

## FDI INFLOWS IN INDIA GROWTH, TRENDS AND DETERMINANTS

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### ABSTRACT

Foreign Direct Investment (FDI) is critical for the growth of a country. Domestically available capital may not always be sufficient for a country's long-term development. Foreign investment is seen as a way to bridge the savings and investment gaps that exist domestically. Foreign Direct Investment (FDI) has become a major source of foreign capital flow and a leading source of external finance for developing economies like India. India is capable of attracting much larger FDI investments. Emerging economies around the world have seen a massive increase of foreign direct investment (FDI) since the start of globalization in the last two decades. Despite India's relatively late entry into the FDI scene compared to other East Asian nations, the country's large market potential and a relatively open policy environment have kept it a popular choice for foreign investors. An important method widely used in developing countries to increase capital formation, create jobs, and thus facilitate growth and development is attracting foreign investment. Foreign direct investment (FDI) is widely regarded as a key resource for developing countries' economic growth.

**Keywords:** FDI, GDP, Inflows, Indian Growth, Trends and Determinants etc.

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### INTRODUCTION

In one country, FDI plays a key role. It offers an incentive for the economic functioning. FDI's need depends on a country's rate of savings and investment. To meet the investment-saving gap, FDI plays a major role and functions as a bridge to cover the investment-savings gap. In the progress of economic growth, domestic saving limits can be filled by external capital and also by providing improved beer technologies to enhance the efficiency of the current production capacity and so produce new production opportunities. It establishes a window of openness among states and so accelerates bilateral trade between countries. The whole world has seen the expanding potential of foreign direct investment in the last two decades. FDI simply implies net cash inflows into the home nation, resulting in economic growth. It is a kind of investment in which foreign money are purchased into a company operating in a separate nation from the investor. It is a key instrument for every business that serves as lubrication for the economy. Foreign Direct Investment (FDI), according to Investopedia, is an investment that is made into another country by a firm or individual in a particular nation of business interest. The FDI can be of two types, namely direct foreign investment and direct foreign investment.

## FOREIGN DIRECT INVESTMENT IN INDIA

### FDI and Economic Growth

With the creation of the East India Company of Great Britain, the historic history of FDI in India may be traced. During the colonial era of Britain, British capital arrived to India. Japanese corporations joined the Indian market following the Second World War and increased their commerce with India. But the United Kingdom remained the largest investor in India. Moreover, the political leaders were aware of the operations of the MNCs after independence concerns about external money. With national interest in mind, the policy-makers developed FDI policy that seeks to develop FDI technologies and to mobilize external resources. FDI is an important tool for developing countries.

### Recent Developments

New Zealand is aiming to set up a Mumbai office to expand its scope for education in India. In New Zealand's General Consulate, Mumbai, it is planning a promotion of education and market development function. In 2013, student visas given to Indians rose by almost 10 per cent, making India one of New Zealand's fastest-growing student markets. Initial agreement has now begun with Jinbhuvish Group, Mumbai, for the technical support of its Rs 3, 450-cro (US\$ 549,31 million) project, the Korean South Eastern Power Company (COSEP) component of the Korea Southeast Powers Corp., a state-owned power generator in South Korea, Maharashtra.

### Recent policy initiatives

Finally, the Ministry of the Interior approved the request to allow FDI in railway transport. The idea is anticipated to be considered by the Cabinet Committee on Economic Affairs (CCEA). Foreign investors can only invest and not invest in operations on building and servicing railway projects. Prime Minister Manmohan Singh of India has attempted to promote Japanese investment in India. Both nations are already considering the prospect of practical collaboration in such areas as electronic manufacturing and research and development, as well as in energy-efficient technology and energy saving. Mr Singh stated that after the yearly summit level conference between Japan and India, "I feel there is huge untapped potential in our commercial relationship." Japanese corporations have boosted their presence in India by 16% in 2013. Six large investment projects, which would have a total investment of Rs 6,500 (US\$ 1.03 billion), were approved by the State Investment Promotion Board of Andhra Pradesh.

## LITERATURE REVIEW

**Jonardankoner et al. (2018)** the study was conducted from 2007 to 2017 with the purpose of studying the effects of FDI influx on Indian services, construction, mining, agriculture and trade. The study used the Regression Model for Fixed Effects (FE) and the Model for Random Effects (RE). Random Effect Model findings reveal that there is positive influence from sectoral FDI, which is also favorable if the influx of FDI grows, as well as growth in that industry. The study also found that FDI inflows had a favorable effect on GDP.

**M.M. Goel and Ritu Kang (2018)** the link between direct foreign investment and India's economic growth has been analyzed. The study looked at the time span of 26 years from 1991-92 to 2016-17. The study included Root Test Unit, Johansen Technology and Model Vector Error Correction (VECM). The results show that FDI has short-term and long-term Indian economic growth as well as short-term and long-term FDI economic growth.

**M.M. Goel and Ritu K. Walia (2017)** FDI performance in Indian economy analyzed by country, sectoral and whole FDI influx reviewing. The survey indicates that the top five countries in India have the most FDI inflows in Mauritius, Singapore, the UK, Japan and the United States. FDI inflows from sector distribution show that the service sector has the biggest FDI attraction followed by the growth of construction (township, housing built-up infrastructure). Telecoms; computer and hardware software, medicine and pharmaceuticals and automotive, chemicals, the metallurgical and power industries, hotel and tourism are the other sectors in which FDI inflows are substantial. Other sectors are the FDI attractants. The study found that FDI inflows connect very favorably with Gross Domestic Product, Trade Operation, Foreign Reserves and Real Expected Exchange Rate. During the study period, inflation has adversely affected FDI influx.

**C. Shakya and M. K. Jatav (2016)** the context, importance and drivers of FDI have been explored in India. In the report the issues facing FDI in India were also discussed. The research revealed that there are 19 large investment plans, each of which is considered to be Rs.100 crores and projected investment of Rs.30, 552, 45 crores in respect of such projects. The survey showed that resource, politics, equity and federal government are the biggest issues in India.

**A. Rahman (2015)** the influence of FDI on Bangladesh's economic development was analyzed. The study analyzed the FDI's linkages and their influence over a period of 15 years, from 1999 to 2013, on selected macroeconomic metrics such as gross domestic product, inflation and balance of trade. The results indicated a negative link between FDI and economic growth. Multiple regression analysis has been utilized.

**Shamika (2015)** the impact of foreign FDI on eight Indian industrial sectors and the companies operating in those sectors was experimentally explored. Steel and iron, food, dairy and food processing; textiles, engineering products, and equipment; electrical and electric products; the car and auto auxiliary sector; medicines and pharmaceutical products and chemicals are the sectors considered in this research. For 195 companies from eight different industries the data are collected with financial measurements accessible throughout the research period. The Equation for Simple Regression, Common Model for Constant, Simple Effect, Granger Causality, VAR are employed. The study found that FDI's influence on the sales growth of companies is large, and FDI's influence on sales of chosen companies is favorable. Between all businesses, BHEL is at the top. The study concluded that FDI is also having a favorable influence on the company's market capitalization and that sales, total assets and FDI are related to causation.

**K. Gupta and I. Garg (2015)** The time lag needed to make FDI its most influence on economic growth in India has been investigated. The lag-regression models were used to evaluate this data on FDI and GDP for 2000-01 to 2012-13. The analysis indicated that a three-year term was required for FDI to contribute significantly and favorably to economic growth.

**A.P. Bhav (2014)** The FDI was explored by all industries and regions in India from 1995 to 2010. In order to discover the FDI drivers and assess regional or sectoral imbalances, Chi-square tests are utilized in the study using multi-variable linear regression model. The analysis revealed that the FDI is drawn to the select places. The western area has the most FDI. The FDI inflows are receiving the lowest proportion in the Northeast area. In the Indian distribution of FDI there are sectoral inequities. In the secondary and tertiary sectors, FDI is accumulated, while

foreign investment is disregarded in the primary sector. Due to aggressive government policies and economic circumstances, the service industry is becoming more important in the tertiary sector. The regression model indicated that the statistically relevant indicators were Gross Domestic Product (GDP), WPI, Current Account Balance (CAB) and the Foreign Exchange Reserve (FER).

**D. Nayak and R. N. Choudhury (2014)** Reviews on the reasons behind the FDI development were analyzed. The study indicated that there are a huge variety of ideas which explain why foreign capital shift. Some of the theories are the product of trade theories in perfect market settings, while others have come from the imperfect conditions of the market. However, foreign investment cannot be explained by a single explanation. While these are ways that differ, they are consistent in the opinion that a company travels overseas to profit from localization and globalization. These theories also show that domestic government policies also play a crucial role in fostering overseas investment.

**P. Dwivedi and J. Badge (2013)** FDI's service sector impact in India was investigated. The study revealed that foreign capital inflows had a favorable and considerable influence on the Indian economy. The study calculated the link between the FDI inflows and GDP and concluded that the association between them was positive and substantial.

**N. Kumari (2013)** the autocorrelation of FDI flow in India has been explored. In this study, the volume of the FDI flow was interconnected. The FDI equity will decide flow in any prior year in the coming year. The F-test indicated that the flow of FDI (equity) is one of the main reasons for changes in the overall inflow of FDI in India in addition to the cyclical oscillations.

**R. Anitha (2012)** During the Post-Liberalization Period FDI influx in India was analyzed, with the use of Autoregressive Integrated Moving Average (ARIMA) forecasting approach over a 5-year period from 2010-11 to 2014-15. The study concluded that, though FDI flows into the nation rose throughout the post-liberalization period, India's worldwide proportion of FDIs in comparison to other emerging countries is extremely low.

**Pardeep (2011)** Overall Foreign Direct Investment inflow in India was noted to be witnessing a growing trend. Mauritius is India's biggest direct investor. FDI has also shown that the sectors (production, power gas and building) are very positive correlating with the business sector and GDP. The primary attractive aspects for FDI include qualified labor and the picture of India. The automated RBI path during the duration of study is the most popular. FDI's state-specific inflow shows that there has been a larger FDI in the Mumbai region.

**Adams Samuel (2009)** Examined literature study in developing nations, in particular sub-Saharan Africa, on foreign direct investments and economic growth. The study concluded that the FDI contributes in two primary ways to the host country's economic development. First, by changing new technologies, managerial skills, marketing, innovation and best practices, it enhances home capital and improves efficiency. Secondly, FDI is cost-effective and profitable. Its influence varies on the particular countries and, in particular, the country's political context.

#### OBJECTIVES OF THE STUDY

- To analyze the growth, trend and pattern of Foreign Direct Investment Inflows in Indian economy.

- To examine the performance of Foreign Direct Investment in Indian economy by analyzing the relationship between FDI and economic growth of India.
- To study the pattern of concentration & dominance of FDI flows at international level and the status of India in World's FDI flows.

**RESEARCH METHODOLOGY**

To meet the goals of the study, the different econometric methodologies are applied. This study intends and envisages the application of modern econometric approaches, some of which have emerged in recent years. Our work relies heavily on time series data for analytical purposes. Time series is generally a succession of values of a specific variable over a certain length of time. The fact that economic observations seldom may be presumed to be time-based independent is more problematic than cross-sectional data. The fact that time series data is temporal in sequence is a clear property of time series data, which separates them from cross-sectional data. Secondly, economic time series meets the intuitive conditions for random variables to be produced.

The report initially offers the type and magnitude of the FDI's international flow across the period selected for the study in order to examine Indian economy's position in global FDI flows. The data available will be processed and submitted in the form of appropriate tables and figures. Moreover, the study examined FDI inflows in India's growth, trends and patterns. Two approaches are utilized in this study to detect growth rates:

- Annual Growth Rate (AGR)
- Compound Annual Growth Rate (CAGR)

**Annual Growth Rate (AGR)**

Annual growth rate is calculated by using following formula:

$$AGR = (X_t - X_{t-1} / X_{t-1}) \times 100$$

Here  $X_t$  = Value of X variable in t time period

$X_{t-1}$  = Value of X variable in t-1 time period

**Compound Annual Growth Rate (CAGR)**

The OLS (Ordinary Least Square) methodology is used to calculate the composite yearly growth rate by adapting the exponential function to the given data.

$$Y = AB^t$$

Where  $B = 1+g$  and  $g$  is the compound growth rate.

The logarithmic transformation of this function is as:

$$\text{Log } Y = \text{Log } A + t \text{ Log } B$$

$$\text{Or } Y^* = b_0 + b_1 t \dots\dots\dots (1.1)$$

Where,  $Y^* = \text{Log } Y$

$$b_0 = \text{Log } A$$

$$b_1 = \text{Log } B$$

This is a log linear function.

Parameter  $b_0$  and  $b_1$  values are calculated in equation (1.1) using the Ordinary Last Square (OLS) technique. The Annual Growth Compound (CAGR) is calculated with the following formula:

$$\text{CAGR (g \%)} = [\text{Antilog}(\hat{b}_1) - 1] \times 100$$

The analysis is based on interpretations of CAGR. To test the significance of exponential model the test is applied as follows:

$$t^* = \frac{\hat{b}_1}{S.E._{\hat{b}_1}}$$

Where  $\hat{b}_1$  = estimate of the slope of the trend and

$$S.E._{\hat{b}_1} = \text{standard error of the slope estimate } \hat{b}_1$$

Where the regression line is

$$\text{Log Y} = \text{Log A} + t \text{Log B}$$

Following the analysis of FDI flow rate growth in the international and in India, the analysis of FDI performance in the Indian economy will be also carried out by assessing the FDI input relationship in the Indian economy's economic growth during the 1991-92 to 2016-17 periods. The gross home products (GDP) figures at consistent prices are used as a proxy for economic growth, and foreign direct investment inflows are a proxy for external investment directly. to study the link between FDI and Indian economic growth (FDI). Billions of rupees of GDP and FDI stock are reported. First of all, a simple linear regression model is employed to examine the association between two variables.

- Simple Linear Regression Model
- Lag Regression Model Approach/ Regression Model with Time Lag
- Stationarity of Time Series
- Test for Stationarity

### **Test of Stationarity**

The Granger Causality Test, which is more authtonous than the lag regression model, is used to investigate the causal link between FDI and economic growth known as 'GDP.' However, the initial step is to identify if time series is steady or not before investigating a cause connection or causality of variables (FDI and GDP). In this work, the stationary is tested using two methods:

**1** Graphic Method

**2** Unit Root Method

We shall look at the standardization of the time series under examination using these approaches. A time series is considered to be stationary, whose statistical features remain consistent across time, such as mean, variance, autocorrelation, etc. The majority of statistical procedures are assumed to be steady in this case.

Foreign equity influxes are utilized as the proxy for FDI and Gross Domestic Product (GDP) as a proxy for growth to analyze the contribution. In the present study, many econometric methodologies have been used to fulfill the following research goals:

- Descriptive Statistics
- Regression Model
- Lag Regression Model/ Regression Model with Time Lag
- Test of Stationarity (Graphical Method, Augmented Dickey Fuller Test and Phillips Perron Test)
- Cointegration
- Granger Causality Test
- Vector Error Correction Model
- Variance Decomposition

## RESULT ANALYSIS

For the period of 1991-92 to 2016-2017 for the Indian economy, the study has been conducted utilizing yearly data. FDI equity inflows are used as proxy for Federal Foreign Direct Investment (FDI) and Gross Domestic Product (GDP) at a constant price to analyze the performance of FDI in India's economy by studying the FDI's link between economic growth and the FDI.

### Descriptive Statistics

In descriptive statistics the hidden pattern of any data series are shown. For analysis, FDI and GDP variables are used. The table below gives descriptive statistical information on the variables, including average, median, central trend measures, dispersal, and distribution.

**TABLE: 1 descriptive statistics of FDI and GDP**

Statistics	FDI	GDP
Mean	709.5785	46010.95
Median	166.5350	31232.00
Maximum	2916.960	121898.5
Minimum	3.160000	15033.37
Standard Deviation	854.8171	33898.47
Skewness	1.166264	1.108912
Kurtosis	3.339707	2.739949
Jarque-Bera	6.019092	5.401899
Probability	0.049314	0.067142
Sum	18449.04	1196285
Sum Square Deviation	18267805	2.87E+10
Observations	26	26

**Sources: calculation from E-Views 10**

**Analysis:** The distribution of both variables is obviously skewed from table 1 above. The standard deviation measures a significant degree of variability. The normality test Jarque –Bera (JB) for both FDI and GDP populations

is used to control normalcy. The null hypothesis H0 is being tested: time series distribution is generally distributed. Followed by the JarqueBera (JB) test is the Chi-square distribution with 2 degrees of freedom. At 1% probability level, the critical value of  $\mu_2$  is 10.6. However, for GDP and FDI the computed values of JB tests are 5.40. Because the values measured in both variables in the test of JB are smaller than the critical value, we cannot therefore reject the zero normality hypotheses and infer that the two populations are normal.

**Simple Linear Regression Model**

The model assumes that this year's FDI affects GDP and has no temporal delay. Table 2 shows the results of the aforesaid regression equation.

**TABLE: 2 results of regression model ( $GDP_t = \alpha_0 + \alpha_1 FDI_t + U_t$ )**

Lag(K)	Estimated $\alpha_0$	Estimated $\alpha_1$	T-statistic	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F-statistic
Without Lag	8.663 (0.180)	0.337 (0.031)	10.786	0.910	0.829	0.822	116.348

Note: \* Indicates at 1% level of significance and Figures in Parenthesis show standard error.

**Analysis:** R is a correlation measurement between the value being observed and the expected value of the variable criteria. Here the relationship between FDI and Indian economic development is high, since the value of R is 0.910. The t test result is 10,786, meaningful at 0,001. The outcome of the linear regression equation shows that FDI is positive with India's GDP.

**Lag Regression Model/ Regression Model with Time Lag**

**Analysis:** Table 3 shows the laggard model regression result, which shows that FDI has a positive connection with Indian GDP where temporal lags vary from 1 to 23 years. The lag regression model is analyzed in depth as follows:

**TABLE: 3 results of lag regression model ( $GDP_t = \alpha_0 + \alpha FDI_{t-k} + U_t$ )**

Lag (k)	Estimated $b_0$ (SE)	Estimated $b_1$ (SE)	Tb1 Statistics	R	R <sup>2</sup>	Adj R <sup>2</sup>	F-Statistics	DW (d)
0	19485.578 (2967.081)	37.382 (2.702)	13.836	0.943	0.889	0.884	191.448	0.557
1	21035.767 (3568.032)	42.194 (3.732)	11.306	0.921	0.847	0.841	127.817	1.096
2	21572.966 (3654.223)	50.170 (4.480)	11.199	0.922	0.851	0.844	125.421	1.249
3	22735.450 (3108.620)	56.805 (4.235)	13.413	0.946	0.895	0.891	179.920	1.321
4	25042.11 (2825.747)	60.795 (4.147)	14.661	0.956	0.915	0.911	214.955	1.908
5	28273.806 (3108.937)	62.264 (4.822)	12.913	0.947	0.895	0.892	166.751	1.419

Source: Author's computations

• Indicates at % level of significance and figures in parenthesis show standard errors

**Unit Root Method**

**(A) Unit Root Test for Gross Domestic Product (GDP)**

**TABLE: 4 RESULTS OF UNIT ROOT TEST FOR GDP (Phillips-Perron Test for GDP)**

	At level					
	Constant		Constant, Linear Trend		None	
	Critical Value	PP T-Stat.	Critical Value	PP T-stat.	Critical Value	PP T-Stat.
1% Level	-3.724070	2.268435	-4.374307	-0.41847	-2.660720	4.401987
5% Level	-2.986225	(0.9999)	-3.603202	(0.9809)	-1.955020	(1.0000)
10% Level	-2.632604		-3.238054		-1.609070	
	R <sup>2</sup> =0.15, Adj. R <sup>2</sup> =0.12 D.W.=2.11		R <sup>2</sup> =0.25, Adj. R <sup>2</sup> =0.18 D.W.=2.09		R <sup>2</sup> =0.15, Adj. R <sup>2</sup> =0.15 D.W.=2.13	
<b>Decision</b>	<b>Non-Stationary</b>		<b>Non-Stationary</b>		<b>Non-Stationary</b>	
	At First Difference					
	Constant		Constant, linear trends		None	
	Critical value	PP T-stat	Critical Value	PP T-stat	Critical value	PP T-stat
1% Level	-3.737853	-3.933200	-4.394309	5.012436	-2.664853	-2.904921
5% Level	-2.991878	(0.0064)	-3.612199	(0.0026)	-1.955681	(0.0055)
10% Level	-2.635542		-3.243079		-1.608793	
	R <sup>2</sup> =0.41, Adj. R <sup>2</sup> =0.39 D.W.=2.05		R <sup>2</sup> =0.54, Adj. R <sup>2</sup> =0.50 D.W.=2.02		R <sup>2</sup> =0.28, Adj. R <sup>2</sup> =0.28 D.W.=2.21	
<b>Decision</b>	<b>Stationary</b>		<b>Stationary</b>		<b>Stationary</b>	

Sources: Author's Computation (2018) using E-views 10 figures in parenthesis indicate probability

**Analysis:** Tables 5.4 and 5.5 show that GDP is not stationary at level, since there are more than 0.05% probability at (a) Constant and Linear trends and (c) None). Both ADF and Philips Perron (PP) tests indicate that GDP time series is non-stationary in level data and, after initial differences, becomes stationary. It means that at initial GDP difference we may use causal testing and it does not give false findings.

**(B) Unit Root Test for Foreign Direct Investment (FDI)**

**TABLE 5: RESULTS OF UNIT ROOT TEST FOR FDI (Phillips-Perron Test for FDI)**

	At level					
	Constant		Constant, Linear Trend		None	
	Critical Value	PP T-Stat.	Critical Value	PP T-stat.	Critical Value	PP T-Stat.
1% Level	-3.724070	2.317673	-4.374307	-0.540504	-2.660720	3.706326
5% Level	-2.986225	(0.9999)	-3.603202	(0.9740)	-1.955020	(0.9998)
10% Level	-2.632604		-3.238054		-1.609070	
	R <sup>2</sup> =0.08, Adj. R <sup>2</sup> =0.04 D.W.=2.32		R <sup>2</sup> =0.18, Adj. R <sup>2</sup> =0.11 D.W.=2.12		R <sup>2</sup> =0.06, Adj. R <sup>2</sup> =0.06 D.W.=2.34	
<b>Decision</b>	<b>Non-Stationary</b>		<b>Non-Stationary</b>		<b>Non-Stationary</b>	
	At First Difference					
	Constant		Constant, linear trends		None	
	Critical value	PP T-stat	Critical Value	PP T-stat	Critical value	PP T-stat
1% Level	-3.737853	-4.532995	-4.394309	-5.385370	-2.664853	-3.898610
5% Level	-2.991878	(0.0016)	-3.612199	(0.0011)	-1.955681	(0.0004)
10% Level	-2.635542		-3.243079		-1.608793	
	R <sup>2</sup> =0.48, Adj. R <sup>2</sup> =0.45 D.W.=2.05		R <sup>2</sup> =0.58, Adj. R <sup>2</sup> =0.54 D.W.=2.04		R <sup>2</sup> =0.40, Adj. R <sup>2</sup> =0.40 D.W.=2.03	
<b>Decision</b>	<b>Stationary</b>		<b>Stationary</b>		<b>Stationary</b>	
Sources: Author's Computation (2018) using E-views 10 figures in parenthesis indicate probability						

**Analysis:** Tables 5.6 and 5.7 show FDI is non-stationary at level data as the probabilities are higher than (0.05 percent at all levels (a) Constant (b) and Linear (s) and (c) None). We make the first order difference of each variable to acquire stationary variables. The Augmented Dickey-Fuller and Philips Perron (PP) test demonstrate that the FDI time series is not fixed on level data, but after making the first difference, the series becomes stationary. This means that at the initial FDI difference, we may perform the causality test and do not provide false findings. And we can see that both GDP and FDI values of ADF and PP are higher than crucial levels and that probability is lower than 0.05% which, at first, is desirable/ideal.

**Co-integration**

**TABLE: 6 RESULTS OF JOHANSEN COINTEGRATION TEST**

Hypothesized No of CE(s)	Eigen Value	Trace Statistic	Critical Value	Prob. **
None*	0.575774	29.11171	15.49471	0.0003
At most 1*	0.299177	8.531996	3.841466	0.0035
Source: Author's computation(2018)using E-view 10 Trace test indicates 2 co integrating equation(s) at the 0.05 level				
Unrestricted Co integration Rank Test (Maximum eighteen Value)				
Hypothesized No of CE(s)	Eigen Value	Trace Statistic	Critical Value	Prob. **
None*	0.575774	20.57972	14.26460	0.0044
At most 1*	0.299177	8.531996	3.841466	0.0035
Source: Author's computation(2018)using E-view 10 Trace test indicates 2 co integrating equation(s) at the 0.05 level				

**Analysis:** Co integration test Johanness presents the trace and maximum autonomy value used to determine the order of integration; both of these indicate that we reject the null hypothesis that none of the variables is co-integrated and that a variable is most commonly co-integrated as p-value  $0.00 < 0.05$ . The long-lasting connection between GDP and FDI means that GDP increases anytime FDI increases. Now that the variables (FDI and GDP) are co-integrated or a long-term or equilibrium connection exists between the FDI and GDP suggesting that they are not producing misleading findings by using the Granger-Causality test for FDI and GDP.

**Granger Causality Test**

**TABLE: 7 DIRECTION OF CAUSALITY BETWEEN FDI & GDP**

Leg Length	Results	Direction of Causality
1,1	$FDI \nRightarrow GDP, GDP \nRightarrow FDI$	No-directional
2,2	$FDI \nRightarrow GDP, GDP \Rightarrow FDI$	Uni-directional
3,3	$FDI \Rightarrow GDP, GDP \Rightarrow FDI$	Bi-directional
4,4	$FDI \Rightarrow GDP, GDP \Rightarrow FDI$	Bi-directional
5,5	$FDI \Rightarrow GDP, GDP \Rightarrow FDI$	Bi-directional
6,6	$FDI \Rightarrow GDP, GDP \nRightarrow FDI$	Uni-directional
7,7	$FDI \Rightarrow GDP, GDP \Rightarrow FDI$	BI-directional
Source: Above table 5.9 (Result of Granger Causality Test)		

**Analysis:** The findings of the Granger Causality Test and Causal Direction are presented above Table 5.9 and Table 5.10. For GDP as well as FDI it is evident from the table that, in the event where the F-value is lag 1, the F-value is not important. While the calculated F value is more important in the event of a time lag 3,4, 5 and 7 than the crucial

value of F at a meaning level of 1%. Thus the null hypothesis that GDP granger caused FDI is rejected at 3, 4, 5 and 7.

## CONCLUSION

FDI inflows in india growth, trends and determinants, using annual data. The analysis found that the main factor determining India's influx is the number of FDI and Indian variables gathered. Investment's tactical characteristics are needed for sustained growth and development in India, which may be included through FDI through job creation and skilled labor. It can be shown, that both at macro- and sector-based level, the results of the industry level output, export and productivity are insignificant due to the stumpy flow of FDI to India. Thus, India would do more by focusing on government and public policies by opening export-oriented sectors, and by improving human resources, to create a firm macro-economic framework and situations that would favor systematic and productive investment to boost the development and growth processes.

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