

# Transfer of Technology

The problem of transfer of technology which is still largely generated in the rich countries is a continuing problem for the Third World. UNCTAD has been studying its dimensions closely for several years now and the excerpts below are from a report by the UNCTAD Secretariat published last year on this problem.

"It is significant that the largest proportion of technology agreements relates to the modern manufacturing sector, where growth may be expected to be faster than in other sectors and to create an increasingly heavy demand for imported technology. The modern manufacturing sector in many developing countries consists mainly of import-substituting industries where domestic production based on imported technologies is more often confined to mere assembly of imported components and ingredients."

"It also follows that a higher concentration of technology contracts in the modern sector does not necessarily indicate transfer and assimilation of advanced technology by the developing countries. In fact, in several of the modern industries, like pharmaceuticals, electric appliances and transport equipment, the degree of technological sophistication directly associated with manufacturing is often comparatively low. Rather than being transferred as such, the technology is embodied in the intermediate inputs."

"It is also significant that a large number of technology contracts is still to be found among traditional industries where the technology applied is unlikely to be new or of a proprietary nature, but more simple and standardized. In some of these traditional industries, as well as in those described in the preceding paragraphs, there is scope for reducing dependence on foreign technology, or at least for seeking more favourable alternative methods."

"Three major organizational forms of technology firms may be distinguished in a declining scale of foreign ownership-control, namely, foreign majority owned, foreign minority owned, and wholly nationally owned enterprises."

"In general, foreign direct investment by multinational companies constitutes an important method of technology transfer and the developing countries are finding themselves in a situation in which foreign control in the manufacturing sector is uniformly high. That the multinationals desire and can effectively bargain for ownership control is a characteristic feature of the structure of the world market for technology. Still more significant is the question of how they acquire and maintain this control. The country studies have revealed the existence of certain financial practices for securing ownership control without making a commensurate transfer of investible funds to the developing countries."

"It has been found that foreign controlled companies in developing countries generally operate on a very narrow capital base. Foreign companies maintain ownership control while exploiting local savings (in the form of debt capital)."

"Secondly, country studies have pointed to a tendency for there to be a concentration of foreign controlled enterprises in selected fields, mainly in the technology-intensive, patent-protected product lines of the manufacturing sector characterized by high barriers to entry. Foreign controlled enterprises in the developing countries enjoy the fruits of monopolistic positions in the developing countries sheltered markets."

"Foreign control of the dynamic sector by multinationals emerges as one of the major consequences of technology transfer which may be neither politically nor economically desirable for the developing countries."

"The important question is why the developing countries have continued to remain dependent, despite the development of domestic capital resources, the training of skilled indigenous manpower and the growth of a new class of entrepreneurs. Compared to colonial periods when foreign investment controlled virtually the whole of monetized output in the developing countries, the proportion has certainly fallen up to until recently. Hence, the potential for reducing the packa-

ging of foreign technology has certainly increased. The fact that this potential has seldom been substantially realized suggests the necessity for governments of developing countries to devise appropriate policies and to create adequate implementation machinery both on the conditions of transfer of foreign technology and for building up domestic scientific and technological infrastructure as a counterweight to foreign sources".

"A survey of the pharmaceutical industry of Colombia indicated that the weighted average of overpricing of inputs imported by foreign-owned subsidiaries was 155 per cent. This may be compared with similar overpricing reported by nationally owned enterprises, which was only 19 per cent. The extra cost to the economy of Colombia resulting from overpricing by foreign enterprises amounted to six times the royalty payments and 24 times the declared profits of firms involved in the industry for the period in question. This stands out in sharp contrast to the cost of overpricing to domestic enterprises, which did not exceed one-fifth of their declared profits."

"It appears to be a feature common to all the countries cited above that the extent of overpricing is much greater for foreign-owned enterprises than for nationally-owned ones. This suggests that foreign suppliers of capital and technology have preferred to obtain a return on their investment implicitly through "hidden" costs to the receiving country rather than explicitly through receipts of royalties and or profit remittances."

"Technology transfer by foreign enterprises into the manufacturing sector in developing countries is generally motivated by a desire to protect export markets which are threatened by increasing trade barriers. Transfers of this kind are more likely to be import-creating and export-discouraging from the viewpoint of the developing country. More recently, however, technology transfer through vertically integrated multinational firms has been taking place in a number of industries using "export processing zones" or similar enclaves in the developing countries for labour intensive component manufacture and assembly, and middle stage processing for re-export. Thus,

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some multi-nationals have built an elaborate network of specialized factories producing components or parts for a product range in developing countries for shipment to home or third countries."

"Transnational corporations take great care to maintain control over the activities of local enterprises, by placing expatriate staff in key managerial positions. Most of the respondent countries reported that they had encountered problems connected with the use of expatriate personnel in key technical and managerial positions."

"The formulation of policies to improve the terms and conditions on which technology is purchased by developing countries implies that those countries should have adequate research and development programmes of their own in order both to improve their capacity for assessing foreign technology and to broaden their range of options in choosing from alternative technologies. There is still only a limited awareness in developing countries of the need for adequate policies."