CHAPTER 4

IMPACT OF FOREIGN DIRECT INVESTMENT ON THE GROWTH OF INDIAN ECONOMY – AN EMPIRICAL EVIDENCE
4.0 INTRODUCTION

In this chapter we have examined empirically the impact of Foreign Direct Investment on the growth of Indian economy with the help of simple regression model. A comparative analysis of growth impact of Foreign Direct Investment and External Assistance will also be done with the help of multiple regression model. First of all, we shall highlight External Assistance and its growth impact.

4.1 EXTERNAL ASSISTANCE: IMPACT ON GROWTH

The various sources of domestic financial resources usually fail to meet the entire needs of a development plan. The inflow of external assistance can, however, provide additional financial resource to fill up the gap between plan investment and domestic savings. Where there is a shortage of foreign exchange the inflow of foreign capital can make a significant contribution towards meeting the external costs of development expenditure. External assistance, if available would thus serve two functions simultaneously: it would make available additional
supplies of foreign exchange and also supplement the investible resources in the country.

Sources of international capital inflows are classified into official and private sources. Official sources are government and government agencies (also called bilateral lenders) and international organizations (called multilateral lenders). Private sources are commercial suppliers and manufacturers, commercial banks, other private investors which invest in foreign enterprises (direct investment) and charitable organizations which provide financial aids, goods and services and grants.

The implication of foreign assistance on growth of the recipient country depends on the extent to which aid is successfully integrated by the recipient country into these development efforts. "If financial assistance from abroad is to result in a higher rate of domestic investment leading to higher growth, it must be prevented from simply replacing domestic sources of financing investment or from supporting higher personal consumption or an increase in non-developmental current expenditures by the government" [Meier, 1990,P.234]

When foreign aid is available on a general purpose basis, the allocation of the foreign capital is decisive in determining whether it contributes as much as possible to raising the growth potential of the
recipient country. The efficient allocation of investment resources then depends on the application of investment criteria in terms of the country's entire development programme, and domestic policy measures must be adopted to supplement the use of foreign assistance. Regardless of the amount of aid received, the formation of capital depends, in the last resort, on domestic action. We fully agree with the following view of Professor Meier: "It is appropriate therefore to emphasize the necessity of self help measures: unless recipient governments adopt policies to mobilize fully their own resources and to implement their plans, the maximum potential benefit from aid will not be realized. As record of foreign assistance in several countries shows, external aid may be incapable of yielding significant results unless it is accompanied by complementary domestic measures, such as basic reforms in land tenure systems, additional taxation, investment in human capital, and efficient government administration." [Meier, 1940, P.235]

There is considerable controversy over the contribution that aid makes to development. There has arisen a body of "radical" economic school which is questioning the very basis of foreign aid. According to this school, foreign aid by the developed countries to less developed nations is nothing but a "sophisticated instrument of control."
"it enables those in power to evade and avoid fundamental reforms; it does little more than patch plaster on the deteriorating social edifice." Drawing mostly from the experience of Latin American Countries, Griffin and Enos (1970) have tried to paint a very dismal account of foreign Aid. Regressing the average growth rates of 12 Latin American countries on the ratio of aid to GNP for the period 1957-64, they found that the coefficient of regression was negative. Their regression equation was:

\[ Y = 42.97 - 6.78 \frac{Y}{A}; \quad r^2 = 0.13 \]

Where \( Y \) = average rate of growth of GNP, and \( \frac{A}{Y} \) = ratio of foreign aid of GNP. In a study by Gulati (1976), it was shown that the same 12 Latin American countries, as those chosen by Griffin and Enos, but for the period 1966-69, there was no significant correlation between growth and aid. The regression equation was

\[ Y = 0.29 \frac{A}{C}; \quad r^2 = 0.06 \]

where \( Y \) = rate of growth of GNP, \( \frac{A}{C} \) = ratio of aid to GNP. The sign of the regression coefficient was positive though not significantly different from zero; the 't' value of the regression coefficient was not significant at 5% level. Thus the hypothesis that foreign aid promotes growth cannot be accepted. The same conclusion
followed when the size of the sample was increased to 38 by including some other developing countries of Asia, Africa and Latin America. In this case also the regression coefficient for aid was positive but not significant at 5 per cent level. However, analyzing the impact of foreign aid on Growth, Gulati (1976) concludes, “Forgotten by the Joint Economic Committee.”

Foreign aid has no adverse effect on the growth rate of gross domestic product of the less developed countries during the last decade. The statistically weak but positive correlation between aid and growth can be explained by the failure of the donors to follow the strict economic criteria for disbursing aid among the less developed countries. The policies of the recipients also were responsible for this weak relation.” [P. 160].

The radical attack on foreign aid is based on the laxity in government efforts in less developed countries to introduce necessary institutional changes for greater accumulation, and saving. In fact, the domestic saving rate might decline as a result of an inflow of foreign capital. As Griffin and Enos (1970) have put it, “as long as the cost of aid (e.g., the rate of interest on foreign loans) is less than the incremental output capital ratio, it will ‘pay’ a country to borrow as much as possible and substitute foreign capital for domestic savings.” [P. 320].
Contrary to the view that foreign assistance only has the effect of supplementing domestic saving in the recipient country, suggestions for a strategy for more rapid developing utilizing substantial amounts of external assistance have been set out in several papers [e.g. Chenery and Bruno (1962), Mckinon (1964)]. These studies suggest that a moderate volume of external resources may make possible a substantial increase in the rate of growth of a developing economy through financing additional investment as well as through providing the additional imports required to sustain higher level of income. The key elements in this process are the response of the country to the availability of external resources and its ability to replace these resources over time by changes in the structure of its production and its use of income. In the context of foreign aid and development policy of the recipient country, Irma Adelman and Hollis Chenery (1966) observes that "A transfer of external resources enables the recipient to raise the level of investment and to increase the supply of commodities that are not domestically produced. The first requirement of development policy under these circumstances is to allocate a sufficient portion of the import surplus increased investment and to the import of commodities needed to prevent bottlenecks in production. Continuation of a substantial resource transfer implies
adjustments in the structure of domestic production and income use to accommodate this element in total supply. Once a growth process is established, changes in the economic structure in the direction of increased savings, import substitution and increased exports are required in order to reduce the dependence on external resources. The development policies which were appropriate to the earlier period of maximizing growth with a large volume of foreign aid will then have to be modified in order to bring about the structural changes required.”

As in case of inflation the impact of EA (External Assistance) on growth cannot be ascertained if the purpose for which EA is used is not known. However, we could not obtain detailed data of EA relating to purpose for which it is used. If EA is used for unproductive purpose then its impact on growth will be negative. On the basis of the aggregate of EA we could find the aggregate effect of EA on growth which may fail to reveal the actual situation. If data in respect of EA relating to purpose for which it is used can be obtained than a more meaningful analysis in respect of growth impact EA can be done. This is left for future researchers.
### Table: 4.1: CHRONOLOGICAL DATA OF GDP, FDI AND EXTERNAL ASSISTANCE (in Rs. crore)

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP(Y)</th>
<th>FDI(X1)</th>
<th>EXTASS(X2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>594168</td>
<td>316</td>
<td>11615</td>
</tr>
<tr>
<td>1992-93</td>
<td>681517</td>
<td>965</td>
<td>10982</td>
</tr>
<tr>
<td>1993-94</td>
<td>792150</td>
<td>1838</td>
<td>11781</td>
</tr>
<tr>
<td>1994-95</td>
<td>925239</td>
<td>4126</td>
<td>10881</td>
</tr>
<tr>
<td>1995-96</td>
<td>1083289</td>
<td>7172</td>
<td>11022</td>
</tr>
<tr>
<td>1996-97</td>
<td>1260710</td>
<td>10015</td>
<td>11979</td>
</tr>
<tr>
<td>1997-98</td>
<td>1401934</td>
<td>13220</td>
<td>11745</td>
</tr>
<tr>
<td>1998-99</td>
<td>1616082</td>
<td>10358</td>
<td>13239</td>
</tr>
<tr>
<td>1999-00</td>
<td>1786526</td>
<td>9338</td>
<td>14405</td>
</tr>
<tr>
<td>2000-01</td>
<td>1925017</td>
<td>18406</td>
<td>14254</td>
</tr>
<tr>
<td>2001-02</td>
<td>2097726</td>
<td>29235</td>
<td>17559</td>
</tr>
<tr>
<td>2002-03</td>
<td>2261415</td>
<td>24367</td>
<td>15737</td>
</tr>
<tr>
<td>2003-04</td>
<td>2538170</td>
<td>19860</td>
<td>17353</td>
</tr>
<tr>
<td>2004-05</td>
<td>2877701</td>
<td>27188</td>
<td>17083</td>
</tr>
<tr>
<td>2005-06</td>
<td>3299249</td>
<td>39674</td>
<td>18831</td>
</tr>
<tr>
<td>2006-07</td>
<td>3822453</td>
<td>103367</td>
<td>19288</td>
</tr>
<tr>
<td>2007-08</td>
<td>4403426</td>
<td>140180</td>
<td>19851</td>
</tr>
<tr>
<td>2008-09</td>
<td>5070258</td>
<td>161536</td>
<td>26925</td>
</tr>
<tr>
<td>2009-10</td>
<td>5690562</td>
<td>176304</td>
<td>30712</td>
</tr>
</tbody>
</table>

**Source:** Central Statistical Organisation

**Note:**

a) The data for GDP from 2005-06 to 2009-10 are obtained after converting the Base Year 2004-05 to 1999-2000.

b) The data for FDI in 1991-1992 is obtained by converting the figure from dollar to rupee.
Simple Regression Model:

\[ Y = \alpha_0 + \alpha_1 X \]

where, \( Y = \text{GDP}, X = \text{FDI}, \alpha_0 \) and \( \alpha_1 \) are parameters to be estimated.

The estimated model is:

\[ Y = 1276416.6 + 24.924X \]

\( \text{S.E.}(\alpha_1): (2.133) \)

\( t: 11.687 \)

\( R^2 = 0.37 \)

No. of observations = 19

Degrees of freedom = 17

The critical value of \(|t|\) at 5% level of significance for 17 degrees of freedom = 2.11

**Explanation:** From the estimated model we find that FDI has positive impact on the growth of GDP and this impact is significant. The value of \( R^2 \) suggests that 37 per cent variations in GDP is due to FDI and the remaining 63 percent is due other factors.

Multiple Regression Model:

\[ Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 \]

where \( Y = \text{GDP}, X_1 = \text{FDI}, X_2 = \text{External Assistance}; \alpha_0, \alpha_1 \) and \( \alpha_2 \) are parameters to be estimated.
The estimated model is:

$$Y = 838204.4 + 10.062X_1 + 9.76X_2$$

S.E.($\alpha_i$): (3.671) (4.483)

t: 2.741 2.276

$$R^2 = 0.68$$

No of observation=19

Degrees of freedom=16

The critical value of |t| at 5% level of significance for 16 degrees of freedom = 2.12

**Explanation:** We find from the estimated model that both FDI and External Assistance have positive impact on the growth of GDP and the impact in case of both FDI and External Assistance is significant. Both these together explain 68 per cent of the total variation in GDP.

Further, from the estimated regression coefficient we find that the growth impact of FDI is slightly higher than that of external assistance.