

## Impact of FDI on Indian Economic Growth – With Evidence of ARDL Model

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### ARTICLE DETAILS

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### ABSTRACT

This study looks at how FDI affects India's economic growth, paying special attention to the dynamic interplay between FDI, GDP, exports, and the balance of payments. Applying the Autoregressive Distributed Lag (ARDL) model on yearly time-series data from 1990 to 2023, the study examines the immediate and long-term impacts of foreign direct investment (FDI) on economic growth. The empirical results demonstrate that foreign direct investment (FDI) inflows have a considerable and beneficial impact on India's economic growth, highlighting the significance of FDI as a catalyst for economic development. The study also emphasises the complex relationships that exist between FDI and important macroeconomic factors including GDP, exports, and the balance of payments. The findings show that although foreign direct investment (FDI) promotes economic expansion, its effects are mediated by a number of variables, including infrastructure development, economic policies, and worldwide economic conditions. The study's findings have important implications for policymakers, investors, and other stakeholders interested in promoting economic growth and development in India. By providing a deeper understanding of the relationship between FDI and economic



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growth, this research contributes to the ongoing discourse on how to harness FDI effectively to support India's economic ambitions.

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## I. INTRODUCTION

A foreign direct investment (FDI) is the acquisition of an asset in another nation that grants the purchaser direct control over the asset (for example, the purchase of land and buildings). In other terms, it is an investment in the form of controlling ownership of a firm, real estate, or productive assets such as factories in one nation by a company headquartered in another. It is distinguished from a foreign portfolio investment or a foreign indirect investment by the concept of direct control.

FDI is often defined as long-term investments in which investors devote their resources and skills to a foreign market. This long-term approach can help the host country's economy expand steadily and flourish sustainably. FDI delivers capital, technology, and skills into the host nation. Foreign investors frequently offer modern manufacturing processes, management practices, and technological know-how, which can boost productivity and competitiveness in local sectors. This transfer of information and technology can have a favorable impact on the home economy (**P. Sudhakar 2023**). India has worked tirelessly to attract FDI from the world's leading investors. In 1998 and 1999, the Indian government implemented measures to improve the economic environment for foreign investors. FDI is authorised in a variety of forms, including financial cooperation, private equity or preferential allotments, capital market transactions such as euro offerings, and joint ventures. Foreign direct investment is not authorised in the armaments, nuclear, railway, coal, or mining industries. Foreign investors can find chances in projects related to power production, distribution, and transmission, as well as road and highway construction (**Sujata H Kadli 2023**).

A significant source of non-debt funding for India's development initiatives, foreign direct investment (FDI) is a major driver of the country's economic expansion. International businesses make calculated investments in India, taking advantage of the nation's special investment advantages, such as tax breaks and reasonably priced labour. This promotes the creation of jobs and other ancillary benefits in addition to making it easier to acquire technology competence. The government's proactive regulatory framework, a vibrant business climate, increased global competitiveness, and growing economic impact are all factors contributing to the inflow of these investments into India. To increase foreign direct investment (FDI) in the nation, the Indian government has put in place a number of laws and programs. The "Make in India" program, which aims to streamline processes and foster a conducive investment climate across



industries, is one such initiative. One important tactic has been the liberalisation of FDI regulations, especially in the areas of retail, defence, insurance, and single-brand retail selling. Transparency has increased since the Goods and Services Tax (GST) was implemented, and Special Economic Zones (SEZs) offer designated areas with tax breaks. The main recipients of FDI in India have been the trading, computer software and hardware, and service industries. Between April 2000 and December 2024, a total of Rs. 61,57,738 crore (US\$ 719.53 billion) in EFDI inflows were received. Over 170 nations have contributed to this FDI, which has been spread among 33 UTs, States, and 63 sectors of the nation. With gross foreign direct investment (FDI) inflows of an astounding Rs. 86,87,000 crore (US\$ 1 trillion) since April 2000, India has achieved a major milestone in its economic progress. A roughly 26% rise in foreign direct investment (FDI) in the first half of FY25, at Rs. 3,65,723 crore (US\$ 42.1 billion), has further reinforced this accomplishment. This expansion highlights India's growing appeal as a destination for foreign investment, which is supported by a proactive legislative framework, a thriving business climate, and improved international competitiveness. India had a 27% increase in FDI equity inflows from April to December 2024, totalling Rs. 3,40,962 crore (US\$ 40.67 billion), with large investments in the non-traditional energy and services sectors (**IBEF**).

## II. Literature review:

**Niti Bhasin et, al (2017)** From 1980 to 2012, this study examines the connections between India's GDP, exports, currency rates, and other important macroeconomic factors and foreign direct investment (FDI). According to the research, there is a significant long-term correlation between FDI, GDP, and exports; over time, FDI has a beneficial effect on GDP but a negative influence on exports. While exchange rate appreciation has a negative effect on GDP, it has a favourable impact on FDI and exports. According to the report, in order to increase economic development and exports, India should concentrate on luring export-oriented foreign direct investment, liberalise the manufacturing sector, and create a stable currency rate regime. **B.M.Hiremath et, al (2021)** This study looks at how foreign direct investment (FDI) affects the Indian economy and emphasises how it helps the country's economy grow. According to the report, FDI has been advantageous and has a sizable impact on India's economy. FDI has both advantages and disadvantages, but generally, it has a significant impact. According to the report, India can benefit from FDI by tackling problems like corruption and encouraging skill development among its sizable populace. India may become a significant force in the business sector and quicken its economic growth by doing this. **Sujata H Kadli (2023)** This study looks at how foreign direct investment (FDI) affects the Indian economy, emphasising how it may boost management skills, advance technology, and spur economic growth. With an increase in FDI inflows in recent years, the report concludes that FDI has



made a substantial contribution to India's financial stability and development. FDI has a significant overall impact on the Indian economy, despite both positive and negative consequences. In order to draw in foreign investors, the study highlights the necessity of a welcoming investment climate and liberalised FDI regulations. India can accomplish quick economic growth, lessen poverty, and close internal gaps by skilfully using FDI. **Shobha Rani.et, al (2024)** The effects of foreign direct investment (FDI) on the Indian economy and service sector are thoroughly examined in this master's thesis. According to this study, foreign direct investment (FDI) significantly boosts the Indian economy by increasing productivity, encouraging innovation, and generating job possibilities. But it also draws attention to issues like infrastructural requirements and regulatory obstacles. To maximise the benefits of FDI, the study provides policymakers and corporate executives with practical insights and strategic suggestions. All things considered, the report adds to the continuing discussion on how FDI would influence India's economic destiny. **Dr. Ankit Garg et, al (2024)** This study investigates how India's economic development is affected by foreign direct investment (FDI) in the food processing industry. The research, which employs co-integration and ARDL approaches, shows a long-term correlation between foreign direct investment (FDI) in the food processing sector and economic growth, with FDI significantly and favourably influencing growth. According to the report, the Indian government should create strategic policies to encourage and enable foreign direct investment (FDI) in the food processing industry, which would accelerate the sector's growth and advance India's overall economic development.

### III. Objectives of the study

- To examine the relationship between FDI inflows and GDP growth
- To evaluate trends of FDI on economic growth in India
- To Impact of FDI on Exports & BOP

### IV. Research Methodology

This study examines how India's total foreign direct investment (FDI) inflows are impacted by exports, GDP, and the balance of payments (BOP). Annual time-series data from 1990 to 2023 served as the basis for the analysis. Reputable secondary databases, such as the Reserve Bank of India and the World Bank, are the sources of the data. Total FDI inflows (in USD million), GDP at constant prices (in USD billion), total exports of goods and services (in USD), and the balance of payments (in USD) are the variables used for the study. All variables have been changed to their native logarithmic form in order to guarantee comparability and interpretability. To comprehend the fundamental properties of the data set, including mean, standard deviation, minimum and maximum values, and general trends across the research period,

descriptive statistical analysis was carried out. These statistics offer preliminary information on the distribution and fluctuation of the variables taken into account in the model. This study's primary goal is to evaluate the long- and short-term connections between FDI inflows and the chosen macroeconomic variables. The Autoregressive Distributed Lag (ARDL) model is used for this. By include both current and lag data in the same regression framework, the ARDL technique is suitable for determining the dynamic connection between variables.

### **The Model of Econometrics**

The ARDL (1, 1, 1, 1) econometric model, which comprises one lag of the dependent variable and one lag of each independent variable, was employed in this investigation. The following is the expression for the regression equation utilised in the model:

$$FDI_t = \alpha_1 FDI_{t-1} + \beta_1 GDP_t + \beta_2 GDP_{t-1} + \gamma_1 EXP_t + \gamma_2 EXP_{t-1} + \delta_1 BOP_t + \delta_2 BOP_{t-1} + C + \varepsilon_t$$

The final equation is as follows when the estimated coefficients from the regression output are substituted:

$$FDI_t = 1.212762 FDI_{t-1} + 15,534.90 GDP_t - 15,439.26 GDP_{t-1} - 0.0000000394 EXP_t + 0.000000112 EXP_{t-1} + 0.00000316 BOP_t + 0.00000617 BOP_{t-1} - 14,186.76 + \varepsilon_t$$

The presence of FDI persistence is suggested by the positively significant lagged value of FDI in this model. FDI inflows are positively impacted by the GDP's current value, but negatively by its lagged value. A delayed effect is indicated by the connection with exports, which is negative in the current period but becomes positive in the lag term. Short-term adjustments are implied by the balance of payments, which has a positive impact on FDI inflows this year and a negative one last year. FDI inflows are anticipated to be reduced owing to structural or external causes if the independent variables remain unchanged, as shown by the negative constant term.

### **V. FDI inflows and GDP growth**

With effect from April 1, 2023, India's Foreign Trade Policy (FTP) will not have a five-year goal date. In FY 21–22, India got the largest annual FDI inflows of \$84,835 million, surpassing the FDI of the previous year by \$2.87 billion. The top 5 nations for FDI equity inflows into India in FY 2021–22 are Singapore (27.01%), the United States (17.94%), Mauritius (15.98%), the Netherl and (7.86%), and Switzerland (7.31%). Computer Software & Hardware (24.60%), Services Sector (Fin., Banking, Insurance, Non Fin/Business, Outsourcing, R&D, Courier, Tech. Testing and Analysis, Other) (12.13%),



Automobile Industry (11.89%), Trading (7.72%), and Construction (Infrastructure) Activities (5.52%) are the top 5 sectors that received the highest FDI Equity Inflow during FY 2021–2022. The top five states in terms of FDI equity inflow for FY 2021–22 are Tamil Nadu (5.10%), Delhi (13.93%), Maharashtra (26.26%), Karnataka (37.55%), and Haryana (4.76%). India's net inflows of foreign direct investment (FDI) have varied throughout time, although they significantly increased in the 2000s and 2010s. FDI's share of GDP grew from 0.07374% in 1990 to 0.765212% in 2000. In 2015, FDI inflows rose to 2.092115% of GDP, however they subsequently varied in the following years. With FDI making about 2.406203% of GDP, 2020 had the largest FDI influx. FDI inflows, however, decreased to 0.787066% of GDP in 2023. Over the past three decades, India's FDI inflows have generally displayed a fluctuating trajectory, impacted by a number of economic and policy issues.

## VI. Trends of FDI on economic growth in India

India received USD 60.97 billion in foreign direct investment (FDI) in 2017–18, representing a 1% marginal increase that suggests stability but moderate progress. In 2021–2022, the inflows steadily grew to USD 84.83 billion, the greatest amount of FDI ever recorded during this time frame. However, inflows fell precipitously by 16% in 2022–2023 and by 10% in 2023–2024, presumably as a result of shifting investment priorities and global economic uncertainty. With USD 70.41 billion in FDI, a 14% increase, the provisional statistics for 2024–2025 shows a robust rebound and suggests that international investors have restored faith in India's economic prospects and policy assistance.

## VII. Impact of FDI on Exports & BOP

The total exports from 2017 to 2023 were 489,401,000,000 US dollars. The exports increased from 489,401,000,000 in 2017 to 537,042,000,000 in 2018, 546,033,000,000 in 2019, and 484,691,000,000 in 2020. In 2021, exports reached 643,080,000,000 US dollars, and continued to grow in 2022 to 767,643,000,000 US dollars. In 2023, exports slightly increased to 773,177,000,000 US dollars. The Balance of Payments (BoP) records all financial transactions between a country and the rest of the world, including Foreign Direct Investment (FDI) Net Outflows. A rise in FDI net outflows indicates increased confidence and interest in global markets, while a decline may reflect economic caution or global uncertainty.

## VIII. RESULTS AND DISCUSSION

### Table: 1 Descriptive statistics of all variables

	TOTAL_FD...	GDP	EXPORTS	BOP
Mean	73078.67	1.410890	4.71E+11	1.03E+10
Median	74100.00	1.489211	5.37E+11	1.14E+10
Maximum	84835.00	2.406203	7.73E+11	1.72E+10
Minimum	60974.00	0.787066	798500.0	143200.0
Std. Dev.	7979.518	0.516014	2.88E+11	6.14E+09
Skewness	-0.198481	0.474068	-0.832903	-0.959853
Kurtosis	2.154136	2.617985	2.365469	2.489529
Jarque-Bera	0.327399	0.391837	1.191578	1.479693
Probability	0.848997	0.822079	0.551127	0.477187
Sum	657708.0	12.69801	4.24E+12	9.24E+10
Sum Sq. Dev.	5.09E+08	2.130162	6.63E+23	3.02E+20
Observations	9	9	9	9

The table presents descriptive statistics for five variables: TOTAL FDI, GDP, EXPORTS, and BOP. It shows the average values (mean), central tendencies (median), and the spread of data (standard deviation). The skewness and kurtosis values indicate the shape and distribution of the data. The Jarque-Bera test results suggest that all variables are normally distributed, as the probability values are above 0.05. Overall, the dataset appears to be statistically balanced and suitable for further analysis.

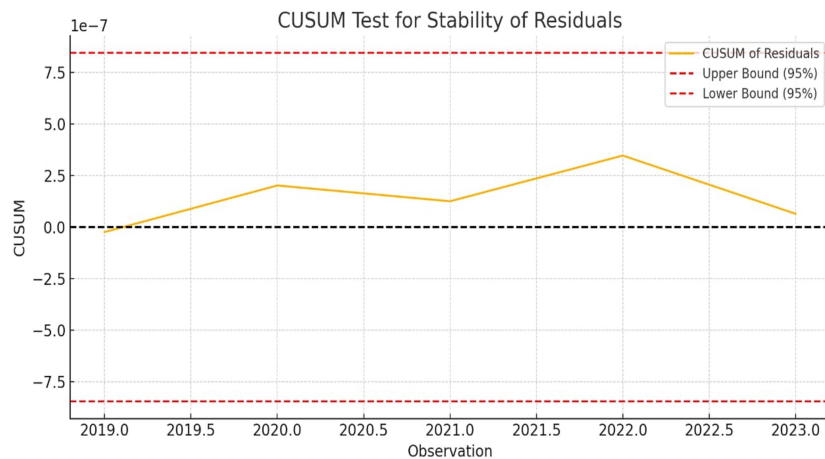
**Table: 2 ARDL Co – efficient estimates for FDI Inflow Model with Lagged variables.**

Variables	Co - efficient	Std.error	t - statistic	Prob
Total FDI inflow ( - 1)	1.212762	0.1582	7.66	0.0002
GDP	15534.900000	5240.51	2.96	0.0194
GDP ( -1)	-15439.260000	5210.65	-2.96	0.0195
Exports	-0.0000000394	0.0000000125	-3.15	0.0142
Exports ( -1)	0.0000001120	0.0000000376	2.98	0.0187
BOP	0.00000316	0.000000832	3.80	0.0091
BOP ( -1)	-0.00000617	0.00000129	-4.78	0.0040
Constant	-14186.760000	4271.33	-3.32	0.0123

The ARDL regression demonstrates that the lagged value of total FDI input has a positive and substantial impact on the present FDI inflow. There is a significant route dependency, as seen by the 1.21 unit increase in FDI in the current period for every unit increase in the previous period. Additionally, the model indicates that FDI is strongly impacted by economic growth, with a 15,534.90 unit increase in FDI for every unit increase in GDP. However, the delayed GDP value's negative coefficient of -15439.26

indicates that prior GDP growth could not have had a long-lasting positive effect, perhaps as a result of market saturation or adjustment effects. FDI is negatively impacted by the present value of exports, indicating that investment is directed towards foreign markets rather than the growth of local capital. The current Balance of Payments (BOP) shows that a greater external balance is beneficial for attracting FDI. A negative correlation, on the other hand, implies that earlier BOP gains may be followed by corrections or decreased inflows.

**Figure: 1 Cusum test for Stability of the model**



## IX. FINDINGS OF THE STUDY

- Positive effect of FDI on economic growth: According to the study, FDI inflows significantly and favorably affect India's economic growth.
- Dynamic link between FDI, GDP, exports, and balance of payments: In this study, a complicated relationship with both immediate and long-term consequences is found between
- FDI, GDP, exports, and balance of payments.
- Importance of economic growth: The study emphasizes how crucial economic growth is to drawing in foreign direct investment.
- Effect of exports on FDI: According to the study, exports have a short-term negative effect on FDI inflows but a long-term beneficial effect.
- Balance of payments: According to the report, FDI inflows are positively impacted by a good balance of payments.

## X. SUGGESTIONS:

- Encourage FDI-friendly policies: In order to draw in foreign investment, the Indian government should keep encouraging FDI-friendly policies.



- Put an emphasis on sustainable economic growth: In order to draw in foreign direct investment, policymakers should concentrate on attaining sustainable economic growth.
- Diversify exports: To lessen reliance on established industries and draw foreign direct investment to developing fields, India needs diversify its exports.
- Improve balance of payments: To boost FDI inflows, the government should put measures in place to improve the balance of payments.
- Encourage infrastructure investment: FDI and economic growth will be facilitated by infrastructure development investments.

## **XI. CONCLUSION:**

According to this study, foreign direct investment (FDI) is essential to India's economic development and prosperity. Policymakers, investors, and stakeholders may get important insights from this research by looking at the dynamic interaction between FDI, GDP, exports, and balance of payments. According to the findings, foreign direct investment (FDI) has the potential to be a potent engine for economic expansion; however, economic policies, the development of infrastructure, and developments in international markets all have an impact on this effect. Understanding the subtleties of foreign direct investment (FDI) and its effects on the economy would be crucial for guiding policy decisions and advancing sustainable development as India continues to negotiate the challenges of globalisation. Finally, by providing useful insights for stakeholders and policymakers looking to maximise the potential of foreign investment to propel economic advancement, this study adds to the continuing conversation on FDI and economic growth in India.

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