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Investigation of FDI's influence on India's Fiscal Improvement: verification by ADF & ARDL Scrutiny

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Abstract: Inflows of foreign direct investment (FDI) are frequently seen as a major driver of economic expansion in emerging nations. Goals of the investigation are for assessing association among macroeconomic factors and foreign direct investment, as well as to evaluate the FDI and financial growth of Indian aspects. This research analyzed statistics of 2004–05 directed towards 2022–23, and the estimates were made using the "Augmented Dickey–Fuller" & "Auto-Regressive Distributive Lag" techniques. Findings of the study show that a positive association may arise from foreign direct investment that is large enough to support India's economy and has the power to have a significant enough impact to propel economic growth.

Keywords: *Foreign direct investment, economical improvement, ARDL, GDP*

Introduction

FDI puts a pivotal position inside financial expansion and provides majority of the funding for economic growth in India. Cheaper labour and a changing business climate in India are benefits that foreign corporations directly enjoy from investing in fast expanding private Indian entities. Additionally, FDI encourages local investment and helps the host nations' institutions and people resources to advance. It is also well recognized that commerce internationally may promote economic expansion. Foreign investment inflow into India has been sustained by the helpful strategy by Government & resilient business climate. Within current existence, numeral actions has been taken by Government, counting moderation regulations of foreign direct investment among a number of industries, including telecom, power exchange, PSU oil refineries, and defense. From April 2018 to December 2023, there was an influx of US$ 335.33 billion in foreign direct investment, or around 51% from total FDI made inside India. At US$ 62 billion, FDI inflows reached a record high for a fiscal year.

Every nation prioritizes economic growth. Research on economic growth forms has been ongoing. A country's ability to grow economically is aided by a number of factors, according to the UNCTAD-1984 World Investment Report. These include abundant investment capital, advanced technology, a skilled labour force, reliable transport & statement infrastructure, settled politics oriented & communal organizations, small taxation charge, & a supportive dictatorial background.

Statement of the problem

FDI distribution by industry in India's wealth is incredibly unequal. Majority of FDI goes towards manufacturing sectors that are focused on exports and imports, as well as sectors that contribute to the economy, like infrastructure, transportation, dining establishments, hotels, restaurants, financial and business services, computer and communication services, and trading limitations on foreign direct investment in several sectors in India by 2023. The US$ 62001 million in total FDI amount in 2022–2023 has drawn interest from India. The service industries alone accounted for the largest portion of foreign direct investment parts of India, which totaled to US$ 80,670.79 between April 2004 and December 2022. The Indian government authorised 100 percent foreign direct investment (FDI) via the automatic method for many other sectors.

Related Studies

The following are some of the research studies that have been received showing relationship between FDI and factors of macro economic development.

In an open macro economy, the connection among investment incursions & domiciliary praise is examined. The country's central bank converts funds incursions, which are overseas liability, hooked on domiciliary praise (Assets). This has only been empirically studied after globalisation. From 1992 to 2008, Lane and McQuade (2014) examined association among foreign funds incursions & domiciiary praise from 53 nations. They discovered that while credit is impacted by debt inflows, equity inflows are not.

According to Ahmed and Jahanzeb (2021), the advancement of middle-income countries necessitates not simply growth in fiscal organism as a whole, other than also enlargement of markets as well as institutions. It thereby increases the total amount of foreign investment coming into these economies. Previous research studies have proven the function of financial development as a significant factor in augmenting foreign direct investment (FDI) inflow in any country (Ahmed and Jahanzeb 2021; Islam et al. 2020; Chen et al. 2020; Khan and Khan 2019; Sirag et al. 2018). Particularly in middle-income nations, foreign direct investment affluence depending resting on source concerning monetary expansion remains as mystery (Smith 2021; Shahbaz et al. 2021; Nguyen and Lee 2021; Asamoah et al. 2022). Institutional and market fiscal growth are the foundations concerning economic enlargement. Previous research was unable to determine whether foundation concerning fiscal increase have bigger influence upon luring overseas venture, particularly when it came to middle-income nations. Moreover, Maryam and Mittal (2020) examined the relationship amid overseas investments plus monetary policy variables inside "BRICS" as up to 2018 from 1994 using joint connote set as well as ARDL form. The results show that macroeconomic factors are significant and helpful over the long run. Conversely, Adebayo et al. employed the ARDL form headed for examining relationships among overseas investment influx with important economic variables between 1981 and 2018. Findings of the study indicate that trading directness and exports positively impact FDI inflows. Due to decades of research into the elements that influence FDI influx, the study of this inflow has become a riddle (Acquah and Ibrahim 2020). While some of the criteria are important in a particular location, others are important in different time zones and other regions. However, it is thought that one of the key elements in drawing in foreign investment to any nation is financial growth (Dimitrova et al. 2020). The nations are categorised into three main groups according to income level: low-income, middle-income, & high-income economy. Bigger-earning countries are previously able towards allocating existing financial resources towards economic growth (Islam et al. 2020). Foreign investment is not very likely to flow into low-income economies (Lee et al. 2020). On the other hand, if middle-income economies take into account a suitable degree of financial growth, they can draw in a growing amount of foreign investment (Osei and Kim 2020). In middle-income nations, fiscal growth has become widespread tactic worn to draw in investment from overseas resources (Yusuf et al. 2020). Dondashe & Phiri (2018) investigated influence through economical factors resting on FDI inside South Africa among 1994 to 2016 using ARDL form. Conclusions of the study show those terms of trade, government size, and GDP per capita are all positively and substantially correlated with foreign direct investment (FDI). Regression analysis was utilised by Lawson et al. (2019) to ascertain the impact of macroeconomic variables on Ghana's FDI inflows over a 30-year period. The findings show that, within the structural split under investigation, FDI inflows differ, and that FDI is only a minor role in a limited number of bilateral investment treaties. Using the position in "Panel Data" spanning 7 countries—Pakistan, Bangladesh, India, Afghanistan, Sri Lanka, the Maldives, and Bhutan—Alshamsi & Azam (2015) found that national income has significant and optimistic influence for foreign direct investment incomings. It is because a large

market estimate generates interest in goods plus projects that in turn motivates international corporations for taking advantage through nations having economies of scale.

Lotto (2017) discovered a similar outcome for the economy of Tanzania, demonstrating that arrears incursions impact recognition, other than equities inflow & the current account deficit are unaffected. Moreover, the increase in the current account deficit and the credit to GDP ratio are caused by domestic lending.

Igan & Tan (2017) used panel data from 33 nations between 1980 and 2011 to expand the study's analysis to separate household and corporate credit. The findings indicate that while FDI and other inflows have an impact on business credit, FPI and other inflows have an impact on household credit but not FDI. Additionally, a regime with flexible exchange rates diminishes corporate credit. Significant FDI occurs in the bank-based economy.

Samarina A. & Bezemer D. (2016) expanded the study by applying the GMM model to 26 developed nations between 1999 and 2011. They discovered that when home credit increases, business credit allocation decreases. Increases in capital inflows cause credit allocation to rise, which raises the credit-to-GDP ratio. Capital inflows are lowered by the current account deficit and interest rate deregulation. Credit is not impacted by FDI, inflation, or interest rates.

Furceri *et al.* (2012) examined 112 industrialized and developing nations between 1970 and 2007. They discovered that whereas FDI and FPI do not increase credit, debt inflows do. They also discovered that flexible exchange rate regimes discourage capital inflows, while capital inflows boost lending in the short term but decrease it in the medium term.

Research conducted by Magud *et al.* (2014) between 1990 and 2002 on five Asian, thirteen European, and seven Latin American nations revealed that capital inflows increase under rigid exchange rate regimes. A rise in capital inflows due to a pegged exchange rate led to an expansion of loans.

Raghavan *et al.* (2014) used the SVAR model to study the Australian economy between 1989 and 2008. The outcome demonstrates that exchange rate appreciation and greater GDP are caused by portfolio and credit shocks, but debt inflows also have an impact on GDP growth.

In this work, Abbes, S.M., Mosteka, B., Seghri, G., & Zakarya, G.Y. (2015) examine empirical research on the impact of investment on national economies. Using co-integration and panel granger causality tests on panel data, this learning examine link among foreign direct investment in addition to economic development based on 65 nations. The analysis reveals a unidirectional causal link between FDI and GDP, and the resultant discrepancy in the co-integration of the panel study might serve as a useful tool for prioritizing the distribution for possessions crosswise areas for encouraging overseas investment.

In this study, Khun Sokang (2018) discovered a favorable relationship between Cambodia's economic expansions in addition to FDI. The time series data from 2006 to 2016 have been used in this investigation. With the data that was gathered, the researcher employed statistics like multiple regressions and correlation matrices. The study's conclusion benefits FDI and Cambodia's financial expansion.

From their 2019 research study, Muthusamy & Kalpana tested association among GDP with FDI within civil aviation industry. The study period that the researchers used was from 2009–10 to 2018–19. Regression analysis and other statistical analyses were performed. The analysis discovered a favorable correlation between GDP and FDI inflows into the aviation sector.

In her research work, Bhuvya Malhotra (2014) looked at how foreign direct investment (FDI) affected the Indian economy, especially after two decades of economic reforms. She also analyzed the difficulties India had in trying to gain a competitive edge in the global FDI market. The report highlights the difficulties in understanding FDI data in India and presents the main policy implications from this research.

Objectives of the research are:

- To assess the present state of India's economic development & foreign direct investment

- To ascertain the influence of macroeconomic factors on foreign direct investment

Research Method

The current investigation is grounded in scientific research and explains a number of topics pertaining to macroeconomic factors, including

- 'Unemployment rate'
- 'Gross domestic product'
- 'Consumer price index'
- 'Inflation rate'
- 'Foreign exchange rate'

Tables & figures are used when necessary to improve the analysis. The investigation employed only secondary data that was gathered from a variety of sources, including magazines, journals, and websites pertaining to "Foreign Direct Investment", "Bombay Stock Exchange", "Security Exchange Board of India", & "National Stock Exchange", the Reserve Bank of India manual World Bank. Various statistical analyses, including the Correlation Matrix, Auto-Regressive Distributive Lag (ARDL), and Augment Dickey-Fuller (ADF), have been employed. The study span is of 19 years starting from 2004-05 to 2022-23.

Scope of the Study

The Indian economy will gain from this research study's thorough and in-depth analysis of several macroeconomic factors. It can assist us all in finding points of agreement and identifying the drivers of India's economic growth. The study examined influence through FDI towards India's fiscal enlargement as well as relationships between these investments and macroeconomic variables like the country's GDP, unemployment rate, inflation rate (also known as the consumer price index), and foreign exchange rate.

Hypothesis of the Study

H01: There is no relationship between FDI and Macro Economic Variables (GDP, CPI, FOREX and UER)

Data Analysis & Interpretations

Table 1: Growth of FDI during the year from 2004-05 to 2022-23

Years	FDI(In US$ Million)	Increase/ Decrease	Growth Rate (%)
2004-05	3219	--	--
2005-06	5128.09	0.4307	43.07
2006-07	5208.97	0.0157	1.57
2007-08	3681.98	-0.2931	-29.31
2008-09	5429.25	0.4745	47.45
2009-10	7269.41	0.3389	33.89
2010-11	20029.12	1.7552	175.52
2011-12	25227.74	0.2595	25.95
2012-13	43406.28	0.7205	72.05
2013-14	35581.37	-0.1802	-18.02
2014-15	27396.89	-0.23	-23
2015-16	36498.65	0.3322	33.22
2016-17	23995.69	-0.3425	-34.2
2017-18	28153.03	0.1732	17.32
2018-19	34576.64	0.2281	22.81
2019-20	44009.49	0.2728	27.28
2020-21	44458.57	0.0102	1.02

2021-22	39966.09	-0.101	-10.1
2022-23	42117.45	0.0538	5.38

Source: Computed data received from RBI

FDI's development performance throughout study phase of 2004–05 towards 2022–23 is displayed in table 1 above. Between 2004–05 and 2022–23, foreign direct investment increased with a tendency of fluctuations, from 3584.22 million to 42117.45 million. The fluctuating pattern continued throughout 2022–2023. Over the course of the research period, the largest yearly enlargement velocity by FDI ranged from 2010–11. In 2007–2008, the Foreign Direct Investment saw its lowest yearly growth rate of -29.31.

Table 2: Consumer Price Index (Inflation Rates) during the year from 2004-05 to 2022-23

Years	Consumer Price Index (Inflation Rates)	Increase/Decrease	Growth Rate (%)
2004-05	2123.6	--	--
2005-06	2153.6	0.0141	1.41
2006-07	2392.01	0.1107	11.07
2007-08	2266.6	-0.0524	-5.24
2008-09	2343.5	0.0339	3.39
2009-10	2419.11	0.0322	3.22
2010-11	2487.963	0.0284	2.84
2011-12	2583.432	0.0383	3.83
2012-13	2574.274	-0.0035	-0.35
2013-14	2616.665	0.0164	1.64
2014-15	2699.27	0.0315	3.15
2015-16	2755.13	0.0206	2.06
2016-17	2795.485	0.0146	1.46
2017-18	2841.33	0.0164	1.63
2018-19	2844.195	0.001	0.1
2019-20	2880.09	0.0126	1.26
2020-21	2941.37	0.0212	2.12
2021-22	3264.64	0.1099	10.99
2022-23	4546.14	0.3925	39.25

Source: Computed data received from RBI

From 2004–05 to 2022–23, the Consumer Price Index (also known as the inflation rate) showed mature performance (2123.60 to 4546.14). In 2022–2023, the Consumer Price Index (Inflation Rates) saw its greatest annual growth rate, which ranged from 39.25 percent. In 2007–2008, the Consumer Price Index (Inflation Rates) saw its lowest annual growth rate of -5.24.

Table 3: Foreign Exchange Rate during the year from 2004-05 to 2022-23

Years	Foreign Exchange Rate	Increase/Decrease	Growth Rate (%)
2004-05	47.1857	--	--
2005-06	48.5993	0.0299	2.99
2006-07	46.5819	-0.0415	-4.15
2007-08	45.3165	-0.0271	-2.71
2008-09	44.1	-0.0268	-2.68
2009-10	45.307	0.0273	2.73
2010-11	41.3485	-0.0873	-8.73
2011-12	43.5049	0.0521	5.21
2012-13	48.4049	0.1126	11.26

2013-14	45.7262	-0.0553	-5.53
2014-15	46.6723	0.0206	2.06
2015-16	53.4376	0.1449	14.49
2016-17	58.5978	0.0965	9.65
2017-18	61.0295	0.0414	4.14
2018-19	64.1519	0.0511	5.11
2019-20	67.1953	0.0474	4.74
2020-21	65.1216	-0.0308	-3.08
2021-22	68.3895	0.0501	5.01
2022-23	68.422	0.0004	0.04

Source: Computed data received from RBI

Every year from 2004–05 to 2022–23, there is a rise of foreign exchange rate. Throughout the research period, the Foreign Exchange Rate's greatest annual growth rate ranged from 14.49 percent in 2015–16. In the fiscal year 2010–11, the Foreign Exchange Rate saw its lowest annual growth rate of -8.73.

Table 4: Gross Domestic Product during the year from 2004-05 to 2022-23

Years	Gross Domestic Product (In Million US$)	Increase/Decrease	Growth Rate (%)
2004-05	468394.95	--	--
2005-06	485441.03	0.0363	3.63
2006-07	514937.96	0.0607	6.07
2007-08	607699.3	0.1801	18.01
2008-09	709148.53	0.1669	16.69
2009-10	820381.67	0.1568	15.68
2010-11	940259.89	0.1461	14.61
2011-12	1216735.43	0.294	29.4
2012-13	1198895.5	-0.0146	-1.46
2013-14	1341886.7	0.1192	11.92
2014-15	1675615.31	0.2487	24.87
2015-16	1823049.93	0.0879	8.79
2016-17	1827637.86	0.0025	0.25
2017-18	1856722.12	0.0159	1.59
2018-19	2039127.45	0.0982	9.82
2019-20	2103587.81	0.0316	3.16
2020-21	2290432.08	0.0888	8.88
2021-22	2650725.34	0.1573	15.73
2022-23	2718732.23	0.0256	2.56

Source: Computed data received from RBI

GDP increased from US$468394.95 million in 2004–05 to US$2718732.23 million in 2022–23. During the research period, the maximum yearly increase velocity from the GDP fluctuated in the year 2011–12. In 2012–13, the Gross Domestic Product saw its lowest annual growth rate of -1.46. This table presents the Unemployment Rate for the years 2004–05 through 2022–23.

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Table 5: Unemployment Rate during the year from 2004-05 to 2022-23

Years	Unemployment Rate (In Billion US$)	Increase/Decrease	Growth Rate(%)
2004-05	2.7309	--	--
2005-06	2.868	0.0501	5.01
2006-07	3.052	0.0641	6.41
2007-08	3.1819	0.0425	4.25
2008-09	3.098	-0.0264	-2.63
2009-10	3.1019	0.0012	0.12
2010-11	2.7369	-0.1176	-11.7
2011-12	2.3989	-0.1234	-12.3
2012-13	2.2679	-0.0546	-5.46
2013-14	2.4749	0.0912	9.12
2014-15	2.444	-0.0125	-1.25
2015-16	2.519	0.0306	3.06
2016-17	2.69	0.0678	6.78
2017-18	2.8229	0.0494	4.94
2018-19	2.765	-0.0205	-2.05
2019-20	2.782	0.0061	0.61
2020-21	2.73	-0.018	-1.86
2021-22	2.5569	-0.0633	-6.33
2022-23	2.551	-0.0023	-0.23

Source: Computed data received from RBI

From 2004–05 to 2022–23, there was an increase in the unemployment rate. Fluctuations continued until 2022–2023. Throughout the research period, the unemployment rate's greatest annual growth rate ranged from 9.12% in 2013–14. In 2011–12, the unemployment rate had its lowest annual growth rate of -12.3.

Table 6: Descriptive Analysis

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
FDI	3584.22	44458.57	25037.83	15581.62	-0.268	-1.548
CPI	2123.6	4546.14	2712.0213	530.6545	2.397	7.888
EXR	41.35	68.42	53.1101	9.64658	0.564	-1.426
GDP	468395	2718732.2	1436284.8	739313.8	0.209	-1.184
UER	2.27	3.18	2.7248	0.25722	0.196	-0.671

Source: *Computed by authors*

The descriptive analysis of the factors under study from 2004–05 to 2022–23 is shown in table 6 above. FDI has a minimum value of 3584.22 US dollars million and a maximum value of 44458.57 US dollars million. The average is $25037.83 million US dollars. There was a 15581.62 SD for FDI. The GDP was valued at a minimum of 468394.95 US dollars. The GDP reached a high value of 2718732.23 US dollars. GDP had a mean value of 1436284.79 US dollars million. The mean values of the three control variables are 2123.60 for the inflation rate, 4546.14 for the unemployment rate, and 2123.60 for the foreign exchange rate. 530.65449 is the standard figure for the CPI. EXR has a maximum value of 68.42 and a lowest value of 41.35. The highest value of unemployment is 3.18, although the lowest and maximum values are 2.27 and 3.27, respectively.

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Table 7: Correlation matrix of economic growth indicators during the period from 2004-05 to 2022-23

		FDI	CPI	EXR	UER	GDP
FDI	Pearson Correlation	1	.664**	.674**	-.707**	.863**
	Sig. (2-tailed)		0.002	0.002	0.001	0
CPI	Pearson Correlation	.664**	1	.728**	-0.368	.836**
	Sig. (2-tailed)	0.002		0	0.121	0
EXR	Pearson Correlation	.674**	.728**	1	-0.163	.874**
	Sig. (2-tailed)	0.002	0		0.504	0
UER	Pearson Correlation	-.707**	0	-0.163	1	-.470*
	Sig. (2-tailed)	0.001	0.121	0.504		0.043
GDP	Pearson Correlation	.863**	.836**	.874**	-.470*	1
	Sig. (2-tailed)	0	0	0	0.043	

Source: *Computed by authors*

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The association among FDI and economical alterable—the GDP, the CPI, the EXR, and the UR—is shown in Table 7 above. GDP, CPI, EXR, and UER are all considerably positively connected with foreign direct investment. There is a connection between UER, GDP, CPI, and EXR and FDI.

Table 8: Augment Dickey-Fuller (ADF) Test

This test has amplified ADF sign has downbeat worth. The hypothesis that present has "Unit Root" on a few degree through assurance has been strongerly rejected that more negative it is.

$$y_i = \beta_1 x_{1i} + \ldots + \beta_p x_{pi} + \varepsilon_i$$

The outcome of the substantial correlation between macroeconomic variables and foreign direct investment is shown in table 8 below.

Variables	Coefficient	Std. Error	t-Statistic	P-value
Foreign direct investment	-0.143614	0.118006	-1.217005	0.0241
Gross Domestic Product	0.033555	0.038714	0.866753	0.0398
Consumer Price Index (Inflation Rate)	0.606105	0.239185	2.534039	0.0026
Foreign Exchange Rate	0.021077	0.080936	0.260413	0.0597

Unemployment Rate	0.599025	0.210121	2.850855	0.0128

Source: Computed based on data received from world bank/RBI

Results of the ADF experiment for macroeconomic variables and foreign direct investment are shown in Table 8. The stationary at first difference level is the foreign direct investments. Selected macroeconomic indicators and the GDP encompass stationary on initial distinction. “p-values” for the ADF test are smaller compared with 0.05%. As a result, “null hypothesis” is no longer valid. Consequently, at the first difference level, all macroeconomic variables have a stationary value. Thus, the data is appropriate for more examination.

Auto-Regressive Distributive Lag (ARDL)

The dependent variable in an auto-regressive distributed lag time series model is a function of its lags as well as the lags of other variables. ARDL is useful for co-integration testing and for modelling the I(0) and I(1) variables together. "Autoregressive-Distributed Lag" is what ARDL is short for. An ARDL regression model seems like this in its most basic form:

In this case, "disturbance" word εt is arbitrary.

$$yt=\beta 0+\beta 1yt-1+\cdots+\beta pyt-p+\alpha 0xt+\alpha 1xt-1+\cdots+\alpha qxt-q+\varepsilon tyt=\beta 0+\beta 1yt-1+\cdots+\beta pyt-p+\alpha 0 xt+\alpha 1xt-1+\cdots+\alpha qxt-q+\varepsilon t$$

This frame has been "autoregressive" depending on its own lag values "explain (partially)" yt. Additionally, it features a "distributed lag" component that takes the shape of the explanatory variable's consecutive delays.

Table 9: Foreign Direct Investment and Macro Economic Factors in India during the period from 2004-2005 to 2022-2023

Variables	Coefficient	Std. Error	t-Statistic	Prob.*
CPI(-1)	1.0112	0.510818	1.979572	0.1046
FDI	-0.02759	0.006248	-4.415697	0.0069
FDI(-1)	-0.02241	0.008242	-2.719119	0.0418
FOREX	-65.64224	16.19727	-4.052673	0.0098
FOREX(-1)	96.57158	13.84525	6.975069	0.0009
GDP	0.00064	0.000418	1.529775	0.1866
GDP(-1)	0.001265	0.000551	2.295063	0.0702
GDP(-2)	-0.001422	0.000406	-3.501119	0.0173
UER	-318.0732	410.0211	-0.775748	0.473
UER(-1)	-1877.299	502.1909	-3.738218	0.0135
UER(-2)	782.3418	259.8791	3.010407	0.0297
C	2786.712	1468.929	1.897105	0.1163
R-squared				0.987429
Adjusted R-squared				0.959773
S.E. of regression				104.3772
Sum squared resid				54472.97
Log-likelihood				-92.73605
F-statistic				35.70395
Prob(F-statistic)				0.000493
Mean dependent var				2779.483
S.D. dependent var				520.4117
Akaike info criterion				12.32189
Schwarz criterion				12.91004

Hannan-Quinn criteria.	12.38035
Durbin-Watson stat	2.193183

Source: Computed based on data received from world bank/RBI

Table 9 above illustrates the causal link between macroeconomic variables (UR, FER, GDP, and CPI) and FDI. This outcome reflects direct relationship between FDI and the GDP, direct association among FDI & EXR, the straight connection among FDI and CPI, in addition to straight relationship between FDI and UER. Based on these findings, there is a direct correlation between four and the five factors. There are no additional variables that are caused by the remaining variable.

Conclusion

The study's primary goal is to enquire at the way foreign direct investment promotes India's growth in economy. Estimates were produced using the Auto-Regressive Distributive Lag (ARDL) and Augmented Dickey-Fuller (ADF) gets closer, and the study assessed data from 2004–05 to 2022–23. According to the study, the positive association could result from a substantial amount of foreign direct investment funds being poured in India's economy, which have had enough of an impact to propel economic growth. Overall, the analysis's findings indicate that foreign direct investment and macroeconomic variables—the gross domestic product, the consumer price index (which measures inflation), the foreign exchange rate, and the unemployment rate—have a positive association.

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