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## RELATIONSHIP BETWEEN ECONOMIC GROWTH AND FDI INFLOW: IMPLICATIONS FOR POLICY DETERMINATIONS

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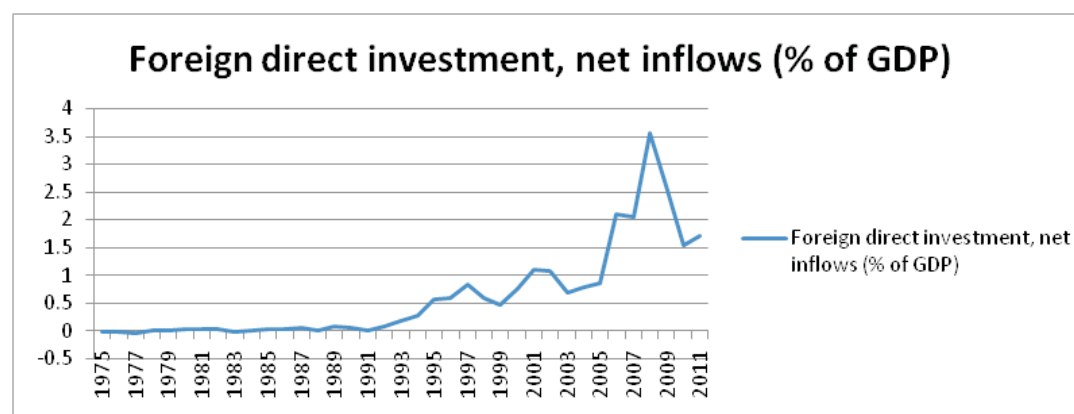
**Abstract:** Lots of papers have analysed the relationship between economic growth and FDI, but provide contradictory conclusions. But FDI has remained as the policy of developing countries for boosting economic growth. The paper seeks to apply granger causality and co integration test to find out the relationship between FDI and Economic growth. We also give implication for the results for the policy determination of the government.

**Keywords:** FDI inflow, GDP, Co integration, Granger causality.

### INTRODUCTION

There has been consistent demand for increasing FDI in insurance segment, retailing segment, defense segment and other key segments as well. FDI plays a major role in employment generations and enhance production facilities, thereby boosting economic growth. Lots of papers have analysed the relationship between economic growth and FDI, but provide contradictory conclusions. But FDI has remained as the policy of developing countries for boosting economic growth. The position of India starts improving after 1990 with respect to FDI inflow as a percentage of GDP. Foreign direct investment, net inflows (% of GDP) highest value was 3.55 in 2008, while it was negligible before 1990. Similarly the absolute value of Foreign direct investment, net inflows (BoP, current US\$) in India was \$32,190,000,000.00 as of 2011. Over the past 36 years, the value for this indicator has raised to \$43,406,280,000.00 in 2008. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors.

Chart 1 Foreign direct investment, net inflows (% of GDP)



### LITERATURE REVIEW

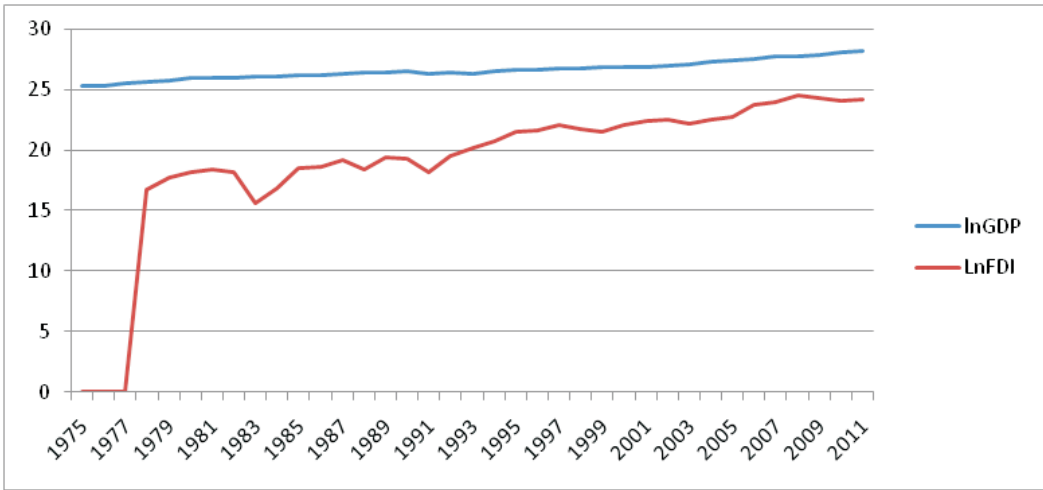
Varma (2014) suggested Foreign Direct Investment (FDI) as a planned component of investment is needed

for creation of jobs, expansion of existing manufacturing industries, short and long term project in the field of healthcare, education, research and development (R & D) etc. Chandana Chakraborty and Peter Nunnenkamp (2008) suggested that foreign direct investment in post-reform India has promoted economic growth. Chew Ging Lee (2009) has suggested that GDP per capita has a positive effect on FDI inflows in the long run. Anita (2012) suggested FDI plays an important role in the long-term development of a country not only as a source of capital but also for enhancing competitiveness of the domestic economy through transfer of technology, strengthening infrastructure, raising productivity and generating new employment opportunities. Ray (2012) result shows that FDI has not contributed much to the economic growth in India for the time period 1990-91- 2010-11 by conducted Granger causality and co integration test

METHODOLOGY AND EMPIRICAL RESULTS

We have also taken into natural log of GDP along with natural log of FDI. The growth figure rises smoothly, whereas FDI has also risen, but with huge variability. Overall we can say that position of India with respect to FDI and GDP has both risen after economic reforms of liberalization and globalization during 1990s.

Chart 2 Natural log of GDP and FDI inflow



In this study, we have taken two variables that are GDP and FDI Inflows. The time period for our study is 1975 to 2011. We have taken log of both these variables. To test whether increasing FDI inflow is causing GDP to rise or increasing GDP causes FDI to rise. We need to conduct Granger Causality test. But Before doing so, we need to make sure that or variables are stationary. We apply augmented dickey fuller unit root test in order to identify whether are stationary at level figure. Both GDP and FDI inflow are not stationary at first level and stationary at first difference. Hence we have to make two new series that GDP at first difference (DLNGDP) and FDI at first difference (DLNFDI). We conducted granger causality at lag 1 but the results are insignificant suggesting neither FDI inflow nor GDP causing each other

Lags: 1

| Null Hypothesis:                     | Obs | F-Statistic | Prob.  |
|--------------------------------------|-----|-------------|--------|
| DLNGDP does not Granger Cause DLNFDI | 32  | 0.13447     | 0.7165 |
| DLNFDI does not Granger Cause DLNGDP |     | 1.84855     | 0.1844 |

We have also conducted co integration test at lag 1 to find out that there are two co integrating equations. It suggest that there is long run association between FDI inflow and GDP (appendix 1)

CONCLUSION AND IMPLICATIONS

First of all, we show preliminary evidence through graphs that there is some correlation between FDI inflow

and GDP (growth). Then like various previous studies, we also unable to find out any significant causality between FDI inflow and GDP. But Johnson co integration test shows that there is some linear Association between FDI inflow and GDP over long run. But still developing countries including India have adopted the policy of increasing FDI in key segments to boost growth. It seems like that FDI brings indirect injection to the growth of economy through various other routes such as Exports, competitions, easing of business regulations, transfer of technology, infrastructure. We suggest to the government increasing FDI inflow stand alone will not bring prosperity for the economy. We need a series of parallel policy alongside FDI to bring long run prosperity into economy. Therefore it is imperative for the government of India to make a policy for attracting FDI in such a way that we able to innovate our key segments just as china done it for their manufacturing hub

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APPENDIX 1

Included observations: 31 after adjustments  
Trend assumption: Linear deterministic trend  
Series: DLNFDI DLNGDP  
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

| Hypothesized |            | Trace     | 0.05           |         |
|--------------|------------|-----------|----------------|---------|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None *       | 0.494375   | 28.74526  | 15.49471       | 0.0003  |
| At most 1 *  | 0.217536   | 7.604514  | 3.841466       | 0.0058  |

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level  
\* denotes rejection of the hypothesis at the 0.05 level  
\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized |            | Max-Eigen | 0.05           |         |
|--------------|------------|-----------|----------------|---------|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None *       | 0.494375   | 21.14075  | 14.26460       | 0.0035  |
| At most 1 *  | 0.217536   | 7.604514  | 3.841466       | 0.0058  |

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b\*S11\*b=I):

|           |           |
|-----------|-----------|
| DLNFDI    | DLNGDP    |
| -1.932343 | 2.878802  |
| 0.049142  | -17.44601 |

Unrestricted Adjustment Coefficients (alpha):

|           |           |          |
|-----------|-----------|----------|
| D(DLNFDI) | 0.720973  | 0.087093 |
| D(DLNGDP) | -0.011285 | 0.039437 |

|                              |                |           |
|------------------------------|----------------|-----------|
| 1 Cointegrating Equation(s): | Log likelihood | -2.653435 |
|------------------------------|----------------|-----------|

Normalized cointegrating coefficients (standard error in parentheses)

|          |           |
|----------|-----------|
| DLNFDI   | DLNGDP    |
| 1.000000 | -1.489799 |
|          | (1.74924) |

Adjustment coefficients (standard error in parentheses)

|           |           |
|-----------|-----------|
| D(DLNFDI) | -1.393167 |
|           | (0.27990) |
| D(DLNGDP) | 0.021807  |
|           | (0.03173) |



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