

Foreign Direct Investment Economic Growth Nexus In India

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ABSTRACT

FDI is treated as a main engine of economic growth and technological development which provides ample opportunities in accelerating economic development. Economic growth also leads to FDI the phenomenon of economic growth and FDI is thus complex in nature. Most of the studies conduct their analysis on the basis of yearly data series, while economic growth processes may be influenced in either the short run or the long run. Thus the objective of the paper is to examine: 1. Trends and pattern of FDI 2. FDI causes economic growth 3. Economic growth causes FDI 4. Short run and long relationship between FDI and economic growth. The time period is from 1991-2009 as economic reforms started after 1991 in India. The data base is on a quarterly basis. Economic growth is quantified in terms of the Industrial productivity index, because the National income data base is not available on a quarterly basis from 1991.

After converting the data series on FDI and Industrial Production into their logarithmic form, the unit root test has been carried out. Both the series LNFDI and LNIP in levels are found to be integrated of order 1 indicating thereby that the series are non-stationary. This permits carrying out cointegration test between the two series. Results show that there is a long run relationship between the two variables. Short-run relationship between FDI and IIP has been estimated in terms of error correction model when taking FDI as dependent variable the negative coefficient of Z_{t-1} indicates that if the FDI is above its long-run relationship with the IIP, it will decrease to return to equilibrium. The Granger- Causality test between FDI and IIP was run up to lag 3.3, Result shows that IIP does not Granger Cause FDI but FDI Granger Causes IIP.

Key Words: Foreign Direct Investment, Economic Growth, Short and Long Run Relationship, Cointegration Test, Error Correction Model, Granger Causality Test.

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INTRODUCTION

Foreign direct investment plays a pivotal role in the process of economic development particularly in the capital scarce country, where the domestic base of created assets like technology, skills and entrepreneurship are quite limited. It provides financial resources for investment in a host country and thereby augments domestic saving efforts. It also plays an important role in accelerating the pace of economic growth. FDI provides the much needed foreign exchange to help the bridge the balance of payments or trade deficit. FDI brings complementary assets such as technology, management and organizational competencies and there are spillover effects of these assets on the rest of the economy. FDI is treated as a main engine of economic growth and technological development which provides ample opportunities in accelerating economic development. FDI contributes to exports directly and an enhanced export possibility contributes to the growth of the host economies by relaxing demand side constraints on growth. World investment report 2002 defines FDI as an investment involving a long term relationship and reflecting a lasting interest and control by a resident entity in one economy in an enterprise resident in an economy other than that of the FDI enterprise. FDI according to UNCTAD implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Encouragement of FDI is an integral part of the economic reforms process of developing nations because it is seen as an instrument of technology transfer, managerial skill, and augmentation of foreign exchange reserves and globalization of the economy. Economic growth, continuing liberalization of investment policies and trade regimes, and increased competition among firms are likely to drive the global expansion of MNC activity.

Fears have been expressed that FDI may asset-strip indigenous enterprises, simply replacing host country enterprises and financing without adding to capital formation or economic growth. This will create a situation of "Branch-plant economy" or plebian aspect of MNC's operation (Robert E. Lipsey 2000). Some critics are of the view that capital inflows do not always increase welfare in the host countries. Benefits from FDI are usually evaluated under the assumption that host countries can absorb a large inflow of capital without large declines in its rate of return. But if capital grows much faster than the productivity of the labor, its productivity will fall, which might reduce its rate of return significantly. The main problem therefore is how host country can minimize possible negative effect of FDI through appropriate policies. Economic growth also leads to FDI since higher levels

of economic growth will be attained through efficient use of resources, which reduces the cost per unit of output, and also creates a market for the output produced. This will attract still higher levels of FDI. The phenomenon of economic growth and FDI is thus complex in nature. Most of the studies conduct their analysis on the basis of yearly data series, while economic growth processes may be influenced in either the short run or the long run. Short- run impacts of the relationship between economic growth and FDI and country specific studies pertaining to developing countries are limited in the literature.

The present paper investigates the casual nexus between FDI and economic growth with special reference to India. Section 2 presents review of the literature, section 3 analysis trends and pattern of FDI in India. Section 4 presents the methodology of the study, section 5 presents' empirical results and section 6 presents some concluding remarks. Thus the objective of the paper is to examine:

1. Trends and pattern of FDI.
2. FDI causes economic growth.
3. Economic growth causes FDI.
4. Short run and long relationship between FDI and economic growth.

The time period is from 1991-2009 as economic reforms started after 1991 in India. The data base is on a quarterly basis. Economic growth is quantified in terms of the Industrial productivity index, because the National income data base is not available on a quarterly basis from 1991.

Review of Literature

Studies pertaining to the FDI - Economic Growth Nexus can be classified as: (1) Cross Country studies and (2) Time series studies. Cross Countries Studies emphasize that the economic growth of a country is influenced not only by FDI but by factors such as domestic policies on monetary, fiscal and external matters. Time series studies used the framework of Granger-casualty test (Granger 1969) that is based mainly on F-test statistics

In the year 1977, Koizumi and Kopecky were the first to recognize the importance of technology transfer on FDI. They are of the view that technology transfer was assumed to increase as foreign capital increased in the country. (Caves 1974, Globerman 1979) Foreign direct investment increases the productivity of domestic firms, increasing the rate of productivity convergence toward the level in the corresponding industry of the MNE home country.

Many economists (Lucas 1993) have argued that 'Growth Miracles' in less developed regions can easily arise out of increased innovation based upon inflows of foreign direct investment from the technological most advanced regions. Romer(1993) - that there is direct relationship between inward FDI in relation to the size and economic development of a country. One of the most important and easily implemented policies is to give foreign firms an incentive to close the idea gap, to let them make a profit from doing so. FDI and the corresponding entry of MNC into developing country markets are now viewed as the key to rapid economic growth. (Lee 1998, Blomstom, Lipsey and Zejan 1996) Foreign direct investment has a substantial, positive effect on macroeconomic growth, particularly when the host country has abundant stock of human capital and skilled labor. Syed Aziz Anwar (1999) in his paper "Reassessing Determinants of FDI in some emerging Economics" presents a different aspect of FDI in connection with the countries from Asia, America, Africa and Europe. It suggests that FDI plays an important role in accelerating the race of economic growth. Although empirical studies on foreign direct investment are far from unequivocal, the WTO review of empirical and case studies supports the view that foreign direct investment contributes to improving international competitiveness and economic growth in developing countries. Bhattacharya & S. Palaha (1996) has discussed FDI in India. Authors are of the view that though there has been substantial improvement in the inflows of FDI to India yet there are some aspects that need to be considered for future growth. The government of a poor country can therefore help its residents by creating an economic environment that offers an adequate reward to Multinational Corporation

when they bring ideas from the rest of the world and put them to use with domestic resources.

Gandhi (2007) also discussed the FDI inflows to India in his article FDI inflows road to India's rapid development. According to him India needs large investment to fuel economic growth and he thinks FDI can play a major role on that. Boghooon Kim (2009) in his article elaborately discussed the FDI in India. According to him from 2006 onwards FDI inflows has shown a rising trend. Country wise and sector wise FDI inflow is explained by him. According to him there are some significant conflicts in India internally regarding FDI issues. From the view of central govt dimension policies are improving but conflict with state govt is causing delay of investing too.

FDI IN INDIA SINCE 1991

Most discussed topic in the economic world of the developing country like India in recent years is FDI. India is the second most populous country and the largest democracy in the world. Until 1991 the government has neglected the development strategy required for economic development for the country. However, the far reaching and sweeping economic reforms undertaken since 1991 have unleashed the enormous growth potential of the economy. There has been a rapid move towards deregulation and liberalisation, which has resulted in India becoming a favorite destination for foreign investment. In 1991 India introduced liberalisation policy and started the FDI regulatory framework on selective basis. The industrial policy of 1991 has also tremendous effect and impact in attracting FDI. The introduction of a single market determined exchange rate for rupee since March 1993 was a major change. All exports and imports were now conducted at a market rate of exchange.

In India FDI inflows have gone up significantly in the post reform era undoubtedly due to radical changes in the policies that have increased the confidence of the investors. The FDI inflow simply doubled in first year of reforms in 1992 to Rs 691 crores as compared to Rs 353 crores in 1991. As for FDI growth rate, it is not a smooth one. There is ups & down in the growth % of FDI during 1991 to 2008. In two years 1999 and 2003 there is negative growth rate. The reduction in the FDI inflows in the Indian economy after 1997-98 is due to effect of East Asian Crisis in 1997-98. Growth rate become positive from the year 2004 and during 2006 and 2007 growth rate was very high. It again decreases in 2008 due to Economic Crisis.

TABLE-1
FDI Growth %

YEAR	FDI in crores	FDI growth %
1991	353	
1992	691	95.75%
1993	1862	169.46%
1994	3112	67.13%
1995	6485	108.38%
1996	8752	34.95%
1997	12990	48.42%
1998	13269	2.14%
1999	10167	- 23.37
2000	12354	21.51%
2001	16778	35.81%
2002	18195	8.44%
2003	11617	- 36.15%
2004	17266	48.62%
2005	19299	11.77%
2006	50357	160.93%
2007	79735	158.34%
2008	98664	23.73%

Source: - Computed.

FDI policy is the main concern of the foreign investors. FDI policy determines the ease of accessing domestic market and the terms and conditions of entry. But along with FDI policy issues like law and order conditions, labour policy etc. are also important. If we compare the openness in Indian policy in terms of spheres of operation with other Asian countries we find that in China FDI is encouraged in most manufacturing and agricultural activities. Thailand is also panned agriculture to FDI. But all other countries, generally manufacturing industries are open to FDI but not agriculture. In case of service industries there are wide variation in Asian countries. In China all service industries (except hotels) are close to foreign investment. FDI is also permitted in almost all service industries in Thailand. India, like all other Asian countries stays in between the two extreme policy stance.

In India all cases other than those coming under automatic approval of the government Foreign Investment Promotion Board (FIPB) or secretariat of Industrial Assistance (SIA) clears such proposals for industrial approval. But it seems approval requirement in China is higher and more rigid than India. According to various official committees the licensing system in India has been a major impediment to foreign investment. But the industrial policy statement of 1991 has made a major departure from the past by doing away with industrial licensing for all industries except a few specified industries of security and strategic concerns.

India's liberalized FDI policy (2005) allows up to a 100% FDI stake in ventures. Industrial policy reforms have substantially reduced industrial licensing requirements, removed restrictions on expansion and facilitated easy access to foreign technology and foreign direct investment FDI. The upward moving growth curve of the real-estate sector owes some credit to a booming economy and liberalized FDI regime. In March 2005, the government amended the rules to allow 100 per cent FDI in the construction business. This automatic route has been permitted in townships, housing, built-up infrastructure and construction development projects including housing, commercial premises, hotels, resorts, hospitals, educational institutions, recreational facilities, and city- and regional-level infrastructure. In 2006, in order to further improve the investment climate, a major rationalization and the FDI policy and associated procedures was recently undertaken by the ministry which include dispensing with the need of multiple approvals from the government and/or regulatory agencies that exist in certain sectors, extending the automatic route to more sectors and allowing FDI in new sectors.

During 2007 also India ranks second in the world in terms of alternativeness for FDI. Govt of India undertook some new policies to attract FDI inflows. Due to reform in policies, better infrastructure and more vibrant financial sector FDI inflows accelerated during 2007. In India, urgently after the policy changes in February 2009 many sectors in manufacturing are open to 100 percent FDI under the automatic route. FDI allowed upto to 100 percent in all these industries except defence production FDI is not allowed in few services including retail trade, lottery business and gambling. In the permitted services foreign equity is allowed below 50 percent.

THEORETICAL ASPECT OF THE STUDY

Regression of a non-stationary series on another non-stationary series may produce spurious regression. The concept of cointegration developed by Engle and Granger (1987) addresses this problem of spurious regression. In this technique Granger pointed out that a linear combination of two or more non-stationary series may be stationary. It means both the series individually may be non-stationary in the sense that these series may have a time-varying mean or a time-varying variance or both but these both series may move close to each other in the long run. In such case, the two variables are said to be cointegrated. Two variables are said to be cointegrated if they have a long-term, or equilibrium relationship between them. Thus, the question of cointegration refers to knowing whether there is any long-run relationship between the trends in the variables. Granger representation theorem states that if two variables Y and X are cointegrated, then the relationship between the two can be expressed as ECM. Error correction models are useful in finding short run relationship (dynamic) between the variables. There may be a long-run relationship between the variables but in the short-run there may be disequilibrium. Error correction mechanism provides a means whereby a proportion of the disequilibrium is corrected in the next period. Thus, error correction mechanism is a means to reconcile the short-run and long-run behaviour.

Following steps are involved in the estimating the short-run and long-run relationship between the variables –

(1) Variables are to be converted into its log natural form to avoid the problem of heteroscedasticity.

(2) Unit root tests on time series data are to be carried out to ascertain the integration properties of the variables.

(3) If the variables are of same order, cointegration test is to be carried out to find out the long-run relationship.

(4) If the variables are cointegrated, then the vector error correction model (VECM) is to be estimated. In case of no cointegration between the series, then the Vector Autoregression (VAR) is to be estimated.

(5) Results of the VECM or VAR are to be interpreted.

Unit Root Test – The order of integration of the series is ascertained by means of unit root test. Unit root test involves estimating Dicky-Fuller (DF) test in following three forms depending upon suitability according to the nature of the time series –

Yt is a random walk:

$$\Delta Y_t = \delta Y_{t-1} + u_t \quad (1.1)$$

Yt is a random walk with drift:

$$\Delta Y_t = \beta_1 + \delta Y_{t-1} + u_t \quad (1.2)$$

Yt is a random walk with drift around

a stochastic trend:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + u_t \quad (1.3)$$

Here, t is the time or trend variable. $\delta = \rho - 1$ or alternatively, $\rho = \delta + 1$. It implies that for ρ to be less than unity, the value of δ should be negative. The null hypothesis is that δ is zero which means that $\rho = 1$ and it indicates the presence of unit root, implying that the series is non-stationary. The alternative hypothesis is that there is absence of unit root and the series is stationary. The null hypothesis is rejected if the calculated τ statistics is more negative than the critical τ value. Rejection of the null hypothesis indicates that the series is stationary. In case of the series being found to be non-stationary, the series is tested for stationarity in the first difference form. A series is said to be stationary, integrated of order zero, i.e., I (0) when it is found to be stationary at levels. If series becomes stationary after first differencing, then the series is said to be integrated of order 1, i.e., I (1). In other words, a series is said to be integrated of order d, i.e., I (d) if the series has to be differenced d times to yield a stationary series.

Cointegration Test – Cointegration test is done to see whether there exists a long run equilibrium relationship among the variables. If there is a vector (set of variables) X_t consisting of n variables, all of which are integrated of order 1, wherein stationarity is achieved by first differencing; this set of variables are said to be cointegrated if these variables form a linear combination, $Z_t = a X_t$ such that Z_t is I (0), where a is called as cointegrating vector.

Error Correction Mechanism – Error correction mechanism provides a means to reconcile the short-run (dynamic) and long-run (static) relationship between the variables. Short-run relationship can be estimated through vector error correction model. The following equations have been estimated –

$$DLN FDI = a_0 + \sum_{i=1}^2 a_i DLN FDI_{t-i} + \alpha_3 Z_{t-1} + e_t \quad (1.4)$$

$$DLNIIP = b_0 + \sum_{i=1}^2 b_i DLNIIP_{t-i} + b_3 Z_{t-1} + e_t \quad (1.5)$$

GRANGER CAUSALITY TEST:

This test is based on the Granger (1969) approach to the question of whether X causes Y. Granger proposed to know how much of the current Y can be explained by past values of Y and then to find out whether adding lagged values of X can improve the explanation. If the coefficients on the lagged X's are statistically significant then Y is said to be Granger caused by X.

Causality Test Equation for FDI and IIP.

$$LNFDI = \alpha_0 + \alpha_1 LN FDI_{t-1} + \dots + \alpha_L LN FDI_{t-L} + \beta_1 LN IIP_{t-1} + \dots + \beta_L LN IIP_{t-L} + e_t \quad (1)$$

$$LNIIP = \alpha_0 + \alpha_1 LNIIP_{t-1} + \dots + \alpha_L LNIIP_{t-L} + \beta_1 LNFDI_{t-1} + \dots + \beta_L LNFDI_{t-L} + e_t \quad (2)$$

L in above equation denotes lag length of the variables used as explanatory variables.

Null Hypothesis Ho: $\beta_1 = \beta_2 = \dots = \beta_L = 0$; and Alternate Hypothesis HA: $\beta_1 \neq \beta_L \neq 0$. Null hypothesis in equation 1 is IIP does not granger cause FDI, and in equation 2 is FDI does not granger causes IIP. Null hypothesis is rejected if the F - statistic obtained are more than the critical F value. In such case the alternate hypothesis is accepted meaning that one variable granger causes another variable.

EMPIRICAL ANALYSIS OF THE STUDY

After converting the data series on FDI and Industrial Production into their logarithmic form, the unit root test has been carried out and the results have been shown in table 2. Both the series LNFDI and LNIP in levels are found to be

integrated of order 1 because the Augmented Dicky-Fuller (ADF) test statistics are found to be lesser negative than the McKinnon critical values at all levels of significance (1 per cent, 5 per cent and 10 per cent). It means that the null hypothesis of unit root can not be rejected, indicating thereby that the series are non-stationary. On the other hand, both these series in their first difference are found to be stationary, i.e., I (0) because the ADF test statistics are found to be more negative than the McKinnon critical values at all levels of significance (1 per cent, 5 per cent and 10 per cent). It means that the null hypothesis can be rejected in favour of the alternative hypothesis that there is no unit root, indicating that these series are stationary. This means that both the series are integrated of same order and become stationary after first differencing. This permits carrying out cointegration test between the two series.

Table 2: Unit Root Tests of Stationarity of Variables under Study

Variables	ADF Test Statistic (Intercept)	ADF Test Statistic (Trend and Intercept)	Level of Integration
LNFDI	1.29070 (-2.6196)* (-1.9490)** (-1.6210)***	-1.517400 (-4.1958)* (-3.5217)** (-3.1914)***	I (1)
LNIIP	.032447 (-3.5930)* (2.9320)** (2.6039)***	-2.3562 (-4.1896)* (3.5189)** (3.1898)***	I (1)
DLNFDI	-4.9795 (-3.5973)* (-2.9339)** (-2.6048)***	-4.94643 (-4.1958)* (3.5217)** (3.1914)***	I (0)
DLNIIP	-13.0665 (3.5973)* (2.9339)** (2.6048)***	-13.1471 (-4.1958)* (3.5217)** (3.1914)***	I (0)

* McKinnon Critical value at 1 per cent level of significance

** McKinnon Critical value at 5 per cent level of significance

*** McKinnon critical value at 10 per cent level of significance

Notations:

- LNFDI - Natural Log of FDI
 LNIP - Natural Log of IIP
 DLNFDI - First Difference of LNFDI
 DLNIIP - First Difference of LNIIP

Cointegration results have been shown in table 3. It is observed from the augmented Dicky-Fuller test that the residuals of the cointegrated regression are found to be stationary because the obtained τ statistics is 1.94036 which is more

negative than the McKinnon critical values at 10 per cent. It means that there is a long run relationship between the two variables.

Both the dependent and independent variables in the cointegrating regression models are in the natural logarithmic form which means that this kind of regression is of double-log or log-linear form. Accordingly, the coefficients in the cointegrating regression model 1 suggest that one per cent increase in IIP is accompanied by 3.06 per cent increase in FDI. Alternatively, the coefficients in the cointegrating regression model 2 suggest that one per cent increase in FDI is accompanied by .209 per cent increase in IIP.

Table 3. Cointegration Test Results

Cointegrating Regression Output					
Cointegrating Regression Model 1.: $LNFDIt = a_1 + a_2 LIIPt + ut$				(1.6)	
Variable	Coefficient	t-statistics	Adjusted R2	D.W	
C	-7.363	-3.926	.639	1.244	
LN IIP	3.060	8.72			
Dependent Variable: LNFDI Figures in parenthesis are the standard errors of the coefficients.					
Cointegrating Regression Model 2.: $LNIIPt = a_1 + a_2 LNFDIt + ut$				(1.7)	
Variable	Coefficient	t-statistics	Adjusted R2	D.W	
C	3.441	16.318	.639	.786	
LNFDI	.209	8.720			
Dependent Variable: LNIIP					
ADF Unit Root Tests of Residuals of Cointegrated Estimates					
Variable	Obtained Statistics	τ	McKinnon Critical Value	Durbin-Watson Statistics	Level of Integration
\hat{u}_t	-1.94036		-2.6182* -1.9488** -1.6199 ***	1.784	I (0)

* McKinnon Critical value at 1 per cent level of significance

** McKinnon Critical value at 5 per cent level of significance

*** McKinnon critical value at 10 per cent level of significance

Short-run relationship between FDI and IIP has been estimated in terms of error correction model. These estimates have been shown in table 4. It is observed from the results in table 4 that in equation 1 the lagged Zt term are found to be statistically significant. As the t statistics is -2.2576. The negative coefficient of Zt-1 indicates that if the FDI is above its long-run relationship with the IIP, it will decrease to return to equilibrium. The lagged values of IIP do not impact the dependent variable FDI as the Coefficient are insignificant. The results of the other equation 2 show that, the lagged Zt term is statistically insignificant as t statistics is 1.4729. It means that lagged values of these endogenous variables do not impact the dependent variable IIP.

Table 4 Estimated Error Correction Model Equations For FDI and Index Of Industrial Production

$$\Delta \text{LNFDIt} = 0.68 - 0.4766 \Delta \text{LNFDIt-1} - 0.235376 \Delta \text{LNFDIt-2} + 0.22287 \Delta \text{LNIIPt-1} - 0.53658 \Delta \text{LNIIPt-2} - 0.41171 Zt-1$$

(-2.428)
(-1.4113)
(.11290)

(-.28847)
(2.2576)

$$\Delta \text{LNIIPt} = 0.30311 - 0.45477 \Delta \text{LNIIPt-1} - 0.52417 \Delta \text{LNIIPt-2} + 0.01235 \Delta \text{LNFDIt-1} + 0.01022 \text{LNFDIt-2} + -0.0229 Zt-1$$

(4.1361)
(-2.6919)
(-3.2988)
(.7354)
(.71634)
(-1.4729)

Figures in parenthesis corresponding to each coefficient are t statistics.

Notations:

- ΔLNFDIt - First Difference of Natural Log of FDI
- $\Delta \text{LNFDIt-1}$ - One year lagged value of First Difference of Natural Log of FDI
- $\Delta \text{LNFDIt-2}$ - Two year lagged value of First Difference of Natural Log of FDI
- ΔLNIIP - First Difference of Natural Log of IIP
- $\Delta \text{LNIIPt-1}$ - One year lagged value of First Difference of Natural Log of IIP

Δ LNII Pt-2 - Two year lagged value of First Difference of Natural Log of IIP

Zt-1 - One year lagged value of the residual of the cointegrating regression of LNFDI and LNIIIP

Table 5: The Granger Causality test results FDI and Index of industrial Production.

	Lags	FDI-IIP	IIP - FDI	Inference
Eq1	2, 2	0.51150	2.99318	Independent
Eq2	3, 3	0.85851	1.8847	Independent
Eq3	4, 4	4.72246	1.90182	FDI Granger Causes IIP.

Critical values for rejection of null hypothesis at 5 percent and 1 percent level of significance are 3.25 and 5.21 for eq (1), 2.88 And 4.42 for eq. 2, 2.67 and 3.97 for eq(3).

F Statistics obtained in equation 1 and 2 are lesser than the critical values at both 5 per cent and 1 per cent and hence the null hypothesis can not be rejected. So both the null hypothesis are accepted meaning thereby that IIP does not Granger Cause FDI as well as FDI does not Granger Cause IIP. F Statistics obtained in equation 3 in case of Null hypothesis 'IIP does not Granger Cause FDI' is 1.90182 which is lesser than the critical value at both 5 per cent and 1 per cent level of significance. So this null hypothesis can not be rejected and hence it can be concluded that IIP does not Granger Cause FDI. F Statistics obtained above in case of Null hypothesis 'FDI does not Granger Cause IIP' is 4.72246 which are more than the critical value at both 5 per cent and 1 per cent level of significance. So this null hypothesis can be rejected in favour of the alternative hypothesis that FDI Granger Causes IIP. Hence, it can be concluded that FDI Granger Causes IIP.

CONCLUSION

The changes in the Indian economic policies in general and FDI policies in particular have succeeded in attracting FDI inflows significantly to meet the capital needs of the country. There is ups & down in the growth % of FDI during 1991 to 2008. In two years 1999 and 2003 there is negative growth rate. Growth rate become positive from the year 2004 and during 2006 and 2007 growth rate was very high. It again decreases in 2008 due to Economic Crisis.

After converting the data series on FDI and Industrial Production into their logarithmic form, the unit root test has been carried out. Both the series LNFDI and LNIIIP in levels are found to be integrated of order 1 because the Augmented Dicky-Fuller (ADF) test statistics are found to be lesser negative than the McKinnon

critical values at all levels of significance (1 per cent, 5 per cent and 10 per cent) indicating thereby that the series are non-stationary. On the other hand, both these series in their first difference are found to be stationary, i.e., I (0) both the series are integrated of same order and become stationary after first differencing. This permits carrying out cointegration test between the two series. Results show that there is a long run relationship between the two variables. Accordingly, the coefficients in the cointegrating regression model 1 suggest that one per cent increase in IIP is accompanied by 3.06 per cent increase in FDI. Alternatively, the coefficients in the cointegrating regression model 2 suggest that one per cent increase in FDI is accompanied by .209 per cent increase in IIP. Short-run relationship between FDI and IIP has been estimated in terms of error correction model when taking FDI as dependent variable the negative coefficient of Z_{t-1} indicates that if the FDI is above its long-run relationship with the IIP, it will decrease to return to equilibrium. The lagged values of IIP do not impact the dependent variable FDI as the Coefficients are insignificant. The result of the equation when taking IIP as dependent variable show that, the lagged Z_t term is statistically insignificant. And lagged values of these endogenous variables do not impact the dependent variable IIP.

The Granger- Causality test between FDI and IIP was run up to lag 3.3 Statistics obtained in case of Null hypothesis 'IIP does not Granger Cause FDI' is 1.90182 which is lesser than the critical value at both 5 per cent and 1 per cent level of significance. Thus IIP does not Granger Cause FDI. F Statistics obtained in case of Null hypothesis 'FDI does not Granger Cause IIP' is 4.72246 which is more than the critical value at both 5 per cent and 1 per cent level of significance Hence, it can be concluded that FDI Granger Causes IIP.

With the government planning more liberalisation measures across a broad range of sectors and continued investor interest, the inflow of FDI into India is likely to further accelerate. The improved sentiment for the country's economic outlook backed by strong political mandate and fiscal reforms is expected to help India enhance its overall share in capital flows marked for emerging markets. Despite the global slowdown, India has managed to display resilience and attract good investments

Although industrial projects are liberalised from regulations and bureaucratic controls of the central government the investors still have to deal with numerous controls and bureaucratic machinery of the states. In India states provide the

location, the infrastructure and the works. They also extend a host of incentives to attract FDI. The state government and their agencies are responsible for numerous clearance approvals and operating procedures. It is this whole package of laws, system and procedures nor the FDI policy, which is considered by any farsighted investors. And this is where India seems to lose out to other competing countries.

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