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THE IMPACT OF INWARD AND OUTWARD FLOW OF FOREIGN DIRECT INVESTMENT (FDI) ON ECONOMIC GROWTH IN INDIA: AN ECONOMETRIC ANALYSIS

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ABSTRACT
This paper examines the impact of inward (FDI) & outward (FDIOUT)flow of FDI on economic growth (GDP) in India, using time series data over the period 2000 to 2017. This study has employed the Vector Error Correction Model (VECM) to analyze the short-term and long-term relationship among FDI & FDIOUT and GDP. The VECM indicates that FDI has positive impact on GDP growth whereas; FDIOUT has a negative impact in the long run. However, in the case of short run FDI has a negative impact while FDIOUT has a positive impact on GDP growth. Additionally, the Granger causality test discloses that there exists a unidirectional causality from FDI to GDP and FDI to FDIOUT in India. However, bidirectional causality exists between GDP and FDIOUT.
KEYWORDS: ***Foreign direct investment; Inward; Outward; Gross domestic product; VECM; Granger causality.***

I.INTRODUCTION

The relationship between foreign capital and economic growth has fascinated substantial interest on the part of economic researchers both in the theoretical and empirical levels. Foreign capital denotes to the investment of capital by a foreign government, institution, private individual, and international organization in a country. Foreign Direct Investment refers to the inflow of investment from one country to another country (Siddique, et. all. 2017). It involves both the transfer of resource and the acquisition of control ((Mun, et. all 2008). Literatures propound that FDI improves economic growth by endowing capital, foreign exchange, technology and easing the access to foreign markets (Crespo & Fontoura, 2007). Moreover, they stated that FDI is capable to enhance domestic investment and innovation which will drive economic growth. Hence, Hayami (2001) discoursed that meaning of low-level equilibrium countries are low investment and low per capita growth due to low savings rate. The countries can escape from this trap by importing more capital from abroad in the form of FDI. In the current times there has been worldwide revival of interest in the inflow and outflow of FDI (Karuna, 2012).

AN OVERVIEW OF ECONOMIC GROWTH AND INFLOW & OUTFLOW OF FDI IN INDIA

Since independence Indian foreign investment was highly controlled by the government during the first three decades but the Indian government adopted measures in 1980's for foreign investment policy with the industrial policy administration. However, major steps were taken in 1991 for attracting foreign investment (Sunderi, 2014). GDP and inflow & outflow of FDI enhanced intensely in India over time. This was achieved due to adopt different policy and Indian economy integration into the global economy through large foreign capital inflows. Table 1 shows that India's GDP was $ 193.49 US billion in 1981 which increased to $ 2726.32 US billion in 2018. Whereas, inflow and outflow of FDI increased from $ 0.0919 US billion and $ 0.002 US billion to $ 42.117 US billion and $11.418

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US billion in 2018 respectively. In 1985 percentage changes in GDP was 00.9 per cent and it decreased to 0.08 per cent in 1990 due to economic crisis. As a result, FDI inflow was $0.23 US billion in 1990 which shows the negative percentage change i.e -0.06 percent. While, FDI outflows was negative before the 1990's. But in 1995 percentage change in FDI inflow and outflow was 1.202 per cent and 0.42 per cent respectively. Indeed, Indian economy implemented economic reforms in 1991-92 which made India's attractive destination for FDI. It is clear from the Table 1 that in 90's GDP growth kept on increasing and till the end of 2018 except the year 2000 which show a drastic fall in percentage that is 0.02 per cent. It was the result of Asian financial crisis which took place in 1997 and the Impact of this crisis lasted till end of 2000. In 2010 the percentage change in FDI outflow and inflow was because of a recession in 2008-09. FDI to India, which has historically accounted for 70 to 80 per cent of inflows to the sub-region, increased to $42 billion. Investment was strong in manufacturing, communication and financial services – the top three industry recipients (UNCTAD 2019).

Table:1 Trends of GDP and FDI inflows& outflows (in US$ billion) in India

Year	GDP		FDI					
	GDP	% changes	FDI Inflow	% of GDP	% changes	FDI outflow	%of GDP	% changes
1981	193.49	0.04	0.0919	0.05	0.16	0.002	0.001	-0.5
1985	232.51	0.09	0.10609	0.05	4.53	0.003	0.001	-0.25
1990	320.98	0.08	0.23669	0.07	-0.06	0.006	0.002	-0.4
1995	360.28	0.10	2.144	0.59	1.202	0.1172	0.03	0.42
2000	468.39	0.02	3.584	0.77	0.65	0.5095	0.11	-0.36
2005	820.38	0.16	7.269	0.89	0.33	2.641	0.32	0.44
2010	1675.62	0.25	27.397	1.64	-0.23	15.968	0.95	-0.008
2015	2103.59	0.31	44.009	2.09	0.27	7.514	0.36	-0.36
2016	2290.43	0.08	44.459	1.94	0.01	5.047	0.22	0.08
2017	2652.55	0.16	39.966	1.51	-0.10	11.09	0.42	0.16
2018	2726.32	0.03	42.117	1.54	0.05	11.418	0.42	0.28

Source: UNCTAD, World Investment Report,2019, World Bank Data and RBI handbook of Statistics (Figures within parenthesis indicate the percentage of GDP)

The share of Indian economy FDI outflows as a percentage of GDP rose from 0.001 per cent in 1981 to 0.42 percent in 2018. It is clear from the table 1 that the share of FDI outflows in India showed the fluctuation over the period. Thus, the difference between FDI inflows and outflows was relatively small during the first half of the decade after that, started increase significantly, especially after 2007-08.

For the growth of the India Economy foreign direct investment inflow played a very crucial role FDI empowered India to attain a certain degree of financial stability, growth and development. There are various problems in India they continue challenge the country and various sectors which need a lot of capital for development. This money has permitted India to focus on these sectors and area they have needed more economic attention. Top five sectors in India which attracted the most FDI cumulative inflows from 2000 to 2019 are service sector, computer software & hardware, telecommunication, construction development and trading with 17.65, 8.87, 7.82, 5.96 and 5.48 per cent respectively. Mauritius is the highest FDI investment in equity inflows with 32.01% of the cumulative inflow followed by Singapore (19.76%), Japan (7.21%), Netherland (6.51%) and UK (6.38%) (RBI fact sheet on FDI, 2019).

LITERATURE REVIEW

Economist differs in their opinions on the role of FDI inward and outward in the development process. In the development of any country the role of FDI has long been a topic of debate in several countries. These debates have provided ironic visions into the relationship between FDI and growth. Although in case of FDI inflow many studies exist such as Markiw, Romer, and Weil (1992), Borensztein, Gregorio, and Lee (1998), De Mello (1997), Flexner (2000), Zhang (2001, 2006), Khawar (2005), Li and Liu (2005), and Sokang, khun (2018) but very few studies have done in case of FDI outflow.

There are numerous literatures on economic growth exhibited that there is a different channel through which FDI affects economic growth. FDI can affect output and income by rising the stock of capital,

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labour force via job creation, and advancing the human capital by technology and knowledge transfers via labour training, skill acquisition, new management performs and organizational arrangements. Moreover, most of studies render a descriptive discussion of FDI and economic growth. Some studies provided a unidirectional causality from FDI to economic growth such as Zhang, (1999), Ramírez (2000), Almasaied et al. (2008), Tang et al. (2008), Sridharan et al (2009) and Agarwal (2014).

In case of India some studies also investigated the unidirectional relationship between FDI and economic growth. Durairaj (2010) examined the causal relation among Export, Economic Growth and Foreign Direct Investment (FDI) in India by using the monthly data from 1992 to 2008. Autoregressive distributed lag (ARDL) cointegration model has been used and found the long run relationship among Export, Economic Growth and FDI. In the short run results revealed the existence of unidirectional causal relationship from Export to FDI and bidirectional relationship between Export and Economic Growth. As a result, during the post liberalization period, trade liberalization has not only caused trade expansion but also increased the inflow of FDI in India which stimulate economic growth. Same results are found by Ghazali (2010), Gaikwad (2013), Ibrahim and Muthusamy (2014) and Hossain & Hossain (2014).

Some studies which found the causality between FDI and economic growth that run from economic growth to FDI such as Chakraborty and Basu (2002) used the co-integration and error-correction model to examine the link between FDI and growth in case of India. The results revealed that GDP in India is not Granger caused by FDI, and the causality runs more from GDP to FDI. Supported by Anitha (2012), Ray (2012), Sundari (2014).

Verma and Baidhanathan (2014) directed a study to examination empirically the substantial role FDI would play as the economic growth engine covering the period of 34 years from 1980 to 2013. The independent sample t-test, multiple regression and ARIMA model are used in the study. Results found a significant relationship of GDP with FDI inflows in India. It is also found that GDP growth is the major factor in determining the FDI inflow.

Chow (1995), Miankhel et. Al (2009) and Rudra et al (2009) reported bidirectional relationship between FDI and economic growth. The results of empirical studies are moderately mixed because of different methodologies are used.

The main purpose of this study is to explore the causal relationship among FDI inflow, outflow and economic growth in India. The specific objectives are:

1. To examine the dynamics of short-term linkages among FDI inward & outward and economic growth.
2. To explore the presence of long-term equilibrium relationships among FDI inward & outward and economic growth.
3. To capture the causality and direction among the variables under study.

The rest of the section is systematized as follows. The Section II concerns with data and methodology. The empirical results are shown in Section III. Finally, Section IV provides concluding remarks of the study.

II. DATA AND METHODOLOGY

Data

This study is based on the secondary data. This study is conducted by using the annual time series data on inflow and outflow of foreign direct investment and economic growth in the case of India. All the data has been taken INR rupees in million from 2000 to 2018. The data has been collected from the different sources such as RBI-Handbook of Statistics on Indian Economy, Department of Industrial policy and promotion, UNCTAD,World Investment Report, reports and publication of government, economic journal, books, magazine and internet etc.

Model Specification

For the empirical analysis, we formulate the following functional relationship:

$GDP_t = \beta_t + \beta_t FDI_t + \beta_t FDIOUT_t + \mu_t$ …… (1)

where GDP is gross domestic product, FDI is foreign direct investment inflow in India and FDIOUT is foreign direct investment outflows by India, $\beta_0$denotes the intercept term, β_1 and β_2 are slope coefficients representing parameters to be estimated, and μ_t is the disturbance term assumed to be purely random.

Cointegration and causality tests

This study has two objectives. The first is to evaluate how the variables are related in the long run and short run. The second is to evaluate the causal relationship among the variables. This study is analyzed in three steps. First step is taken by using the unit root tests and second is to test for cointegration among the variables. If cointegration is existed, the third step observes the causal relationships among the variables.

Unit Root Test

The main objectives of using the unit root test are to check that the data is stationary or not. The data is said to be stationary if its mean, variance and covariance remains constant over time. To check the stationarity of the variables the Augmented Dickey-

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Fuller Test (1979) and Phillips-Perron (PP) Unit Root Test (1988) areapplied.

Test of Co-integration

After that all the data are got in stationarity then to confirm the long run association among the variables Johansen (1988) and Johansen and Julius (1990) are used. Economically speaking two or more variables are said to be cointegrated when they have a log-run equilibrium relationship between them (Gujarati 2012). The Vector Error Correction Model is run after existed the cointegration among the variables.

Subsequently, the study is employed Error Correction Model to test whether there is a short run relationship between the variables as well as the speed of adjustment towards long run equilibrium. The greater the co-efficient of the parameter, the higher the speed of adjustment of the model from the short-run to the long-run.The Error Correction Model (ECM) can be formulated as follows;

$\Delta GDP_t = \theta_1 + \sum_{j=1}^{P} \beta 1j\ \Delta\ GDP_{t-j} + \sum_{j=1}^{P} \Upsilon 1j\ \Delta FDI_{t-j} + \sum_{j=1}^{P} \varphi 1j\ \Delta FDIOUT_{t-j} + \alpha_1\ ecm_{t-1} + \varepsilon_{1t}$ ……. (2)

Granger Causality test based on VECM

The order of Vector Auto regression (VAR) of order p in the error correction model is defined by minimizing the Akaike information criterion (AIC) and Schwartz Bayesian criterion (SBC). The Granger causality test is used to check the causality among the variables. The Granger causality test is based on the following Vector Error Correction Models (VECMs):

$\Delta GDP_t = \varphi_1 + \sum_{i=1}^{n-1} \alpha 1i\ \Delta GDP_{t-i} + \sum_{i=0}^{m-1} \beta 1i\ \Delta FDI_{t-i} + \sum_{i=0}^{j-1} \Upsilon 1i\ \Delta FDIOUT_{t-i} + \theta_1\ ecm_{t-1} + \omega_{1t}$ ……(3)

$\Delta FDI_t = \varphi_2 + \sum_{i=0}^{n-1} \alpha 2i\ \Delta GDP_{t-i} + \sum_{i=1}^{m-1} \beta 2i\ \Delta FDI_{t-i} + \sum_{i=0}^{j-1} \Upsilon 2i\ \Delta FDIOUT_{t-i} + \theta_2\ ecm_{t-1} + \omega_{2t}$ ……(4)

$\Delta FDIOUT_t = \varphi_3 + \sum_{i=0}^{n-1} \alpha 3i\ \Delta GDP_{t-i} + \sum_{i=0}^{m-1} \beta 3i\ \Delta FDI_{t-i} + \sum_{i=1}^{j-1} \Upsilon 3i\ \Delta FDIOUT_{t-i} + \theta_3\ ecm_{t-1} + \omega_{3t}$ ……(5)

Where Δ= Difference operator, Ecm_{t-1} = one period lagged value of error correction term.

The significant error correction term is interpreted as the long-run causal effect.

Finally, other statistical test such as Autocorrelation, Heteroskedasticity and Normality test is also applied.

III.EMPERICAL RESULTS AND DISCUSSION

Unit root test is used to find out whether variables are stationary or not. The table 2 below shows the results of both the ADF and PP Tests of unit root.

The results show that all the variables are non-stationary at the level and first differences, but it becomes stationary when 2nd differences have been taken.

Table: 2 ADF and PP stationarity test

Variables	ADF	PP
	Intercept	Intercept
GDP	0.063 (0.986)	5.574 (1.000)
FDI	-0.665 (0.830)	-0.665 (0.830)
FDIOUT	-1.095 (0.692)	-1.095 (0.692)
Ist Differences		
GDP	0.694 (0.821)	-0.574 (0.857)
FDI	-3.017 (0.055)	-3.022 (0.054)
FDIOUT	-2.218 (0.208)	-2.215 (0.209)
2nd Differences		
GDP	-4.133 (0.007) *	-4.259 (0.005) *
FDI	-5.229 (0.001) *	-5.227 (0.001) *
FDIOUT	-3.331 (0.033) *	-4.593 (0.003) *

Note: * stationary at second difference at 5% critical value.

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The variables are stationary the further step is to test the cointegration by using the Johansen full information maximum likelihood. But before this step, it is necessary to select the lag criteria. To fulfill this, VAR Lag order selection criteria method has been adopted. The VAR lag order selection criteria is used 1 for estimation purpose because LR, FPE, AIC, SC and HQ statistics are chosen lag 1for each endogenous variable in their autoregressive and distributed lag structures in the estimable VAR model. Next step is to check the existence of number of cointegration by applying the Johnson cointegration test.

The results show from the Table 3 (appendix) that the null hypothesis of no co-integrating equation is sturdily rejected with a probability of 0.5 percent because the critical value of trace statistics and Maximum Eigen is greater than at the 5 per cent level. It means accept the null hypothesis that is there exist a long run cointegration among the variables. This is the first research question of this paper.

As now stated, and verified by the Johansen test of co-integration that there exists long run relationship among the variables therefore, a Vector Error Correction Model (VECM) is used in this study in order to check both long run and short run causality of the variables and the results are presented in Table-5 and Table-6. The estimated co-integrating coefficient for the GDP based on the first normalized Eigen vector is as follows; which is derived from the results shown in Table-4.

GDP= 17487.07 + 58.22199FDI (-1) – 56.65127 FDIOUT (-1)

Table 4 cointegration vector

GDP (-1)	FDI (-1)	FDIOUT (-1)	Constant
1.0000	-58.22199 (-20.2162)	56.65127 (10.5653)	-17487073

These values represent long term elasticity measures and bracket values represent the t-statistic of the co-integrating coefficient of FDI and GDIOUT. The coefficient for FDI is positive, which suggests that increase in inflow of foreign direct investment enhances the economic growth of whereas the coefficient for FDIOUT is negative which implies that increase in outflow of foreign direct investment decreases the economic growth of India. This positive and negative impact of FDI and FDIOUT appears to be statistically significant because the value of t-statistic is more than 2.

The coefficient of Error Correction Term (ECT), as shown in Table-5, is negative (-0.054285) and statistically significant at 10 percent level of significance. This point toward that GDP do react significantly to re-establish the equilibrium relationship once divergence happens.

Table 5: Vector Error correction Estimates

	Coefficient	Std. Error	t-Statistics	Prob.
C(1)	-0.054285	0.028734	-1.889209	0.0855
C(2)	1.097136	0.079898	13.73166	0.0000
C(3	-4.996268	1.552767	-3.217655	0.0082
C(4)	6.397902	2.2478877	2.846198	0.0159
C(5)	699.5960	659.5302	1.060749	0.3115
R-Squared 0.954616			Mean dependent var 9123.678	
Adjusted R-squared0.938112			S.D. dependent var 4711.990	
S.E. of regression1172.213			Akaike info criterion 17.22148	
Sum squared residual15114909			Schwarz criterion 17.46291	
Log likelihood132.7718			Hannan-Quinn criter. 2.086280	
F-statistic57.84365			Durbin-Watson stat. 2.086280	
Prob (F-statistic) 0.00000				

Consequently, the statistically significant negative ECT ratifies the long run equilibrium relation among FDI, FDIOUT and GDP. The significant negative sign of relative price of FDI, FDIOUT and GDP -0.054285replicates a strong convergence rate to equilibrium point per period. This could be deduced that GDP will congregate towards its long run equilibrium after the alteration in FDI and FDIOUT at lag 1. Accordingly, the rate of next year's GDP is influenced to a higher degree by the current year's FDI

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and this prediction appears to be accurate by 95 percent. Because the R-squared value is 0.954616 it means 95 per cent model is good fitted and all the independent variables can define the dependent variables 95 per cent in a correct way.

The results also show that the change in the FDI is negatively influenced by the lagged value of GDP. This interpretation is made by citing the negative error coefficient term (-4.996268). However, the variation in the FDIOUT is highly affected by the lagged value of GDP. This inference is made by citing the positive error coefficient term (6.397902). Therefore, VECM results, approve that GDP converges towards its long run equilibrium after the change in FDI at lag 1. Thus, from this it found that inflow of foreign direct investment has significant negative impact on economic growth while outflow of FDI has a positive impact on GDP growth process of Indian economy.

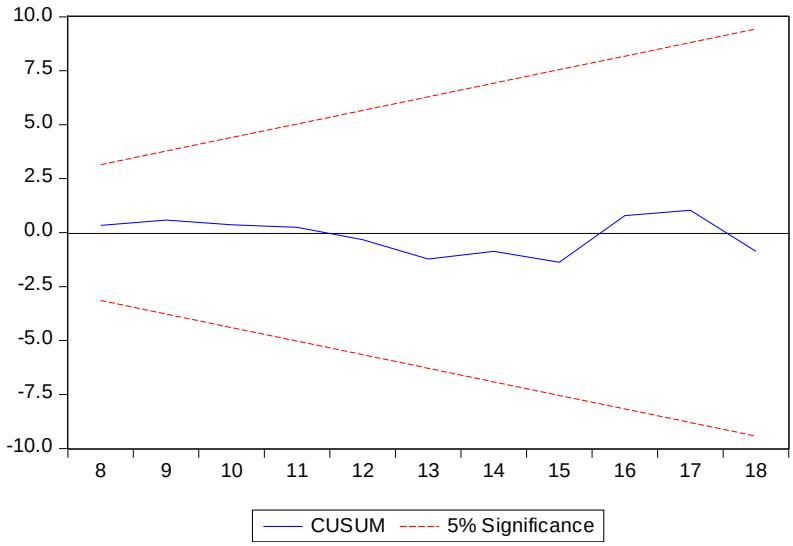
Before Granger Causality Test it is necessary to check the robustness of the model by diagnostic tests for normality test, serial correlation and hetercedasticity.

For the Normality Test Jarque-Bera approach is used. Results reveals that the residuals are normally distributed because the probability is more than 5 per cent (appendix Fig 1).For testing the residuals for autocorrelation this study employed LM Test of residuals serial autocorrelations adopted by Breusch-Godfrey(Table 6 appendix).The null hypothesis of no serial correlations is accepted with the probability of observed R-Squared value is greater than the 5 per cent significance level. Finally, to certify consistency, the study added employed Breusch-Pagan-Godfrey Heteroskedastic Test which is shown in table 7 (Appendix). The results show that the probability value of the observations R-Squared is greater than the 5 per cent level it means the null hypothesis of no Heteroskedasticity is accepted. Thus, the study is not suffering from Heteroskedasticity.

VAR Stability

This paperassesses the stability among FDI, FDIOUTand GDP and rely on the test "CUSUM" to check the constancy of parameters. Figure 2 then show the stability of the coefficients during the estimation period.

Figure 2: CUSUM test



Granger Causality Test

Since there is cointegration among the variables, further step is to test for the direction of causality using the vector error correction model (VECM). The existence of a cointegrating vector consents for the use of a vector error correction model to test causalityand results are shown in the Table 8.

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Table 8: Granger Causality Test

Sample period: 2000-01 to 2017-18			
Include observations: 16			
Null Hypotheses	**Chi-sq**	**Df**	**Prob.**
FDI does not Granger cause GDP	10.35330	1	0.0013
GDP does not Granger cause FDI	2.884090	1	0.0895
GDP does not Granger cause FDIOUT	11.47398	1	0.0007
FDIOUT does not Granger cause GDP	8.100840	1	0.0044
FDIOUT does not Granger cause FDI	2.351827	1	0.1251
FDI does not Granger cause FDIOUT	5.578024	1	0.0182

Source: Authors Calculations using E-views

It is noticed from the above table that between FDI and GDP have a unidirectional relationship because FDI does affect to GDP but GDP does not affect to FDI. This result supported by many researchers that causality run from FDI to GDP such as Bhatt (2014), Pegkas (2015), Kisswani, Kein, and Shetty (2015), Tan& Tang, (2016), Vogiatzoglou&Thi, (2016). Larger flows of foreign direct investment into India brings productivity gains, technology transfer, introduction of new processes, managerial skills and know-how to the domestic market, with international production networks and approach to markets that contributes in economic growth through spillover effect, linkage effect and competition effect. Furthermore, this flow encourages the size of the domestic market that leads to swift economic growth, resulting from the higher level of aggregate demand.

Whereas, the null hypotheses that GDP does not granger cause FDIOUT and FDIOUT does not granger causes GDP were rejected. This confirmed that over the periods between both variables exists bidirectional causality. The results indicate that FDI by India in across countries of goods and services benefit the economy to produce more foreign currency for further investment, correct the balance of payments, increasing the competition which in turn generates more income and employment. On the other hand, economic growth contributes in allocation of resources for both domestic export purposes (virtuous cycle of wealth). Furthermore, it is observed that FDI outflow from India does not affect to FDI inflow but FDI inflow in India does affect to the FDI outflow from India.

IV. CONCLUSION

This study focuses on the relationship among FDI inflow, outflow and economic growth in case of India for the period 2000 to 2017 by using the cointegration and causality test. The results suggest that there exists a unit root problem which means all the variables are non-stationary but it becomes stationary at second differences by using the ADF and PP test. All the variables are found cointegrated while used the Johansen co-integration test.

The normalized co-integrating equation derived from the VECM indicates that FDI has positive impact on GDP growth and FDIOUT has a negative impact in the long run. However, in the case of short run FDI has a negative impact while FDIOUT has a positive impact on GDP growth. ECT is negatively significant at 10 per cent level which rectifies equilibrium relations among FDI, FDIOUT and GDP growth. Consequently, the rate of next year's GDP is influenced to a higher degree by the current year's FDI and this prediction appears to be accurate by 95 percent.

The Granger causality test reveals that there exists a unidirectional causality from FDI to GDP and FDI to FDIOUT in India. In India capital is limited which is required for economic growth and there are many issues such as Health, poverty, employment, education, research and development, technology obstacles, global competition. The flow of FDI helps in the development of Indian economy which comes from across the world by filling the gap between domestic savings and investment. And also, FDI is expected to boost output, better technology, skill levels, employment, sustaining a high level of investment, technological gap, exploitation of natural resources, development of basic economic infrastructure, scope of more trade and linkages with other sectors and regions of the host economy.

And results also show the bidirectional causality between GDP and FDIOUT. In the case of India, the FDI outflow help the economy to the expand the base of domestic firms, who are now able to compete globally, reflecting enhanced quality and cost competitiveness to sustain long-term domestic and international growth. At the same time, access to markets, natural resources, distribution networks, foreign technologies, and strategic assets like brand names have motivated Indian companies to increasingly look outward in their endeavors to internationalize their operations. Further, the shift in the pattern of financing overseas investment, from

equity outflows from the host country towards re-invested earnings, is an indicator of the increasing confidence of Indian firms in their internationalization process and the stability of such investments across a cross section of countries.

If FDI has a positive impact on economic growth, then a host country should boost FDI flows by providing infrastructure subsidies, tax incentives, import duty relaxation and other measures to attract FDI. If FDI affects negatively to economic growth then a host country should take precautionary measures to discourage and restrict such capital inflows.

REFERENCES

1. *Agrawal, Gaurav (2014). Foreign Direct Investment and Economic Growth in BRICS Economies: A Panel Data Analysis, Journal of Economics, Business and Management, Vol. 3, No. 4, pp-412-424.*
2. *Almasaied, S. W., Baharumshah, A. Z., & Rashid, S. (2008). The impact of domestic and foreign direct investments on economic growth: Evidence from ASEAN countries. Pertanika Journal of Social Sciences & Humanities, 16(2), 239–255.*
3. *Andersen, P.S and Hainaut, P. (2004). Foreign Direct Investment and Employment in the Industrial Countries. http:\\www.bis\pub\work61.pdf.*
4. *Anitha, R (2012) Foreign Direct Investment and Economic Growth in India, International Journal of Marketing, Financial Services & Management Research, Vol.1 No.8, August 2012, pp.108-125.*
5. *Bank, EXIM. (2014). Outward Direct Investment from India: Trends, Objectives and Policy Perspectives, Occasional Paper No. 165.*
6. *Chakraborty, C. and Basu, P (2002). Foreign direct investment and growth in India: a cointegration approach. Applied Economics, Vol. 34, pp. 1061-1073.*
7. *Chang, S. C. (2010). Estimating relationships among FDI inflow, domestic capital, and economic growth using the threshold error correction approach. Emerging Markets Finance & Trade, 46(1), 6–15. http://dx.doi.org/10.2753/REE1540-496X460101*
8. *Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. Journal of the American Statistical Association, 74, 427–431.*
9. *Durairaj. K (2010) Foreign Direct Investment, Export and Economic Growth in India: An Application of ARDL Model. Asian-African Journal of Economics and Econometrics, Vol. 10, No. 2: 245-259.*
10. *Elboiashi, H., Noorbakhsh, F., Paloni, A., &Azemar, C. (2009). The casual relationships between foreign direct investment, domestic investment and economic growth in North African non-oil producing countries: Empirical evidence from cointegration analysis. Advances in Management, 2, 19–25.*
11. *Gaikwad, Pratibha S. (2013). The Impact of Foreign Direct Investment (FDI) on Gross Domestic Production (GDP) in Indian Economy, Information Management and Business Review, Vol. 5, No. 8, pp. 411-416, Aug 2013.*
12. *Ghazali, A. (2010). Analyzing the relationship between foreign direct investment domestic investment and economic growth for Pakistan. International Research Journal of Finance and Economics, 47, 123–131.*
13. *Gujrati, N. Damodar& Sangeetha (2007) Basic Econometrics, Tata McGraw-Hill Publishing Company Limited, New Delhi, 4th ed.*
14. *Hossain, Anowar& Hossain, Mohammad Kamal (2012). Empirical Relationship between Foreign Direct Investment and Economic Output in South Asian Countries: A Study on Bangladesh, Pakistan and India, International Business Research, Vol. 5, No. 1, January 2012, pp.9-21.*
15. *Ibrahim, M.Syed& Muthusamy. A (2014). Role of Foreign Direct Investment in India's Economic Development- An Analysis, Journal of International Relations and Foreign Policy, Vol.2, No.2, June 2014, pp.101-113.*
16. *Johansen S. (1988). Statistical analysis of cointegrating vectors. Journal of Economic Dynamic and Control. 12:231-254.*
17. *Johansen S, Juselius. (1990). Maximum likelihood estimation and inference on cointegration: with application to the demand for money. Oxford Bulletin of Economics and statistics.*
18. *52(2):169-210.*
19. *Kurlantzick, J. (2008). China's Expanding Global Influence. Testimony before the US, China Economic and Security Review Commission, 18 March.*
20. *Miankhel, A., K., Thangavelu, S., M., &Kalirajan, K. (2009). Foreign Direct Investment, Exports, and Economic Growth in South Asia and Selected Emerging Countries: A Multivariate VAR Analysis, CCAS Working paper No.23.*
21. *Phillips, P. C. B., &Perron, P. (1988). Testing for unit roots in time series regression.Biometrika, 75, 335–346. http://dx.doi.org/10.1093/biomet/75.2.335*
22. *Ramírez, M. (2000). Foreign direct investment in Mexico: A cointegration analysis. The Journal of Development Studies, 37, 138–162. doi:10.1080/713600062.*
23. *Ray, Sarbapriya (2012). Impact of Foreign Direct Investment on Economic Growth in India: A Co integration Analysis, Advances in Information Technology and Management (AITM) Vol. 2, No. 1, 2012, pp-187-201.*
24. *RBI (2019) Fact Sheet on Foreign Direct Investment (FDI) From April, 2000 To March, 2019.*
25. *Rudra, P., & Pradhan. (2009). The FDI led-growth hypothesis in ASEAN-5 countries: Evidence from*

co-integration panel analysis, International Journal of Business and Management, Vol. 4, No.12. accessed from: http:// ccsenet.org/journal/index.php /ijbm/article/ download/3581/3811.

26. *Sridharan, P., Vijayakumar, N., & Chandra Sekhara Rao, K. (2009) Causal Relationship between Foreign Direct Investment and Growth: Evidence from BRICS Countries, International Business Research, Vol.2, No.4, accessed from: http://ccsenet.org /journal /index.php/ibr/ article/view/3660/3442.*
27. *Subramanian, R., & Indian Institute of Management Ahmedabad. (2010). FDI outflows from India an examination of the underlying economics, policies, and their impacts. Working Paper, (WP no 2010-03-01), 95 p.*
28. *Sundari. C.U.Tripura (2014) Causality between Foreign Direct Investment and Economic Growth in India. International Journal of Business Quantitative Economics and Applied Management Research, ISSN: 2349-5677 Volume 1, Issue 7, December 2014.*
29. *Tang, S., Selvanathan, E. A., &Selvanathan, S. (2008). Foreign direct investment, domestic investment and economic growth in China: A time series analysis. World Economy, 31, 1292–1309. doi:10.1111/j.1467-9701.2008. 01129.x*
30. *United Nations Conference on Trade and Development (UNCTAD) and World Investment Report (WIR), 2019.*
31. *Verma, Ruchitha&Baidhanathan Sadashiv (2014) Foreign Direct Investment in India: An Econometric Analysis, European Academic Research, Vol.2, No.6, September 2014, pp.850-8548.*
32. *Zhang, H. (1999). FDI and economic growth: evidence from ten East Asian Economies. Economia International. 7(4). 517-535.*

APPENDIX

Table-3. Results of Johansen Co-integration test

Cointegration Test	Level	Max. Eigen	Statistics	Critical Value at 5%	Prob.
Trace Test	None *	0.889628	52.45910	29.79707	0.0000
	At most 1*	0.625671	17.19668	15.49471	0.0275
	At most 2	0.088051	1.474739	3.841466	0.2246
Max. Eigen	None *	0.889628	35.26242	21.13162	0.0003
	At most 1*	0.625671	15.72194	14.26460	0.0292
	At most 2	0.088051	1.474739	3.841466	0.2246

Trace test and Max-eigenvalue test indicate 2 cointegration eqn (s) at the 0.05 level
*denotes rejection of the hypothesis at the 0.05 level

Figure 1: Normality Test

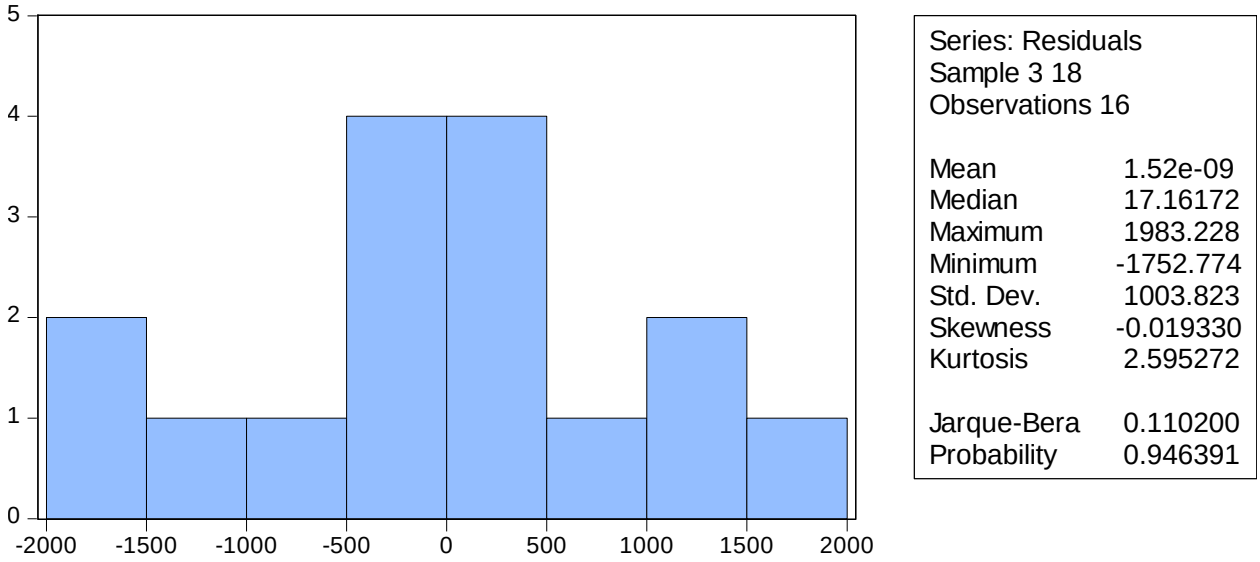

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Table 6

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.008679	Prob. F(1,10)	0.3389
Obs*R-squared	1.466013	Prob. Chi-Square(1)	0.2260

Table 7

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	3.555004	Prob. F(6,9)	0.0434
Obs*R-squared	11.25223	Prob. Chi-Square(6)	0.0809
Scaled explained SS	4.242177	Prob. Chi-Square(6)	0.6439