	2	56

Table 3 contains panel unit root test of FDI and GDP. The unit root test is applied covering the time period from 1993 to 2021. In the table, individual effects act as exogenous variables Which is calculated on the basis of balanced observation for each test. The test is based upon

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automatic selection of maximum lags. In the test, "Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality."

Table 4: "Unit Root" Test of GDP at Level

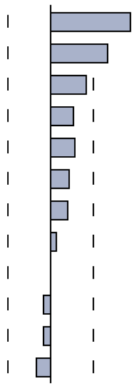
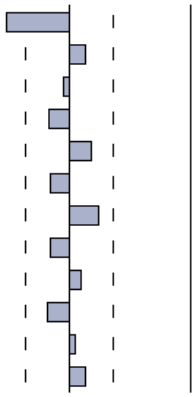
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.704	0.704	15.904	0.000
		2	0.507	0.022	24.447	0.000
		3	0.319	-0.090	27.957	0.000
		4	0.201	0.005	29.416	0.000
		5	0.207	0.170	31.018	0.000
		6	0.164	-0.056	32.068	0.000
		7	0.152	0.019	33.017	0.000
		8	0.051	-0.146	33.127	0.000
		9	0.004	0.032	33.128	0.000
		10	-0.062	-0.086	33.312	0.000
		11	-0.065	0.051	33.520	0.000
		12	-0.126	-0.181	34.359	0.001

Table 5: "Unit Root Test of FDI at 1st Difference"

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.537	-0.537	8.6938	0.003
		2	0.143	-0.205	9.3360	0.009
		3	-0.048	-0.096	9.4114	0.024
		4	-0.174	-0.325	10.445	0.034
		5	0.197	-0.119	11.820	0.037
		6	-0.171	-0.197	12.912	0.044
		7	0.247	0.077	15.295	0.032
		8	-0.169	-0.026	16.471	0.036
		9	0.097	0.064	16.879	0.051
		10	-0.188	-0.213	18.501	0.047
		11	0.048	-0.172	18.612	0.068
		12	0.147	0.032	19.733	0.072

After the combined unit root test in Table 3, it is necessary to have an individual look at the unit root values of GDP and FDI. The fulfilment of this requirement is done in Table 4 and Table 5. Only the statistically significant results are shown in the table. Considering FDI, it was statistically significant in the context of unit root at the level which is shown through the correlogram in Table 4. Similarly, considering GDP, it produced statistically significant results at the first difference and the same is shown through the correlogram in Table 5.

FDI, net inflows (% of GDP), is taken as the independent variable, and GDP Growth is taken as the dependent variable. The time series data from the year 1993 to 2021 is considered for the study. The relationship between the two variables is assessed using the ARDL model.

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Table 6: F- Bound Test

"Test Statistic"	**"Value"**	**"Signif."**	**"I(0)"**	**"I(1)"**
			"Asymptotic:" n=1000	
"F-statistic"	5.021009	"10%"	"3.02"	"3.51"
"k"	1	"5%"	"3.62"	"4.16"
		"2.5%"	"4.18"	"4.79"
		"1%"	"4.94"	"5.58"

The results of the F-Bounds test are shown in Table 6. The null hypothesis is assumed as no levels of relationships between the variables in the above scenario. The value of F- statistics is 5.0210, whereas the value of the upper bound at 10%, 5%, 2.5%, and 1% are 3.51, 4.16, 4.79, and 5.58, respectively. The value of F-statistics is greater than the upper bound values at 2.5%, 5%, and 10% levels of significance. Thus, it can be inferred that the variables are cointegrated, and further calculations can be performed using these variables.

Table 7: ARDL Bound Test (Short Run)

"Variable"	**"Coefficient"**	**"Std. Error"**	**"t-Statistic"**	**"Prob.*"**
GDP(-1)	0.230804	0.202613	1.139139	0.2659
FDI	-2.951489	1.120523	-2.634028	0.0145
FDI (-1)	2.332022	1.105572	2.109336	0.0455
C(Constant)	5.741750	1.736314	3.306863	0.0030
R^2	0.224923	"Mean dependent var"		6.143758
Adjusted R^2	0.128038	"S.D. dependent var"		3.027552
"S.E. of regression"	2.827095	"Akaike info criterion"		5.047940
"Sum squared resid"	191.8191	"Schwarz criterion"		5.238255
"Log likelihood"	-66.67116	"Hannan-Quinn criter."		5.106121
"F-statistic"	2.321549	"Durbin-Watson stat"		1.867189
"Prob(F-statistic)"	0.100608			
"Note: p-values and any subsequent tests do not account for model selection."				

Findings of the ARDL model are shown in Table 7, where the GDP growth is taken as the dependent variable, and the FDI is taken as the independent variable. 28 observations are included in the test after the adjustments. Four lags are selected automatically, and the Akaike info criterion (AIC) is used in the model selection method. The p-value of FDI is less than 0.05, which depicts that FDI impacts GDP growth significantly. However, the values of R^2 and adjusted R^2 are 0.2249 and 0.1280, respectively, which indicates that the prediction rate is quite low in this case, as the values of R^2 and the adjusted R^2 are less than 0.5.

Table 8:" F-bound" Test for Long-Run Analysis

"Test Statistic"	**"Value"**	**"Signif."**	**"I(0)"**	**"I(1)"**
"F-statistic"	5.021009	"10%"	3.02	3.51
"k"	1	"5%"	3.62	4.16

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		"2.5%"	4.18	4.79
		"1%"	4.94	5.58

Table 8 shows the result of the "F-bound test for long run analysis." The "null hypothesis" is taken as "no levels of relationships exist between the variables." The value of F-statistics is 5.0210, which is greater than the values of the upper bound at all levels of significance as "the upper bound values" are 3.51, 4.16, 4.79 and 5.58 at "10%, 5%, 2.5%, and 1%" level of significance respectively. Thus, it can be assumed that there is "long-run cointegration" among the variables.

POLICY IMPLICATIONS AND DISCUSSION

The findings of this research on whether "Foreign Direct Investment" (FDI) is a determinant of "Gross Domestic Product" (GDP) in India have vital policymaking importance. Firstly, attracting FDI into a country should be done through creating such favorable conditions for the investment that will enhance the ease of doing business of the investors, political stability, and offering legal frameworks to guard investors (Sukhadolets et al., 2021). Such analysis brings to the fore the critical nature of sectoral-driven policies, in consideration of the fact that the effect of FDI differs from one sector to another (Sookram et al., 2022). Thus, we should specify the different incentives and support mechanisms to catch the FDI in the high-yield sectors that will possibly increase the GDP (Hsiao & Hsiao, 2006). The research recommends the implementation of policies that will counter the deficits in distribution of FDI profiting in respect to regional challenges and income inequality. Policymakers should direct a substantial amount of overseas investment to the promotion of the human capital formation and infrastructure concerned as they are vital factors involved in the successful incorporation of FDI into economic growth (Talwar & Srivastava, 2018). In the last, these research results are pro-policy that call for a mixed strategy and a holistic view of FDI which should coordinate with the broader objectives of an ecological and equitable development that promotes inclusive growth in India.

CONCLUSION

"Foreign Direct Investment" (FDI), and GDP are the two most important parameters that spell success or failure of an economy. FDI is a major factor contributing to the GDP growth of the country and it leads to flows of foreign investment, transfer of technologies and foreign managerial experience. Similarly, it not only serves as a backbone of the economy but also increases job opportunities, upgrades the skills of workers, and improves market competition and innovation. Though, GDP refers to the "total value of all goods and services" made and sold within a nation's territory during a given period, which indicates the volume of the economy and its productivity. An expansion of national GDP is inevitable if the economy is thriving, living standards are uplifted, and financial position of the country improves, which may lead to more FDI. The correlation between FDI and GDP usually is responding: higher GDP "growth attracts more Foreign Direct Investment," which is also a contributor to the increasing GDP. Hand in hand, FDI and GDP are necessary to evaluate a country's dynamics of economy, making policy decisions and assess the influence of global economic phenomenon on national economies.

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REFERENCES

1. Alam, M. S., Selvanathan, E. A. S., Selvanathan, S., & Hossain, M. (2019). Causal relationship between apparel exports and macroeconomic factors. *Applied Economics*, *51*(25), 2687–2702. https://doi.org/10.1080/00036846.2018.1527447
2. Bhuyan, B., Sahoo, B. K., & Suar, D. (2020). Nutritional status, poverty, and relative deprivation among socio-economic and gender groups in India: Is the growth inclusive? *World Development Perspectives*, *18*. https://doi.org/10.1016/j.wdp.2020.100180
3. Chiriluș, A., & Costea, A. (2023). The Effect of FDI on Environmental Degradation in Romania: Testing the Pollution Haven Hypothesis. *Sustainability*, *15*(13). https://doi.org/10.3390/su151310733
4. Cho, W.-S., & Yoo, S. G. (2021). Impact of Corruption on Economic Growth: Focusing on Asia of Emerging Developing Countries. *Lecture Notes in Electrical Engineering*, *747*, 333 – 337. https://doi.org/10.1007/978-981-16-0115-6_35
5. Dangwal, A., Taneja, S., Özen, E., Todorovic, I., & Grima, S. (2022). Abridgement of Renewables: It's Potential and Contribution to India's GDP. *International Journal of Sustainable Development and Planning*, *17*(8), 2357–2363. https://doi.org/doi.org/10.18280/ijsdp.170802
6. Dube, A. K., Ozkan, B., & Govindasamy, R. (2018). Analyzing the export performance of the horticultural sub-sector in ethiopia: Ardl bound test cointegration analysis. *Horticulturae*, *4*(4). https://doi.org/10.3390/horticulturae4040034
7. Fakieh, B., Blount, Y., & Busch, P. (2016). SMEs and cloud computing: The benefits to the national economy and global competitiveness. In G. A. Themistocleous M. Morabito V. (Ed.), *Proceedings of the 13th European, Mediterranean and Middle Eastern Conference on Information Systems, EMCIS 2016* (pp. 39–52). University of Piraeus. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047246049&partnerID=40&md5=4c129b9ef7444e224b7a058edee57571
8. Fan, W., & Hao, Y. (2020). An empirical research on the relationship amongst renewable energy consumption, economic growth and foreign direct investment in China. *RENEWABLE ENERGY*, *146*, 598–609. https://doi.org/10.1016/j.renene.2019.06.170
9. Gherghina, Ștefan C., Simionescu, L. N., & Hudea, O. S. (2019). Exploring Foreign Direct Investment–Economic Growth Nexus—Empirical Evidence from Central and Eastern European Countries. *Sustainability*, *11*(19). https://doi.org/10.3390/su11195421
10. Horobet, A., Popovici, O. C., Zlatea, E., Belascu, L., Dumitrescu, D. G., & Curea, S. C. (2021). Long-Run Dynamics of Gas Emissions, Economic Growth, and Low-Carbon Energy in the European Union: The Fostering Effect of FDI and Trade. *Energies*, *14*(10). https://doi.org/10.3390/en14102858
11. Hsiao, F. S. T., & Hsiao, M.-C. W. (2006). FDI, exports, and GDP in East and

ISSN: 2349-6762
Peer Reviewed & Refereed Journal
National Research Journal

Southeast Asia-Panel data versus time-series causality analyses. *Journal of Asian Economics*, *17*(6), 1082–1106. https://doi.org/10.1016/j.asieco.2006.09.011

12. Jaswal, I., & Singh, U. (2022). Can Labour Productivity Impact India's Gig Economy? In *Sustainability in the Gig Economy: Perspectives, Challenges and Opportunities in Industry 4.0*. Springer Nature. https://doi.org/10.1007/978-981-16-8406-7_9
13. Jiang, L., & Ji, M. (2016). China's Energy Intensity, Determinants and Spatial Effects. *Sustainability*, *8*(6). https://doi.org/10.3390/su8060544
14. Karangwa, A., & Su, Z. (2023). Towards a Multidimensional Model for Evaluating the Sustainable Effect of FDI on the Development of Host Developing Countries: Evidence from Africa. *Sustainability*, *15*(5). https://doi.org/10.3390/su15054662
15. Le, T.-N., & Dang, T.-T. (2022). An Integrated Approach for Evaluating the Efficiency of FDI Attractiveness: Evidence from Vietnamese Provincial Data from 2012 to 2022. *Sustainability*, *14*(20). https://doi.org/10.3390/su142013140
16. Mahapatra, D. M., Ranjan, S., & Baral, S. K. (2022). Sustainable gig economy finance towards GDP growth of India through "Aatmanirbhar Bharat." In *Research Anthology on Macroeconomics and the Achievement of Global Stability*. IGI Global. https://doi.org/10.4018/978-1-6684-7460-0.ch088
17. Munkongsujarit, S. (2018). The nature of growth of SMEs in developing economy: A case of medium-sized enterprise in Thailand. In P. G. K. D. F. A. T. R. K. D. C. Steenhuis H.-J. Niwa K. (Ed.), *PICMET 2018 - Portland International Conference on Management of Engineering and Technology: Managing Technological Entrepreneurship: The Engine for Economic Growth, Proceedings*. Institute of Electrical and Electronics Engineers Inc. https://doi.org/10.23919/PICMET.2018.8481763
18. Nguse, T., Oshora, B., Fekete-Farkas, M., Tangl, A., & Desalegn, G. (2021). Does the Exchange Rate and Its Volatility Matter for International Trade in Ethiopia? *Journal of Risk and Financial Management*, *14*(12). https://doi.org/10.3390/jrfm14120591
19. Nhlengethwa, S., Matchaya, G., Greffiths, I., & Fakudze, B. (2021). Analysis of the determinants of public capital investments on agricultural water infrastructure in Eswatini. *Business Strategy and Development*, *4*(1), 49–58. https://doi.org/10.1002/bsd2.156
20. Puah, C.-H., Kueh, J. S.-H., & Lau, E. (2007). The implications of emergence of China towards ASEAN-5: FDI-GDP perspective. *Asian Economic Review*, *49*(2), 179–192. http://193.60.48.5/docview/36922440?accountid=15997 LA - English
21. Sejian, V., Hyder, I., Malik, P. K., Soren, N. M., Mech, A., Mishra, A., & Ravindra, J. P. (2015). Strategies for Alleviating Abiotic Stress in Livestock. In P. K. Malik, R. Bhatta, J. Takahashi, R. A. Kohn, & C. S. Prasad (Eds.), *LIVESTOCK PRODUCTION AND CLIMATE CHANGE* (Vol. 6, pp. 25–60). CABI PUBLISHING-C A B INT.

ISSN: 2349-6762
Peer Reviewed & Refereed Journal
National Research Journal

22. Sookram, S., Hosein, R., Boodram, L., & Saridakis, G. (2022). Determining Factors of FDI Flows to Selected Caribbean Countries. *Journal of Risk and Financial Management*, *15*(2). https://doi.org/10.3390/jrfm15020048

23. Sukhadolets, T., Stupnikova, E., Fomenko, N., Kapustina, N., & Kuznetsov, Y. (2021). Foreign Direct Investment (FDI), Investment in Construction and Poverty in Economic Crises (Denmark, Italy, Germany, Romania, China, India and Russia). *Economies*, *9*(4). https://doi.org/10.3390/economies9040152

24. Tahmad, A. M. I., & Adow, A. H. (2018). The impact of trade openness on foreign direct investment in Sudan by sector in the 1990-2017 period: An empirical analysis. *Economic Annals-XXI*, *172*(7–8), 14–21. https://doi.org/10.21003/ea.V172-03

25. Talwar, S., & Srivastava, S. (2018). Integration of GDP and FDI in Economies at Different Stages of Growth. *Theoretical Economics Letters*, *08*(11), 2199–2219. https://doi.org/10.4236/tel.2018.811144

26. Taneja, S., Bhatnagar, M., Kumar, P., & Rupeika-apoga, R. (2023). India ' s Total Natural Resource Rents (NRR) and GDP : An Augmented Autoregressive Distributed Lag (ARDL) Bound Test. *Journal of Risk and Financial Management*, *16*(2), 91. https://doi.org/doi.org/10.3390/jrfm16020091

27. Wawrosz, P., & Traksel, S. (2023). Negative Interest Rates and Its Impact on GDP, FDI and Banks’ Financial Performance: The Cases of Switzerland and Sweden. *International Journal of Financial Studies*, *11*(2). https://doi.org/10.3390/ijfs11020069