

TRANSFER OF TECHNOLOGY IN SRI LANKA, A CASE STUDY

The Marga Institute was commissioned by the UNCTAD to undertake a study on 'Transfer of Technology in Sri Lanka'.

Twenty firms typical of the medium-scale manufacturing enterprises which sprang up in the import substitution phase during the late 'fifties' and 'sixties' were selected for detailed analysis. These firms broadly typify the heterogeneous character of the technological dependence and foreign collaboration to be found in the private sector of industry. They ranged from foreign owned subsidiaries and joint ventures to local enterprises obtaining technological know-how on contractual agreements. The sources of technology are correspondingly diverse; they included U.K., U.S.A., India, Hongkong and Japan, all market economies.

An analysis of the 20 firms

A detailed analysis of the twenty enterprises revealed several features that are characteristic of collaborations with private enterprises from capitalist economies.

1. The evidence suggests that most private enterprises of the West were reluctant to provide technology in certain fields of investments, and in instances where such technology was provided the contractual agreements contained various restrictive and abusive practices.
2. Often restrictive conditions pertained to the purchase of plant, machinery and equipment and raw materials, marketing of products and the use of process technology.
3. An analysis of contractual arrangements in respect of the 20 firms showed that 18 were denied export opportunities; 13 were compelled to obtain their raw materials from the foreign collaborators, while 5, although not specifically debarred from obtaining raw materials in the open market, yet procured them from the collaborators.
4. Contractual arrangements also contained clauses obliging the technology receiving enterprises particularly in the private sector to buy all or part of the capital goods from the collaborating enterprises. This condition was found in respect of nineteen of the twenty firms.
5. In lieu of tie-in clauses there was evidence where licensors were specific on quality controls of products which inter-alia meant the use of inputs approved by them, although the licencees' production was not intended for international trade. It meant that through this form of restrictive practice the licensors were able to earn bigger rewards.
6. There was evidence that as regards contractual transfers of patented technology licensors had stipulated clauses that permitted for the indefinite continuance of their control over the licensees. Contractual arrangements in respect of an enterprise examined stipulated that the licensee should cease to make use of the process formulae when once the contract expired and in order to stay in manufacture he has had to repeatedly renew the contract.
7. The many abusive practices gave the transferor of technology considerable control over the activities of the local enterprises. Some of the broad implications of such practices cannot be satisfactorily assessed quantitatively. Yet, looking at qualitatively, they have constituted a strong disincentive to domestic research and development by local participants and increased the real costs of technology transfer.
8. Many enterprises that were set up with foreign collaboration possessed substantial unutilised capacities; they were dependent on imported raw materials; were capital-intensive in character; were consumer oriented; and as a whole they failed to meet the country's needs.
9. On the question of costs of technology transfer it was clear that in the absence of data both in respect of the direct and indirect costs a satisfactory estimate was not possible. Yet from the examination of the twenty firms taken for study there is substantial evidence to insist that the costs have been high.
10. During the three-year period 1968-70 the total outflow of foreign exchange by way of patents, royalties, licence fees; technical services fees; salaries to repatriates; and dividends amounted to Rs. 14.3 million as against the foreign capital outlay of Rs. 23.15 million, the outflow representing 61.9% of the foreign commitments. The total direct foreign exchange cost for the acquisition of technology by the twenty firms thus averaged Rs. 4.8 million or 21% of the total foreign investment for the three years.
11. The total outflow of foreign exchange by way of dividends was very high in relation to the total foreign outlay in the various industrial enterprises—39.6%; and the dividend remittances constituting 24.5% of the total foreign outlay exceeded the current lending rates or that of reasonable return on capital.
12. Cost of salaries to repatriate personnel was high in relation to foreign investments—20%—and again, the salaries were very high when compared with those paid to local personnel holding similar positions.
13. There was a tendency for collaborating firms to employ personnel in excess of requirements, and to retain their services for periods longer than necessary although the technology involved was unsophisticated and local personnel have absorbed the process technology, and also to remit technical services fees to parent firms even though no new innovations were introduced in the process technology, which meant an increase in the costs of transfer.
14. The indirect costs of technology transfer have also been substantial. These arose by way of excessive prices for plant and equipment as well as raw materials, and through foreign exchange leakage that has or is likely to have occurred with the connivance of the local partners. Besides, overpricing of imported inputs was strikingly evident in cases where they have been tied to specific sources. The cost increases ranged from 5% to 10%. But there was a glaring example in the case of sulphuric acid imported by two firms where the cost difference was around 300%.
15. Collaborators often charged higher prices on plant and machinery supplied as part of the contractual agreements, facilitated by the inadequacy of knowledge on the part of local personnel in regard to the technology and the market for capital goods. There was also evidence of considerable cost differences in respect of machinery supplied by collaborators from the same countries manufacturing the same products and possessing identical capacities.
16. Additional costs were sustained when collaborators knowingly supplied inappropriate plant and machinery as well as technology and the local participants were compelled to modify them to suit to local manufacturing purposes.
17. Reconditioned equipment have been supplied as if they were new. While initial direct costs of technology transfer were enhanced on account of the higher prices, subsequent costs were incurred when replacements had to be effected at shorter than normal intervals. Instances prevailed where due to the supply of equipment obsolete by prevailing world standards, large stocks of spares have had to be held, blocking much needed foreign exchange in the process.
18. Profits were extraordinarily high in certain areas of activities, which implied that exploitation of the local market had been considerable.
19. There was general reluctance on the part of foreign collaborators to reduce the foreign content of raw materials, to promote labour intensive manufactures; to provide necessary facilities for the training of local personnel both to take over management and to acquire technical know-how. In short, they were not interested in the development of the domestic industrial sector.

(From a seminar paper presented by Dr. S. Sunderlingam)