BOOK REVIEW

Technology Transfer: A Case Study. By Mingsarn Santikarn. Singapore: Singapore University Press, 1981. Pp. xiv, 270.

The time has passed when the main issue in the question of direct foreign investment was capital flows. Technology transfer, its extent and its appropriateness, has become the focus of attention. Mingsarn Santikarn, in what appears to be a published version of her doctoral dissertation, has given us a well-informed introduction to this subject for the case of Thailand. Drawing upon her survey of textile firms, both foreign and domestic-owned, as well as information collected by others, Mingsarn has examined several aspects of the process of technology transfer: the similarities and differences between "packaged" and "unpackaged" transfers; the direct and indirect costs of the transfers, including problems of monopoly and restrictive business practices; factors influencing the choice of technique; and developmental contribution of the transfers, particularly in the area of skill enhancement.

The study is timely: the author points out that it was undertaken when resentment in Thailand against Japanese investment was intense (p. vii). It appears that the debates affected her inquiry and her position evolved in the course of the investigations. It would have been useful to see a full discussion of the more important criticisms of the time in the light of her findings; however, her approach is delimited more by issues that economists generally raise. If there is an overlap in the two, she does not mention it, with the important exception of skill development.

Mingsarn notes that Thai critics claim that Japanese investors have failed "to foster skills in the local work force and to allow local staff to participate in managerial decisions"(p. xi). On her part the author argues that skill development rather than employment should be a major consideration in judging foreign investment (pp. xii, 18–19). From her investigation of the textile industry she concludes that "the Thai labour force has benefited fairly substantially from training and participation in foreign enterprises. Technology in this area has been extensively transferred" (p. 191). She goes on to say, however, that development of local management capabilities has not been equally impressive.

The data she assembles to support these conclusions is not impressive: the higher productivity in foreign-owned compared to domestically-owned firms and the existence of training programmes for the former, and the proportion of management positions held by foreigners for the latter. Moreover, the comment that "higher skills constitute a very small proportion of the total work force" of the Thai textile industry raises the question of the types of skills that are being transferred (p. 242).

The importance of this last point can be seen by reference to Mingsarn's discussion of the concept of technology transfer. She mentions four definitions used in the literature, the broadest of which requires only that the technology be effectively used in a new environment (p. 6). Given her expressed concern with the importance of skill, or human capital, in the process of economic development, the author puts forth a much more restrictive definition: "I shall define technology transfer as the fostering of technology which did previously exist in the local environment in such a way that the local work force can independently exploit and improve the imported technology" (p. 7).

That sentence raised expectations in this reviewer's mind that were unfortunately not met. The working definition that she used in her discussion of the data appears to be much broader, namely, any machinery or information coming from outside Thailand, even if similar equipment or information already existed within the country. I hasten to add, however, that most empirical work on the topic too does not go beyond this latter definition. Pointing out the discrepancy between her stated definition and what appears to be her working definition is not so much a criticism than a hope that building upon the mass of information collected for this study, the author would undertake future work to analyse the process more in consonance with what she considers *should* constitute technology transfer.

I was particularly impressed with the chapters on the contractual relations involved in the transfer of technology and of the choice of technique in the textile industry. As the author points out, it is difficult to summarize the content of contracts involving technology; they differ widely. She has, however, brought out some major points and has given numerous examples. Notable among these are the following: the monetary costs of contracts, the restrictions imposed on the purchaser, and the duration of the contracts are not independent of each other (p. 116); "approximately half of the purchased technology . . . is related to monopolistic goodwill [use of trademarks and brand names] and does not contribute very significantly to the accumulation of industrial and technical skills" (p. 114); and almost one-half of the contracts restricted the exports of the purchaser of the technology in one way or another (pp. 131–33).

On the choice of technique in the textile industry Mingsarn concludes that "subject to some qualifications, the relative factor price theses [sic] can be modified to explain the choice of technology in the Thai textile industry" (p. 226). In this reviewer's view the conclusion is unwarranted. The author certainly has presented data and argument to show that prices do matter. But she has also indicated that other factors too are of some importance. For example, she notes that "the findings show a consistent behaviour in that all firms used modern technology at the time they were established" (p. 217). The issue is much more than doctrinal — whether one economic theory is preferable to another. Rather, it has important policy implications. To the extent that factor prices alone determine choice of technique, then the current situation can be attributed to past government policies (usually resulting in too low a cost of capital and too high a cost of labour); and a future, more desirable situation can be achieved simply by the government altering its incentive structure. However, if other considerations are important, progressively lowering the standard of living of the work force (that is, decreasing the real wage) may not be necessary or even successful in achieving the policy objective.

Technology Transfer: A Case Study is informative and well-argued. The criticisms raised in this review should not detract potential readers. The subject is complicated and further questions evolve as we learn more about it. Based on the work under review, the author appears to be in an excellent position to explore the topic further in the context of the Thai economy. Hopefully, in doing so she will be able to assess the transfer process in terms of the definition she put forward that I have quoted above.

Charles W. Lindsey
Institute of Southeast Asian Studies.