CHAPTER - 4

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The preceding chapter of this work was devoted to an analysis of energy crisis and its impact on Indian economy, and it was found that presently India is facing chronic energy shortages as a result of lag in development of energy resources vis-a-vis its demand. This situation, inter alia, has been the product of the existing financial and technological gaps in the country which could be filled by resorting to foreign resources. The main objective of this chapter is, therefore, to discuss the rationale of foreign collaboration in the development of economic infrastructure in India including energy resources. It examine the meaning and scope of foreign collaboration and its impact on the development of an infrastructural sector in India. It also gives the cost-benefit relationship of foreign collaboration towards the development of infrastructural sector in the country.

One of the most striking features in the economic development, and more particularly in the industrialisation of developing countries has been the increasing participation of foreign capital and technology. This tendency is ascribable to the growing realisation by the developing economies that in pursuit to accelerate the pace of economic development and thereby industrialisation capital, technology and management of foreign origin can make a valuable contribution in laying and strengthening the foundations of their independent economic development. Even the history of many developed countries has proved that during the early stages of their development the availability of internal resources has seldom been adequate to meet the demand of goods needed for a modern
industrial economy, and advance technical expertise and know-how. It is now widely recognised that foreign collaboration, by performing the 'gap-filling' function in the growth process of developing countries, plays an important role in accelerating the pace of their economic development. This chapter seeks to examine the rationale of foreign collaboration in the development of economic infrastructure in India with special emphasis on energy projects. It also attempts to appraise the Government of India's policy towards foreign capital and collaboration with a view to assessing its adequacy for promoting the objective of self-reliance.

At the outset of our discussion, it is pertinent to define the term 'foreign collaboration' and outline its scope for the purpose of this study. The philosophy of collaboration is partnership. The central concept of 'foreign collaboration' is, therefore, joint participation between host and foreign country for the establishment of an organic form of enterprise in the host country involving profit-seeking relationship. In a proper sense, foreign collaboration refers to that part of inflow of foreign capital and technology for the host country which is backed by commercial considerations of profits and private expectations. Contrary to this, that part of inflow of foreign capital and technology to the host country which is provided on concessional terms, that is, on terms more favourable than those prevailing currently in world capital and labour markets, is termed as foreign economic aid or external economic assistance. Moreover, external economic assistance is not only a question of official transfers beyond the range of market forces. There is also the definitional requirement that the specific forms of transfer should be development-oriented. Thus the basic criterion to distinguish and allocate the total inflow of foreign capital and technology between foreign collaboration and foreign economic aid, is that of its terms of supply.
While the official transfers of foreign assets on concessional terms is motivated by extending aid for development, the prime motive of foreign collaborator is to maximise the profits. Since both forms of inflow of foreign assets to the host country are development-oriented, they can be termed as foreign investment. Further, the increasing involvement of the public sector in the industrialisation in developing countries and the simultaneous in flow of foreign capital and technology at official and private levels to the very sector causes confusion as to the use of the terms foreign collaboration and foreign economic aid for the apparent reason that like foreign economic aid the government by virtue of its strong bargaining position, also remains in a position to acquire foreign private capital and technology on more concessional terms than a relatively weak private entrepreneur. More recently, the term foreign capital and collaboration has been extended to include all foreign transfers, private or public, thus bringing in all foreign investments. For the purpose of this study, the term foreign collaboration has been used somewhat loosely to embrace the foreign official transfers which impose a burden of repayment on the recipient. Since India has opted for a mixed economy and has directly assumed the responsibility for affording the economic infrastructure inevitable for accelerating the growth process it further seems desirable to use the term foreign collaboration in broader perspective for the present study so as to assess the overall impact of foreign association in the development of energy projects in India.

In the context of planned economy and spurt in industrial development in the post independence era of the

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country, the role of foreign financial and technical resources has always been considered significant in India as elsewhere in other developing countries. In addition to providing the needed assistance in laying and strengthening the basic economic infrastructure like power and transport which is of crucial importance to the economic development of a country, the inflow of foreign resources in the form of technology, finance and managerial know-how also help in speedier industrialisation and in increasing the level, range and spectrum of production. Besides, the import of technology from advanced overseas nations also help in bringing qualitative improvements in the goods manufactured and thus results in enhancing the developing countries' competitive capabilities with reference to external markets.

The developing economies like that of India generally suffer from the lack of generation of internal resources sufficient to sustain the process of development. Consequently, tapping of external resources for unretarded pace of economic development becomes inevitable. The pre-independence era of India presented nearly all the characteristics of an underdeveloped country. Prevalence of acute poverty due to chronic unemployment, heavy population pressure with lower living standards, low per capita income and low rate of capital formation, poor quality of human capital, low level of technology, poor economic organisation, etc., all of which were witnessed at the advent of independence. The foremost task before our Government was, therefore, the removal of poverty and acceleration of the pace of economic development of the country. To face the then almost stagnant state of economic development coupled with the above mentioned adverse factors, it was found unavoidable to fill the financial and technological gaps by inviting foreign resources.

The importance of foreign finance in the development of India was recognised even before the era of planning was
ushered in, not only because of the need to supplement the domestic capital but also because technical and managerial know-how are best secured along with foreign finance. Nearly every developed country has had the assistance of foreign finance and technology to supplement its own meagre savings in the early stages of its development. England borrowed from Holland in the seventeenth and eighteenth centuries, and in turn came to lend to almost every country of the world in the nineteenth and twentieth centuries. The United States of America, now the richest country in the world heavily relied on foreign loans and investments in the nineteenth century, and is now the major lender of the twentieth century. India is, therefore, following the well-trodden historic path in drawing upon the richer sections of the world to build up her productive capacity and augment her economic and technical resources. Of course one may mention the case of two countries which have developed without any significant foreign capital, viz., Japan and Russia. So far as Russia's case is concerned, she inherited an industrial base built during the period 1881-1913 with import of foreign capital particularly from France. In addition, the rate of forced domestic saving was extraordinarily high which cannot be achieved in a democratic society like India. In the case of Japan, which could do without considerable amounts of foreign capital because of certain favourable factors which do not exist in India. Firstly, Japan had a large export surplus with the continental countries mainly because of their huge demand for Japanese silk; this enabled her to import capital goods and technical know-how required for the development.

programme. Secondly, most of Japan's industries were on a small scale requiring less capital and more labour which was available in plenty at extraordinary cheap rates. Thirdly, the rate of domestic savings was very high because of the absence of noticeable consumption among the wealthier classes owing to the prevalence of different social values. Regarding the technology and know-how generally accompany foreign investments, Japan hired foreign technicians and sent her own people abroad for training.

The need for foreign collaboration for a developing country like India arises on account of various crises prevailing in the country such as capital scarcity, lack of foreign exchange resources, lack of technical and managerial skills, etc. The rate of domestic savings in India is recognisedly insufficient to sustain her development programmes. Since an overwhelming majority of the people is living on the subsistence level, any significant increase in the rate of domestic saving is not possible without lowering the standard of living below the subsistence level, which is unlikely in a democratic society. Import of foreign capital, which permits a rate of investment appreciably higher than the rate of domestic saving, is indispensable if India is to develop at a fairly rapid rate.

During the early years of their development, underdeveloped economies like India normally face the problem of foreign exchange scarcity, partly due to their needs for increased 'development imports' and 'maintenance imports', and partly due to imports of consumer goods. Given the need for imports of capital goods and technical know-how in the initial stages of economic development and low level of domestic savings together with the scarcity of foreign exchange resources to meet the rising import bill, inflow of foreign capital becomes necessary to augment her capacity to import capital
goods and equipment as well as technical know-how desired for her speedy economic transformation. In addition to the need for import of capital goods, development plans also generate demand for the imports of consumers goods. This is so because development involves diversion of financial resources for the expansion of the economic infrastructure as well as for the establishment of basic industries and capital goods sector, and thus less domestic resources are available for the production of consumer goods. Besides, development programmes also increase the income of people, which in turn leads to rising demand for consumer goods. Since, domestically consumers goods are short in supply for the reason stated above, these have to be imported if the vicious circle of rise in prices is to be contained. Under these conditions a poor country like India has no alternative than to invite foreign capital for her unretarded rapid pace of economic growth.

Rapid development generally has a tendency to cause a deficit in the balance of payments mainly in two direct ways. Firstly, import of huge quantities of capital goods, technical know-how and essential raw materials necessary to achieve the plan objectives. Secondly, goods which were previously available for export, may now be consumed by the newly created domestic industries. In addition to the above mentioned direct effects, rapid development also affects the balance of payments in two indirect ways, namely, through income-effect and price-effect as stated above, Foreign collaboration has a beneficial effect on both these adverse effects emerging from development programmes. Import of foreign capital, therefore, helps not only in avoiding the balance of payments deficits, directly but at the same time, it indirectly operates as an anti-inflationary way by sparing more from the existing foreign exchange resources to be used for bringing in more consumer goods, which in turn would lessen the pressure on prices.
India, being a developing country, suffers not only from a shortage of capital but also lacks in advance technology, managerial ability, skills, etc. Foreign financial collaboration bring with it these complementary factors which are essential for the development of a country like India. Foreign investments create an industrial atmosphere which induces domestic capital and enterprise to participate in the speedy growth of the country. Besides this, foreign investments also provide opportunities of technical training for the local people, and thus promote the diffusion of technical know-how and expertise. Moreover, the promotion of new projects involves a good deal of risk. For want of experience and inherent risk involved in new ventures, domestic capital and entrepreneurship may not flow into certain lines of production like minerals and mineral oil. Foreign investments perform the important function of starting new lines of production and bear huge losses inherent in new ventures. If these ventures are successful, the domestic capital may also participate and reap benefits without suffering the initial losses. Further, in the initial years of economic development it is difficult to mobilise domestic savings for financing the projects of strategic economic significance, as the domestic capital market in this stage remains itself under-developed. Foreign capital, therefore, becomes essential as a timely measure to sustain the process of economic development. The wide acceptance of the foregoing importance of foreign resources is manifested in the establishment and growth of international institutions providing development funds and in the policies of governments in developing countries which encourage the inflow of public and private foreign investments.

FOREIGN COLLABORATION: NEED IN INFRASTRUCTURAL DEVELOPMENT

An adequate and well-synchronized development of the economic infrastructure, like power and transport, is of crucial importance to the economic development. It is an
essential pre-requisite for the balanced growth of our economy. Infrastructural facilities, in fact, determine the country's capacity to grow. Economic infrastructure or 'public overhead' is an economy's capital in the form of railways, roads, power projects, and other public utilities in the nature of facilitative structure that promotes general economic activities within the country. Since these installations involve large gestation period, high capital-output ratio, huge initial investment, the infrastructural development can not be left to private enterprise. Hence, normally it is the responsibility of the Government.

The contributions of economic infrastructure in breaking the stagnancy and paving the path for the development and expansion of economy are many and varied. Indian economy represented almost a state of stagnancy in the pre-independence era, mainly due to the lack of adequate infrastructural facilities under which an economy continuously expands. The most serious problem facing the economy was 'limited and partial' development of infrastructure. Thus, the development of transport and communication as well as of fuel and power was found inescapable for rapid socio-economic development as also from the political and administrative points of view. Besides being a basic condition for the economic development, establishment of an adequate infrastructure helps in generating considerable investment and thereby employment opportunities in the country. Thus, the construction of adequate infrastructure is inevitable for the accelerated pace of economic development.


Given the technological and financial gaps on one hand, and the under-developed state of the economic infrastructure on the other, it was expedient for India to invite foreign capital and technology so as to achieve the rapid economic growth. Since, the size of investments to finance these projects requires funds larger than can be financed from the resources internally available, external financing in the form of official loans and direct foreign private investments in the related industries was found essential.  

RATIONALE OF FOREIGN COLLABORATION

As indicated above, the rationale of foreign collaboration is inherent in the existing financial and technological gaps of India and the ways in which it could contribute to the fulfilment of her planned economic development. The role of foreign collaboration is now intimately linked to development planning and most developing countries like India view their need for foreign collaboration from the standpoint of their development plans. Developed countries have even encouraged the practice of development planning as a pre-requisite for the receipt of public foreign investment. Through a variety of policy measures, India, like other developing countries, is also influencing the magnitude, composition and use of foreign resources.

In India, the need for foreign capital and technology for the rapid economic development was recognised even before the planning era was initiated. The then state of India's economy presented a gloomy picture for making rapid strides towards her economic growth. Even India's capacity to absorb foreign capital was much lower due to a number of factors like shortage of competitive, administrative, managerial and

technical personnel required to utilise the foreign capital, inadequate and under-developed state of economic infrastructure, particularly of such vital infrastructural ingredients as power and fuel, transport and communication, etc. In general, the capacity to utilise the foreign resources productively will be low when there are inadequate infrastructural facilities, administrative and organisational bottlenecks, deficient qualities of entrepreneurship, lack of trained manpower, low geographical and occupational mobility of labour, and narrow localised market. Most of these factors, besides restricting domestic investments also limited India's capacity to absorb external resources. The necessity for foreign collaboration in India was identified with reference to her requirements for additional financial and technical resources to achieve the objectives set forth in the successive development plans entailing greater investments than could be sustained by the level of domestic savings. This excess of development requirements over the domestic availability was apparently found desirable to be covered by external resources.

It is worth mentioning that since the need for additional resources to finance the proposed development programmes is based on projections of foreign exchange earnings and foreign exchange expenditure during the plan period, the estimates for foreign capital are necessarily inexact either on account of over estimation of exports or under estimation of 'development' and maintenance' import requirements during the proposed plan period. Regardless of errors in estimating the extent of external financing for the fulfilment of plan objectives, the

10. The Very object of public foreign investment may, of course, be the creation of these facilities, the capacity to absorb private direct investment will be limited. (Simon Kuznet, "International Differences in Capital formation and Financing", National Bureau of Economics Research, Capital Formation and Economic Growth, Princeton University Press, 1955, p.34)

The fundamental principle remains: the dependence on foreign resources limits the size of the plan, and hence the speedy growth of a developing economy is unlikely without resorting to foreign capital and technology.

It will be deceptively simple to consider foreign capital as the residual means of financing the development plan. The full implications of foreign capital can not be appreciated by a simple arithmetic exercise of calculating the amount of investment needed to achieve a desired growth rate, the estimation of domestic financial resources available for the diversion towards the development plan, and then desiring to cover the balance. Instead, a more comprehensive analysis considering how the inflow of foreign capital and technology relates to a great national effort to encourage the rate of growth is needed. More specifically, it should examine the differential impact of various forms of foreign capital receipts, their costs and benefits and the transfer problems.

**BENEFITS FROM FOREIGN COLLABORATION**

Going beyond these general comments on the need for foreign collaboration in the planned economic development of India and her absorptive capacity, we may analyse more directly the contribution of foreign capital and technology in the socio-economic transformation and development of the country. This requires us to weigh the benefits of external finance against its costs.

There is a net national gain from more capital imports if the value added to output by foreign collaboration is greater than the amount appropriated by the investor: social
returns exceed private returns. If foreign investment raises productivity and this increase is not wholly appropriated by the investor, the direct benefit so arising would then accrue to local factors of production in the form of higher real income to consumers by way of lower prices, and to the Government through higher tax revenue. In addition, highly substantial indirect gains through the realisation of external economics are also likely to emerge from foreign investments. Further, an inflow of foreign capital and technology may be a major influence in raising labour's marginal productivity and increasing total real wages. Besides this, inflow of foreign resources also allow a larger labour force to be employed in the country, where chronic unemployment and underemployment exists, particularly in the rural sector. If adequate infrastructure is developed, rapid industrialisation is bound to take place as more foreign investments can be attracted. It has ever since independence been contended that shortage of capital is the primary limiting factor for the adequate development of the basic constituents of infrastructure like transport and power as well as for rapid industrialisation and thereby for the employment of the existing surplus labour force in India. Thus foreign collaboration, by filling up the existing financial and technological gaps in India's planned economic development, would make possible more employment of surplus labour. It will also lead to a purposeful migration of labour from rural areas to the advanced industrial sector, where wages are higher. Obviously, the inflow of foreign capital and technology would not only serve as an alternative to the migration of labour from India when outlets

12. We can not, of course, identify the general national interest, which requires a through assessment of political and social benefits and costs of foreign collaboration. In the present analysis, therefore, the economic benefits and costs have been considered, setting aside the non-economic benefits and costs.
to the emigration of surplus labour are restricted, but also increase the marginal productivity of the newly employed. In this way, the social benefits from foreign collaboration in the development of infrastructure in general and in the development of energy projects in particular, would be greater than the quantitative benefits arising therefrom, and this excess should be added as a national gain.\(^{13}\)

Considering the role of power and fuels in the rapid industrialisation and in giving impetus to other economic activities, it may be visualised that some of the benefits of foreign investment also accrue to consumers. In the first instance, power and fuels encourage the establishment of modern industries leading to an increase in the level, range and spectrum of production. Hence, foreign collaboration may benefit consumers by providing them more and more new products. Further, the development of infrastructure, particularly the development of fuels and power, is also cost-reducing. This would ultimately benefit the consumers through lower product prices. Thus, given the financial & technological gaps, foreign collaboration in the development of energy projects contributes indirectly to the increased productivity of the local factors of production and benefit consumers. Even if the entire quantifiable increase in productivity is withdrawn by the foreign investor in the form of interest, royalty, dividend, etc., the direct benefit will still continue as the Government taxes foreign profits.

Moreover, the most substantial benefit from foreign collaboration will arise from external economies. From the

standpoint of contributing to the development process, foreign collaboration brings to India not only capital but also technical personnels, technological knowledge, innovations in products and production techniques, etc., and thus help to promote the diffusion of technological advance to the rest of the economy. In addition, foreign collaboration generally result in the training of labour in new skills, and the knowledge gained by these workers may spread to other parts of labour force.

Foreign collaboration in the development of energy projects, will also prove a strong stimulus to additional domestic investments. Development of transport, power and fuels would, in addition to increasing the absorptive capacity of India for more foreign investments, would also result in increased mobility of domestic resources, diversification in economic activities, diffusion of knowledge, and open avenues for increased employment opportunities for the surplus labour force and domestic resources which hitherto remained neglected. The use of foreign capital and technology in the development of various components of infrastructure, particularly in the development of energy projects, promises more indirect benefits to India than the direct benefits measured against the various possible costs of foreign collaboration discussed hereunder. It is, therefore, desirable to seek the assistance of foreign resources for the installation of the infrastructural facilities, which are, indeed, indispensable precondition not only for the general economic progress of the country but also for attracting foreign as well as domestic resources for the rapid economic growth of India, in a big way.

As high lighted in the above paragraphs, low level of domestic savings and technical advance, limited foreign exchange earning capacity coupled with increased import
requirements of the country for the 'development' and 'main-
tenance' goods during a plan period, hardly permit India to bring up adequate infrastructure without resorting to foreign financial and technical resources. Foreign collaboration, while providing the requisite foreign exchange resources for the import of capital equipment and technical services needed for the installation of energy projects, would also assist our country to reduce pressures on the balance of payments. Not only this, foreign collaboration also encourage the growing installation of manufacturing capacity, inevitable to meet the domestic needs and more foreign exchange earnings. However, to attract private foreign investments in our industries, establishment of vital infrastructural facilities is essential. Development of fuels and power, entailing huge initial investments, can thus be furthered by manufacturing the inputs needed for such a programme within the country by inviting foreign collaboration in the related industries. Thus, foreign collaboration, besides increasing the country's capacity to export more also assists in import-substitution and thereby helps in the development of energy projects in the country.

POSSIBLE COSTS OF FOREIGN COLLABORATION

Although the foregoing effects of foreign collaboration are beneficial, they must also be qualified by possible costs to India. Against the direct and indirect gains arising from foreign collaboration in the development of energy projects in India, import of foreign capital and technology may also possibly affect our domestic savings adversely, deteriorate the terms of trade, and create the problems of balance of payments adjustment.

In so far, as foreign investment results in higher income in the country, it should also lead to a higher level of domestic savings. This effect may be obstructed, however,
by a redistribution of income away from capital, if the foreign investment reduces profits on domestic capital. Although this indirect cost of foreign collaboration should theoretically be recognised, it is unlikely to be of much consequence in practice. It is more probable that foreign capital and technology being complementary with domestic resources will give rise to higher income and profits in other sectors. Obviously, foreign capital and technology employed for the development of infrastructure, particularly in power development, is unlikely to exert any adverse effect on domestic savings, rather this would lead to increased income and profits in other sectors. However, since an increase in the marginal rate of domestic savings is of predominant importance for a self-sustaining progress of India's economic development, it is essential that the full potential from foreign collaboration be realised through domestic measures that mobilise, as savings, a large part of the income generated by foreign capital. In other words, domestic measures to realise an increase in the country's marginal rate of savings are necessary. In view of the fact that foreign collaboration helps in the development of energy sector, which serves as a catalyst to the rapid economic growth, it is unlikely that foreign capital may reduce profits on domestic capital and the rate of savings. Conversely, it would add to increased domestic savings.

The possible effects of foreign investment on the terms of trade are usually related to the transfer problem. The terms of trade normally tend to improve with an inflow of foreign capital, then tend to worsen when there is subsequently an outflow of capital from the recipient country. Besides these transfer effects, foreign investment may also affect the terms of trade through structural changes associated with the pattern of development that results from the
capital inflow. If the pattern of development associated with foreign investment involves a deterioration in the commodity terms of trade, then the net gain from foreign investment will be diminished. However, foreign collaboration is unlikely to cause any substantial deterioration in the country's terms of trade, because an unfavourable shift in consumption resulting from an export-bias, is probably controllable through import restrictions. On the other hand, if it results from an export bias in production, it will be most likely due to private foreign direct investment in the export sector, but this inflow of foreign capital would diminish as export prices fell, thereby limiting the deterioration in the terms of trade. Moreover, if the deterioration comes through an export bias in production, it is possible that factorial and the income terms of trade might still improve, even though the commodity terms worsen. It can, however, be visualized that inflow of foreign capital and technology for the development of infrastructure in general, and the energy projects in particular, is much promising for improving India's adverse balance of trade, for the obvious reason that such 'public overheads' give a big push to speedier industrial expansion.

More important than the foregoing, are the possible adverse effects of foreign collaboration upon the balance of payments. Although foreign collaboration will ease the development of infrastructural projects in India, it may give rise to the problems of balance of payments adjustment. Initially, India may confront transfer problems with the accomplishment of the real transfer of the capital, then with the need to confine the current account deficit to the capital account surplus, and subsequently with the servicing of the debt or the repatriation of the foreign capital. If the

transfer mechanism does not operate rapidly and smoothly, a disequilibrium will persist in the balance of payments of India as well as in that of the collaborating country. A developing country like India is particularly sensitive to a large potential deficit on current account. The problem of affecting the real transfer may, therefore, be not so much that of acquiring an import surplus on long-term capital account as that of preventing a potential deficit on current account from becoming actually realised - in other words, restraining the demand for foreign exchange within limits given by the supply of foreign exchange. Subsequently, the amount of foreign exchange required to service the foreign debts might become larger than the amount of foreign exchange being supplied by new inflows of foreign capital; the transfer mechanism will then have to create a surplus on current account equal to the items on account of the payment of interest, profits, and amortisation on the foreign capital.

Since the foreign capital is for development purposes, import from the lending or collaborating country frequently follow directly on the imported capital. To the extent that the capital is directly spent in the country of its origin, there is no transfer problem. If, however, the foreign investment is autonomous rather than a tied loan, only a portion of the investment is likely to induce imports directly from the collaborating country. In both of these circumstances, the problem of successfully transferring the foreign capital in the form of an export surplus from the creditor country can not be ignored.

Although the development of basic economic infrastructure like power, transport and ports in the recipient country facilitate the initial transfer of capital, they may at the same time create so high a demand for imports that
the host country has to avoid a "transfer problem in reverse." For a developing country like India, the more crucial question posed by foreign investment is likely to be how to limit the import-surplus (that is, the demand for foreign exchange as against its availability) to the total amount of foreign capital available, rather than how to create an import-surplus in order to achieve the transfer in the first instance. This type of "negative" transfer problem emerges when the complementary demand of the recipient country, say India, are so strong as a consequence to infrastructural development that they give rise to an increased demand for foreign exchange that exceeds the increase in foreign exchange available from the inflow of foreign capital. This is because the use of foreign resources for the development of power and transport, etc., not only entail its own demand for imports, but is also likely to raise the level of domestic spending and add to inflationary pressures, thereby inducing additional imports. As we have already noted, the inflow of foreign capital for the development of infrastructure may stimulate domestic investment by producing investment incentives elsewhere in the economy. If this increased investment is financed by credit creation, it may cause higher demand for imports in excess of the supply of foreign exchange. Thus, when the inflow of foreign capital leads to negative transfer problem, the debtor country has to suffer a loss of international reserves, or else bears the costs or policy measures aimed at adjusting the balance of payments. External measures like import quote, tariffs, and exchange restrictions may suppress the demand for imports but at the expense of productivity and efficiency. Internal disinflationary measures like higher taxation and credit tightness

aimed at the elimination of the excess demand for imports are necessary, but involve the costs of reduced consumption and investment. Alternatively, the country may have to devalue its currency and incur the costs of a possible deterioration in its terms of trade, change in income distribution, and necessary shifts of resources. In sum, when foreign investment leads to balance of payments difficulties, we must include these indirect costs of a depletion of international reserves, direct controls, disinflation, or devaluation in any assessment of the benefits and costs of foreign collaboration.

The costs of balance of payments adjustment are likely to be more pronounced when the recipient country encounters the problem of debt service. Sooner or later, the outward flow of interest, dividends, and repayment of the principal amount may exceed the rate of new capital inflow. When the return-flow of income in the form of interest, dividends, etc., and the amortisation payments exceed the rate of new capital inflow, the country become a "mature debtor" and confronts a transfer problem in servicing the debt. This requires the recipient country to generate an export-surplus equivalent to the net outward transfer of amortisation on capital account, and of income payments on current account. This, further calls for a reallocation of resources so as to expand exports or replace imports (i.e. export-promotion or import-substitution). To accomplish this, India may have to impose internal and external controls or devaluate currency, and the adverse effects of these measures on balance of payments adjustment, as stated in the above paragraph, must then be considered as indirect costs of foreign collaboration, to be added to the direct costs of foreign payments.

Since the development of energy project is the responsibility of the Government requiring sizable foreign investment to supplement the meagre domestic savings available
for this purpose, direct costs of foreign investment do not cause much concern in themselves. Because, a part of the increased production from the use of foreign capital can be paid abroad in interest or profits; and this is a deduction which would not be necessary if the savings are provided at home. However, it is significant to ensure that the benefits exceed the direct costs of foreign investments. In this regard, it is of prime concern that the indirect costs of foreign capital should be avoided by instituting measures for balance of payments adjustment so that sufficient foreign exchange could be found for the remittance of external service payments. To escape, or at least minimise, the foregoing indirect costs towards foreign capital, a development programme pertinent to the installation of energy projects should give attention to the debt servicing capacity of the country. Since the development of infrastructure has a high component of government investment, the criteria for allocating capital must acknowledge the effects of foreign investment on the balance of payments. In order to provide for adequate servicing of foreign debt, it is necessary to ensure that the imported capital raise productivity sufficiently to yield an increase in real income greater than the interest and amortisation charges. If this is done, the economy will have the capacity to raise the necessary funds either through a direct commercial return or an increase in the taxable capacity.

GOVERNMENT POLICY TOWARDS FOREIGN INVESTMENT AND COLLABORATION

The foreign investment and collaboration policy of the Government of India was briefly set out in the Industrial Policy Resolution of April 6, 1948. This was subsequently further amplified in the then Prime Minister Pandit Jawaharlal Nehru's
statement on foreign capital made exactly a year later in the Indian Parliament on April 6, 1949. This statement explicitly recognised foreign capital as an important supplement to domestic savings for the development of the country and for securing scientific, technical and industrial know-how. In the second Industrial Policy Resolution of 1956, when the Government adopted the 'Socialistic Pattern of Society', the basic features of the policy under study remained unchanged. For a brief period of about two years, till December 1979, a few deviations were introduced in the policy in December 1977 by the then Janata Government. However, the policy announcement of July 1980, which came in the wake of change in the government at the Centre, restored the 1956 policy in all its essentials. Thus, the Industrial Policy Resolution of 1948 as amplified in the then Prime Minister's statement of 1949 and the Industrial Policy Resolution 1956 constitute the basis and lay down the framework of the Government's policy on foreign capital and collaboration.

The essence of foreign collaboration policy hitherto pursued may be outlined as follows: (1) treatment of foreign enterprises on par with Indian enterprises; (ii) freedom of current remittances and capital repatriation subject to the foreign exchange consideration; (iii) guarantee of fair and equitable compensation to foreign investors in case of nationalisation of the undertaking; (iv) working ownership and effective control in Indian hands, except in special cases; and (V) progressive Indianisation in employment. There was no explicit reference to import of technology because the Government did not at the time realise the need for such reference. In the course of time, the country had broadened
her industrial base, the industrial structure had become diversified and many sophisticated industries had been set up. Technologically also the country had advanced, and this was true of both the public and private sectors. Hence there was an understandable feeling that technology should not be imported to the detriment of indigenous talent and skill. The Government of India has been following the same consistent line of approach, viz., that Indian know-how should be preferred to foreign, and should be progressively utilised. It was increasingly recognised that apart from economic growth, employment was a vital consideration in India's plan of economic development and that the country had to circumspect in import of technology which were based on the conditions and needs of Western countries where there was labour shortage and man was costlier than machine. Greater care had, therefore, to be exercised in obtaining foreign technology which were highly capital intensive and labour saving and which would tend to accentuate, at least in the short run, problem of unemployment. In view of these factors, the Government of India constituted a Committee on 19th February, 1966 headed by Dr. A. Ramaswamy Mudaliar as chairman to recommend to the Government some guidelines regarding the utilisation of indigenous know-how and the type of cases in which foreign collaboration may be allowed. Following the recommendation and the Government's decision on Mudaliar Committee Report on Foreign Collaboration, a Foreign Investment Board was constituted on December 1, 1968 for screening collaboration proposals, both of private and public sectors.

Following the major changes in the Industrial Licensing Policy announced in the first quarter of 1970, the foreign collaboration policy was further liberalised with a view to bridge technological gaps that had existed in several sectors of the economy and where there could be scope of foreign collaboration. Foreign Collaboration policy was
again redefined in the context of the approach to the Fifth Five Year Plan. The policy was then aimed at integrating foreign collaboration with the technological and economic objectives of self-reliance. Presently, the Government is exercising a greater degree of selectivity and the foreign investment policy is designed to channelise the foreign financial and technical resources only in fields of relatively high priority which will reinforce our own efforts to accelerate the country's economic growth. The policy also encouraged the foreign participation where it would contribute to import substitution or export promotion. Particular importance is given to the training of Indian technicians and executives in all aspects of production and management. The development of indigenous technology by encouraging the establishment of inplant research and development is another feature of the present foreign collaboration policy of the Government of India.

On the whole, taking into consideration the present stage of our economic development, the industrial infrastructure and technological skills that we have built up so far, the balance of payments requirements and our objective to achieve self-reliant economic growth as early as possible, the present policy of the Government of India has become highly selective, but flexible. We are looking for foreign investment primarily in areas which require sophisticated technology or where critical production gaps exist or which would help expand our export potential. Presently, foreign investment is regarded by us as an instrument for securing the much needed sophisticated technology than as a device for acquiring foreign money capital. In the light of these considerations, we are now not permitting foreign investment in fields of high profit yielding industries and where considerable indigenous technical advance has already been made.
Nevertheless, the Government never legislated the criteria for foreign investment and collaboration. The flexibility in the foreign investment policy of India, however, always provided room for administrative discretion in decision-making. Besides, due to the involvement of a number of government department in decision-making process regarding foreign collaboration, there always remained a gap between the intention implied in the policy measures and the actual decision. These policy 'swings' and the 'gap' between intention and implementation have been extensively studied and interpreted by research scholars in various ways, some explaining in the context of political forces within, while others mainly to economic constraints on balance of payments reasons.

Whatever be the explanation, the studies on Indian experience with foreign collaboration for the past two and a half decades have highlighted many undesirable consequences of technological dependence. The Reserve Bank of India Surveys on Foreign Collaboration and other studies have documented that apart from indirect costs, the direct cost of foreign collaboration in the form of profits, dividends, royalties, licence and technical consultancy fees, etc. have been quite high in India. The heavy cost is, in large part, due to India being placed in a situation of technological dependence. This dependence is responsible for India's weak
bargaining position in the international technology market, where the terms of collaboration are determined from the bargaining strength of the country concerned. Since it is understandable that with constant technology would continue in almost all industries, care should be taken to ensure that the criteria followed for technology selection or technology absorption should be in the national interest. Due regard should be given to technical competence, magnitude of operations, commercial viability of the projects, foreign exchange outgo and availability of indigenous resources as well as the recipients' present and future technical and technological resources and capabilities. The Government's policy with regard to the import of foreign technology should, therefore, provide a framework to modify the consequence of technological dependence by aiming at developing the overall technical capabilities of the country in a given time frame and with an increasing degree of self-reliance on one hand, and at evolving a machinery for the proper selection, screening, evaluation and even involvement in negotiation of the import of technology, on the other. So long as there is no explicit policy and effective methods for controlling technology, the consequence of foreign control through technological dependence will continue.

The misconceived role of foreign collaboration in expanding our exports is also evident from the Government's policy on foreign capital and collaboration. Empirical studies have demonstrated that the anticipated benefits of export trade expansion by encouraging unregulated inflow of capital and technology from abroad is unlikely to be significant. The stand of the India's foreign investment.

policy for encouragement of foreign collaboration guided by its possible export generating considerations is likely to have negative development impact. It is possible that such collaboration may lead to the development of inappropriate technology and distort the development priorities, and hence resource allocation. Conversely, the policy under review, making an explicit reference to appropriate technology, states that the Government will ensure that this important area gets adequate attention. Although the policy in question has stipulated that inplant research and development should be set up so that imported technology is properly adapted and assimilated, however, the first essential step towards adaptation is a proper selection among various alternatives, including local. But the policy lacks in giving adequate emphasis on a system for technological selection and appraisal in its regulatory framework. In addition, the policy for encouraging inplant research and development for adapting imported technology may be constrained by the huge initial investment on research and development in the small Indian market, unless by such policy measures as the systems of centralised technology purchase and interaction of research and development efforts.

The foreign collaboration policy of the Government of India has been oriented generally towards encouraging the inflow of foreign capital and technology on the assumption that foreign collaboration augment the foreign exchange resources for the import of capital goods and know-how, and thereby enable the country to meet its balance of payments problems. The validity of this assumption is also doubtful. Empirical studies in this respect have highlighted marked

reluctance of foreign investors to commit their own corporate saving in free foreign exchange for investment in India. Foreign collaborators have managed the imports of capital goods by arranging foreign exchange loans or by importing from rupee payment areas. This means that loan finance for the import of capital goods has added cumulatively to India's foreign liabilities, foreign collaboration has not been very useful instrument for preventing the foreign exchange problems.

In the ultimate analysis, the Government of India's policy on Foreign Collaboration and Investment is inadequate to meet the consequence of technological dependence arising from foreign collaboration as well as it is inconsistent with the plan objectives. The policy, therefore, calls for a fresh review.

FOREIGN COLLABORATION IN PUBLIC SECTOR

Since India has opted for "socialistic pattern of society" wherein the public sector has an increasingly important role to play in socio-economic development of the country, and that the development of basic economic infrastructure is the State responsibility, it is worthwhile to assess whether the public sector has been successful in securing better terms and conditions for the transfer of foreign financial and technological resources and thus promote the objective of self-reliance.

Obviously, the increasing involvement of the public sector, particularly in priority areas, is aimed at laying and strengthening the foundations for independent economic

development, and deal with the basic problem of external dependence. In this context, the development of entire energy sector—power, coal, petroleum, etc., constituting a significant ingredients of the economic infrastructure, has been undertaken by the Government. Given the technological and financial gaps in the production of goods needed for the development of economic infrastructure like power and transport, import of critical inputs like capital and technology from developed countries was found expedient, both for public as well as for the private sectors, although the routes for the importation have been somewhat different as between the two sectors. Presently, foreign financial and technical collaboration as a quicker way to achieve the objectives has been the common form of foreign investment in India, both in private and the public sectors. The reliance of the public sector in India has been mostly on foreign technical collaboration, and the suppliers of technology to this sector are mostly multinational corporations.

Given the strength of the Government and wider socio-economic considerations it entertains, the public sector possesses a wider spectrum of choice than a profit-motivated private entrepreneur in the selection of technology and its sources, and may thus secure better terms and conditions in technology transfer. The following reasons may support this line of argument: (i) that the Government has access to better information than the private entrepreneurs about the alternative sources of technology, and hence is capable in acquiring it on better terms and conditions; and (ii) that the Government has control over important assets and income flows, the implication of which is that, it can shape and direct policy to reduce to the minimum the restrictive practices widely spread in collaboration agreements. The
empirical studies\(^{23}\) have, however, demonstrated that the sources of technology inputs for the public sector in India were broadly the same as that for private sector, and so the terms of import were basically not very different from the terms of the private sector. The duration of technical collaboration and the royalty rates in public sector are also very much similar to the private sector, in certain cases 'heavily loaded' in favour of the foreign collaborator.\(^{24}\) The numerous terms and conditions attached to collaboration agreements is a reflection of the poor bargaining power of the Indian public sector. The available evidence also suggests that there is heavy dependence on foreign technicians in foreign collaborated public sector enterprises.\(^{25}\) Over the period 1964 to 1970 total number of foreigners employed in the Public Sector in India rose from 5,511 to 6,137 and payments from Rs. 17,92 crores to Rs. 37.51 crores.\(^{26}\) Besides the payment of Rs. 37.51 crores in foreign exchange, the foreign technical collaborations also received Rs. 38.4 crores in the form of rupee payment from the Government sector during the period in question.\(^{27}\) It is ironical that though the Government from time to time has sought, through various measures, to restrict the inflow of technology, in its own sphere of production it continues to rely on foreign packaged technology. Despite all talk of the leading roles of the public


\(^{24}\) The agreement between the Cochin Refineries and Phillip Petroleum Company of the USA was heavily loaded in favour of the foreign company. The difference in the processing rate between the other companies and Phillips Petroleum Company was colossal. (see for details, Economic Times, Bombay, June 28, 1977).

\(^{25}\) See, Report of the Parliamentary Committee on Public Undertakings, 4th Lok Sabha, 14 Report, Heavy Engineering Corporation; also appeared in Public Enterprises, Delhi, Volume 3, No.4, April 1976.

\(^{26}\) Reserve Bank of India Surveys on Foreign Collaboration, 1968 and 1974, Bombay, Reserve Bank of India.

sector in absorbing foreign technology through equitable participation, the data reveals precisely opposite trends. The Reserve Bank of India observed that in public sector "generally, the collaboration were wider in scope than those in private. In public undertakings, apart from technical assistance, the foreign collaborator also undertook contracts for the supply of equipment, plant construction and also supply of credits. In view of the foregoing facts, it is obvious that the nature of foreign collaboration in the public sector in India is not different from that of the private sector. Similar to the private sector, the public sector has also not been successful in securing better terms and conditions for the transfer of foreign technology, and thus promote the objective of self reliance.

The present policy on foreign capital and collaboration, therefore, needs a fresh review. Keeping in view the present state of the country's industrial and technical advance and the national priorities, the policy needs to be modified in such a way as to reduce, if not eliminate, the technological dependence. In this context, possibilities should be explored for horizontal transfer of technology from one undertaking to another. In view of the fact that technology transfer has to be on mutuality of needs of the supplying and recipient undertakings and can not be made compulsory or dictated by the Government, it is advisable to stipulate that if technology is available with any public sector undertaking there should be only a horizontal transfer of such technology to a private enterprise and that no import of technology on repetitive basis will be allowed. In addition, with a view to minimise the technological dependence, adequate research and development activities should be encouraged at national level so as to keep pace with the rapidly changing international technological advancements.

CONCLUSION

A final conclusion on whether the benefits of foreign collaboration in the development of energy projects in India outweigh its costs can not be reached solely in quantitative terms. Although the direct benefits and costs may be capable of quantitative assessment, it is impossible to measure all the indirect benefits and costs. Qualitative considerations must, therefore, enter into any final judgement on the contribution of foreign capital and technology in the development of infrastructure like power, transport and ports in India.

Clearly, we may avoid the extremes of either over-rating or underrating the potential contribution of foreign collaboration in the development of energy projects in India. Undue optimism may come from disregarding the indirect costs of overseas investment and the need for complementary domestic policies in order to ensure that the external financing actually becomes an efficient means of capital formation. On the other hand, there is little justification for the view that since there are direct and indirect costs attached to an inflow of foreign capital and technology, it will be better to forgo foreign collaboration rather than incur the costs. This is to overlook the benefits from foreign investment and the likelihood that the benefits exceed the costs.

Instead of simply reflecting an attitude of either easy optimism or undue scepticism or doubt, the policies undertaken by the developing country should be more discriminating among the various forms and uses of foreign capital by attempting to minimise the costs of overseas investment and making the benefits outweigh the drawbacks as much as possible. To gain the greatest possible contribution from foreign capital, a development programme should incorporate policies that will stimulate a large and more stable inflow of foreign capital,
attract foreign investment in its most desired form, and achieve the most effective utilisation of international financing. Although specific policies in respect of foreign collaboration and capital can not be formulated here without detailed factual studies of the particular conditions in each economic sector, we can atleast recognise some of the major considerations that may shape these policies.

If foreign capital does not compete with domestic investment and the country adopts other measures to reduce the cost of foreign capital. India as a developing country can undertake a more extensive development programme when a large volume of foreign investment adds to its available market supplies. India can further stimulate foreign investment by adopting policies like tax benefits, restraining inflation, providing adequate public overhead facilities and removing foreign exchange controls and quantitative restrictions.

Besides considering the volume of foreign investment, India should also be concerned with receiving foreign capital in its most desired forms. What are the "most desired forms" depends on an assessment of the relative advantages and disadvantages of the various forms of foreign investment—not only in the narrow context of debt-servicing, but more broadly in terms of the various effects on the country's entire socio-economic development programme. Suitable institutional and legal arrangements may then be designed to encourage the best combination of different types of foreign investment. In formulating its investment policy, India should go beyond the traditional forms of foreign investment and consider the

potentialities of newer kinds, such as joint international business ventures and management contracts for private investment, and possible approaches for transnational corporations in providing public investment. A 'partnership' arrangement in which private foreign capital is associated with local private or public capital is an especially promising device for encouraging and protecting private international investment and for stimulating local private investment. Special attention should also be given to the particular combination of public and private borrowing to ensure that the two sources of financing are complementary rather than competitive.

While the volume of capital imports is influential in maintaining a higher level of national expenditure, the allocation of the foreign capital is decisive in determining whether it contributes as much as possible to raising the growth potentiality of India. To achieve the most effective utilisation of foreign investment, the national regulation of foreign capital must be undertaken in terms of the country's entire development programme - not simply on the basis of single investment projects. A programme approach, not a project approach, must determine the criteria for productive use of foreign capital. In this context, the use of foreign resources for the development of economic infrastructure in general and the development of energy projects in particular, is not only productive for the overall economic development of the country but also an inescapable precondition in this regard.

In the final appraisal, all policy considerations must be centred on the dictum that "capital is made at home".30 and the basic principle that "the productivity of investment,

within a single nation, is largely a matter of its external environment; it has a connection, which is usually a close connection, with the gains from trade".\(^{31}\) Since the effective utilisation of foreign resources is highly dependent on the recipient country's ability and willingness to adopt complementary domestic policies, there can be no simple equivalence between the amount of the foreign investments with the country and its rate of development. Although the use of foreign capital in the initial stages of the country's entire development programmes is beneficial, but over the long run, development can not be sustained with the use of foreign resources. Keeping in view the state of India's economic development at the advent of independence, low level of domestic savings and technical advance, tapping of external resources to sustain the process of development became inevitable, rather a force to reckon with. Since, by and large, the development of economic infrastructure is the State responsibility which calls for huge capital investment and is a pre-condition for accelerating the growth process in a capital scarce economy like India, the participation of foreign resources in this respect becomes much desirable on a whole array of reasons. So far as the forms in which foreign financial, technical and managerial resources can participate in this laudable task of structuring the infrastructural facilities in India is concerned, it is understandable that an overwhelming inflow of foreign resources has been on government-to-government basis, although private foreign investments have also contributed in the development of power and petroleum industries in India. In the pages that follow, a detailed discussion on the contribution of 'official' and 'private' foreign resources in the development of energy resources in India has been made.

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