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Fiscal Incentives and Direct Foreign Investment in Less Developed Countries

By David Lim*

This study found no support for the belief by the governments of most less developed countries (LDCs) that the provision of fiscal incentives is necessary to attract direct foreign investment and that the greater the generosity of these incentive programmes the greater would be the level of such investment. What mattered were the presence of natural resources and a proven record of economic performance. The provision of incentives could not compensate for the absence of either of these two factors. The study is a cross-sectional one of 27 LDCs for the period 1965-73.

I

Almost all the governments of less developed countries (LDCs) provide fiscal incentives in the belief that these encourage a higher level of direct foreign investment. A corollary of this is the belief that the greater the generosity of the incentive programme, the greater will be the level of direct foreign investment attracted. Thus if F measures the level of direct foreign investment and IG the generosity of the incentive package, then,

$$F = f_1(IG) \quad (1)$$

where F and IG are expected to be positively related.

At the same time it is argued that the level of direct foreign investment will also be enhanced by the presence of natural resources and by a proven record of economic performance. Thus if ME measures the availability of natural resources and ED and GR the level of economic development and the rate of economic growth respectively, equation (1) can be expanded to

$$F = f_2(IG, ME, ED, GR) \quad (2)$$

where F is expected to be positively related to ME , ED and GR .

Of course, the position taken by the governments of most LDCs is usually not stated as explicitly as this. However, estimating equation (2) does represent fairly the stand implicitly taken by most of these governments. Differences may arise over the relative importance of the various determinants but all assume that the provision of tax incentives to be a necessary, though not sufficient, condition for attracting direct foreign investment.

II

Equation (2) was used to test the validity of these ideas for a group of twenty seven LDCs for the period 1965-73.¹ F is measured by the average of the annual per capita total direct foreign investment for the period 1965-73 in US dollars.

IG is a dummy variable for the generosity of the incentive package offered by the LDC. Incentives can be divided conveniently into three groups. The first is the pure tax holiday, which exempts firms from the prevailing corporate tax for a certain period. The second is a modified tax holiday, whose duration and therefore value depends on the investment level.

The third category consists of cost-lowering incentives, of which the accelerated depreciation allowance, the investment allowance, and the investment subsidy are the most common.

It has been argued that if the provision of tax incentives does stimulate direct foreign investment, then the granting of cost-lowering incentives has a greater stimulative effect than the granting of the pure or the modified tax holiday.² First, tax holidays provide a 'perverse' subsidy, providing little assistance when assistance is needed (that is, for firms making little or no profits) and a great deal of assistance when assistance is not needed (that is, for firms making a great deal of profits). Second, their time—perspective is too limited. It is granted under the assumption that firms maximize profits in the short-run and that such profit expectations are formulated clearly enough for the effects of the tax holiday to be considered meaningfully. Firms which extend their investment plans over a long period may not find any incentive in having tax exemption over the normal period of two to five years. If the exemption period is extended over a time-span over which most of these firms become profitable, then the exemption becomes meaningless in terms of need. These firms may thus find cost-lowering incentives to be more attractive. These incentives are granted with a much longer and a much less precise profit—perspective in mind as they are meant primarily to lower the costs of production in the often difficult early years of operation. Third, unlike the cost-lowering incentives the tax holiday offers little incentive to risky investment programmes as the subsidy it provides only materializes when profits are made.

These considerations of time-perspectives and risks may have special relevance in attracting private foreign investment. The implicit assumption behind granting tax holidays to private foreign investors is that they require maximum profits in the short-run and that a relief from the normal incidence of corporate taxation is the most efficient way of achieving this and hence of maximizing the flow of foreign investment capital. This assumption may be justified for those small firms which are neither subsidiaries nor associates of large international companies but may not be consistent with the rationale of the investment decisions of a large number of firms with international interests.

These considerations suggest the following measure of IG. A value of 1 is given to each of the 27 LDCs that provide tax holidays in the pure or the modified form, while a value of 2 is given to each of those that provide cost-lowering incentives. Some of the LDCs offer both tax holidays and cost-lowering incentives. A value of 3 is given to each one of these: other things being equal, the more diverse the types of incentives given the larger the range of motives satisfied and so the larger the number of investors attracted. Thus LDCs which give the most generous package of incentives will be assigned the value 3 in the measurement of IG, those with the second most generous the value 2 and those with the least generous the value 1.³ F and IG are expected by the governments of LDCs to be positively related.

ME is the average of the annual percentage shares of minerals in the LDCs total merchandise exports over the period 1965-73. It was 'used to test for the influence of the availability of non-human resources in attracting direct foreign investment. F and ME are expected to be positively related.

Two variables were used to capture the influence of proven economic performance in attracting direct foreign investment. The first is ED, the level of economic development in

the period prior to the investment being made. Other things being equal, the higher the level of economic development, the greater the domestic market and the better the infrastructural facilities and so the greater the opportunities for making profits and the incentive to invest. ED is measured by the average of the per capita GDP in US dollars, at 1967-69 market prices and exchange rates, for the period 1960-65. It is expected to be positively related to F.

The second variable is GR, the rate of economic growth. The argument is that, ceteris paribus, a more rapidly growing economy provides greater profit opportunities than an economy that is growing slowly or not at all. Foreign investors may find it financially attractive to invest in a LDC with a low per capita income that has experienced rapid economic growth recently. The recent favourable economic performance may reflect the adoption of more rational policies by the government and may offset the adverse effect that a low per capita income, the result of past neglect and inefficiency, has on investment. Of course, a LDC with a high per capita income and rapid economic growth will be preferred to one that enjoys only one of the two attributes. The economic performance variable is measured in two ways. The first is the average annual growth rate of the real per capita GDP over the period 1960-65 (GR1). The second, the average annual growth rate of the real GDP over the period 1960-65 (GR2), is a much less demanding measure of economic performance but may still be useful as it indicates the direction that the economy must go before improvements in the average standard of living can be brought about. GR, and GR, are expected to be positively related to F.

The following equations were obtained, by ordinary least squares, using the logarithmic formulation of equation (2):

$$\begin{aligned} \log F = & -9.0001 & -0.356 \log IG & +0.353 \log ME \\ & (-2.435)** & (-3.628)* & (15.646)* \\ & +1.875 \log ED & +0.003 \log GR_1 \\ & (13.280)* & (0.160) \\ & \bar{R}^2 = 0.555 & F\text{-ratio} = 9.112* \end{aligned}$$

$$\begin{aligned} \log F = & -9.127 & -0.369 \log IG & +0.355 \log ME \\ & (-2.225)** & (-3.849)* & (16.030)* \\ & +1.882 \log ED & +0.083 \log GR_2 \\ & (13.217)* & (0.370) \\ & \bar{R}^2 = 0.556 & F\text{-ratio} = 9.132* \end{aligned}$$

The figures in parentheses are t values and statistical significance at the 0.005 and 0.01 confidence levels are indicated by * and ** respectively.

The coefficients of ME are positive, as expected, and statistically significant. This confirms the view that the presence of natural resources is an important factor in persuading foreign investors to invest in LDCs.

The Coefficients of ED and GR came out with the expected positive sign but only those for ED are significant. This suggests that foreign investors were more concerned with proven economic performance over a long period of time (which produces a high per capita income) than with recent economic performance (which produces a high growth rate over the period concerned) in deciding whether or not to invest.

The coefficients of IG appeared with the totally unexpected negative sign and, equally important, were statistically significant. These results, together with those for ME and ED, suggest that for those LDCs which offered generous tax incentives, the level of direct foreign investment was discouraged beyond the level that was determined by the lack of natural resources and general economic growth. In other words, fiscal hyper-generosity was seen by potential foreign investors as a danger signal (a disincentive) and not as a lure (an incentive).

A closer look at the results shows, however, that this interpretation is a rather extreme one. A more reasonable explanation may be found in a recent paper by Shah and Toye [1978].⁴ After a survey of the theoretical and empirical literature, they concluded that the effectiveness of fiscal incentives in increasing the level of investment in LDCs was either slight or unknown. They, therefore, found it rather strange that fiscal incentives were used so extensively in LDCs and offered some interesting explanations for this 'apparent paradox'.

One of these explanations may be called the illusory compensating effect. It centres round the intense efforts by the LDCs lacking in resource endowments and technological and labour skills to encourage direct foreign investment. In order to compensate for the lack of such resources these countries offer investment incentives, and competition among them over time results in ever more generous incentives being given. According to Shah and Toye, 'as this happens, the foreign firms decide where and how much to invest in accordance with non-tax criteria, knowing that they will pay precious little to the exchequer wherever they go'.⁵ Thus the compensating effect is only an illusory one.

According to this explanation, the provision of incentives per se does not encourage a higher level of direct foreign investment. It is the influence of non-tax factors that matters. In the symbols used in this paper, the illusory compensating effect can be represented by the following two hypotheses:

- (1) F is positively related to ME and ED because direct foreign investment is determined by non-tax factors;
- (2) IG is inversely related to ME and ED because the absence of natural resources and economic growth encourages LDCs to be extra generous in the incentives they provide.

The inverse and statistically significant relationship between F and IG can be derived as a logical implication of the above two hypotheses. Thus, if F is positively related to ME and ED, and IG is negatively related to ME and ED, then F and IG are negatively related. Presented in this way, the inverse relationship between F and IG is purely a statistical one, and has no behavioural significance in its own right. On balance, the Shah-Toye hypothesis of the

illusory compensating effect appears more acceptable than the hypothesis that foreign investors see fiscal hyper-generosity as a sign of economic desperation and so tend to stay shy of those LDCs which offer the most generous incentives.

For the analysis as a whole, the values of the F-ratio show that the two regression equations are statistically significant. The values of the adjusted coefficient of determination (R²) are not particularly low for cross-country studies of this nature. That they are not higher may be explained by the fact that certain of the determinants most frequently mentioned by foreign investors have not been included in the estimating equation. The most important of these are political stability, the provision of favourable terms for the transfer of profits and the repatriation of capital, freedom from detailed and burdensome bureaucratic control, and the formulation and the implementation of a development plan. The data for these variables are not available and when they are they cannot be quantified easily or meaningfully.

III

The results suggest that there is some support for Shah-Toye's illusory compensating effect in explaining the widespread use of incentives in spite of their slight or unknown stimulative effect on direct foreign investment.

However, this must remain a tentative conclusion in view of a number of limitations of the study. First, the sample of LDCs used is rather small and could have done with a few more countries that offer only cost-lowering incentives. Second, the method used in measuring the generosity of the incentives granted is rather crude, so that the figures obtained for the regression coefficients of 1G must be interpreted with care. In defence of the measure used, it can be said that the actual cost of fiscal incentives to the exchequer is usually totally invisible and it is very difficult, if not impossible, to obtain reliable estimates of such costs for even a 'smallish' group of 27 LDCs.

NOTES

1. These are Afghanistan (1), Bangladesh (3), Barbados (3), Ecuador (3), Fiji (3), Ghana (1), Guyana (3), India (3), Indonesia (1), Ivory Coast (1), Jamaica (3), Malaysia (3), Mauritius (1), Niger (1), Nigeria (1), Pakistan (3), Paraguay (1), Peru (1), Senegal (1), Sierra Leone (1), Singapore (3), Sri Lanka (3), Sudan (1), Tanzania (2), Trinidad and Tobago (3), Uruguay (1), and Zambia (2). The data for the analysis came from the World Bank [1976]. For an explanation of the number inserted after each country, see note 3.
2. See Fromm [1977] and Bird and Oldman [1975].
3. The type of incentives given by each of the 27 countries in the sample is indicated by the number after each of the LDCs listed in note 1. The 27 LDCs have been chosen for our analysis because there is a very detailed and systematic description of the incentives offered by these countries in Shah and Toye [1978]. This description enables a meaningful classification of the LDCs by the type of incentives offered.
4. Ibid.
5. Ibid., 285.

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[Footnote]

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