

and firms accounted for 68 per cent of all outward investment as of June 1981, with the top three—Birla, Thapar and Tata—accounting for 39 per cent (Lall, 1983).

One of the main "push" factors to outward FDI is the restrictive environment of the home economy. The Monopoly and Restrictive Trade Practices Act has limited the growth and diversification of Indian firms within the country, both in size and in areas of activity.³⁰ While this has resulted in inefficient production, it also has offered incentives to invest abroad as overseas expansion may provide the easiest direction for sustained growth and diversification (Lall, 1983). Another aspect of restrictive regulation has been a system that imposed tight controls on the availability of foreign exchange and established tariff barriers for imported equipment, which has resulted in the need to adapt existing equipment as well as to develop indigenous capital equipment.

These regulations, coupled with relatively limited technology inflows through both restricted imports of technology and restricted inward FDI, have resulted in large areas of industry that suffer from high cost and technical obsolescence, coexisting with pockets of competence in a handful of industrial leaders (Lall, 1987). India has pursued technological and industrial self-reliance to the highest degree. Its human capital base is small and of very uneven quality, and its physical and technological infrastructure has a number of deficiencies.

In July 1991, a new economic policy was introduced that promises a significant liberalization towards inward FDI (UNCTC, 1992a). Specific measures include an increase in the ceiling on foreign ownership from 40 per cent to 51 per cent, the removal of industrial licensing requirements and other measures that reduce the Government's control over inward FDI. Also significant is the relaxation of the Monopoly and Restrictive Trade Practices Act and the Foreign Exchange Regulation Act, which governs payments of technology licensing fees and royalties. This will increase competition and act as a "push" factor in the development and enhancement of ownership advantages of domestic firms in the long run, and subsequently affect outward FDI.

(d) Mexico

There are no officially published data on outward FDI by Mexican firms; however, such investment is estimated at \$720 million in 1990 from host country sources (see table II.3), up from some \$180 million in 1980. Mexican investment is a relatively recent phenomenon, and has been concentrated in the United States—by far the largest host country—and such Latin American countries as Brazil, Colombia, Ecuador and Venezuela.

The ownership advantages of Mexican TNCs have mostly developed as a result of protected markets prior to the structural adjustment and economic reform that began in late 1982. Government policy before 1982 had stressed import substitution and domestic content, like India and Brazil. However, protectionism had not always been reinforced by performance requirements³¹ or export incentives, and thus only a few pockets of technological competence have developed.

A small group of business houses as well as some parastatals have dominated the domestic acquisition of technology. Much of the impetus has come from restrictions on technology imports, either in the form of limits on the payment of royalties and licensing fees or through inward FDI.

Skills that have developed have thus been derived as a result of the following motivations (Dahlman and Cortes, 1984): the need for a different scale of operations; the desire to make use of locally available resources; and the replication of existing technology not available in Mexico.

Recent developments related to the creation of the North American Free Trade Area (NAFTA)—with a combined GNP of \$5.9 trillion and a population of 362 million in 1989—have caused a flurry of activity amongst Mexican firms expanding their operations to the United States. Such expansion is promoted as a means to acquire technology and capital, to avoid current barriers to exports, or to expand regional market positions in preparation for the onslaught of increased competition expected when the agreement is ratified and implemented. In 1989, Vitro S.A. acquired two glassmakers in the United States, Anchor Glass Container Corp. and Latchford Glass Co., effectively making Vitro—already dominant in its home market—the second-largest glass container manufacturer in the United States.³² In 1991, Vitro concluded a joint-venture agreement with Corning, another United States glass manufacturer. While this does not represent its first foray into the international market (Núñez, 1990), it is significant because it reflects a strategic shift from a domestic market to an international orientation.

Another firm that is pursuing an aggressive attitude towards economic integration is Cemex, which controls two-thirds of the domestic market and ranks fourth among cement firms worldwide. Its 1989 acquisition of Tolteca from previous ownership in the United Kingdom and Mexico gave Cemex extensive distribution facilities in the United States, transforming it into one of the two largest cement firms in North America. This was aimed at protecting its market position in the United States, as well as exploiting the advantages of horizontal and vertical integration. In 1992, Cemex undertook a new stage of expansion—this time with the acquisition of controlling interests in two Spanish cement makers that give the Mexican company a new opening to the European Community market.

The Mexican economy before 1982 was highly regulated, and inward FDI was strictly limited, with a number of industries either reserved for the state or restricted for foreign investors. Furthermore, tight limits were set on royalty payments and little protection was afforded to patents. Thus, the development of ownership advantages occurred because of the inward orientation of the economy. However, Mexican entrepreneurs faced few performance requirements in exchange for an effective insulation from foreign competition, and no significant export incentives were provided. A substantial proportion of inward investment was through the *maquiladoras*, which offered little value-added locally—thus, technology transfer through this vehicle was minimal.

However, since 1982 and especially 1989, many of these policies have changed, including a shift towards an active promotion of inward FDI, the aggressive privatization of state-owned enterprises and an overall trade liberalization. This has increased exports and accelerated the inflow of FDI and technology imports (UNCTC, 1992b). Full foreign ownership is now allowed in 73 per cent of 754 industries; the number of state-owned firms decreased to 377 at the end of 1989 from the peak of 1,155 in 1982, and has continued to decline since (with the telecommunications monopoly Telmex and, more recently, the banking industry among the major privatizations). Since Mexico joined GATT in 1986, the average tariff rate has been lowered to less than 10 per cent from

more than 30 per cent in 1985, and regulations on technology transfer from foreign firms were considerably relaxed in 1990.

Various Government-sponsored research institutes have been revived or created to bolster the development of Mexican ownership advantages, such as Centro para la Innovación Tecnológica (CIT) and Instituto de Investigaciones Eléctricas de Mexico (IIE). Research-and-development personnel per capita in Mexico is about 20 per cent higher than in Argentina and more than twice that in India, though just one-third of the level in the Republic of Korea. The rate of illiteracy in the population aged 16 and older was estimated at 12.7 per cent in 1990, below comparable levels of 18.9 per cent in Brazil and 51.8 per cent in India, but above the 4.7 per cent rate in Argentina.³³ These factors may contribute to stronger competitive advantages of Mexican firms.

However, perhaps the single most important factor is the creation of NAFTA, which will create a source of competition for Mexican firms as well as provide an increasingly important market for Mexican goods and services. Mexico has been deeply dependent on the United States economy: trade statistics show the United States accounted for 81 per cent of non-oil exports and 65 per cent of imports in 1989, compared to 62 per cent and 60 per cent, respectively, in 1981. This raises the potential for a transnationalization of Mexican firms as they make additional investments that are both technology-seeking and market-seeking.

3. Other investors

A range of other developing countries have enterprises that are investing significant amounts abroad in manufacturing and services. The range of their competence is, on the whole, fairly limited as compared to the countries considered above, but there is still a surprising spread of activity and ownership advantages (Wells, 1983, Cantwell and Tolentino, 1990). Pockets of ownership advantage have emerged, based on experience with local resource processing, inherited trading structures, industrial activity, Government support or exceptional entrepreneurial acumen.

There are many significant differences among countries in this group. Some are fairly outward-oriented in their trade strategies and enjoy high rates of growth in income and exports: these include the newly industrializing economies of South-East Asia—Indonesia, Malaysia and Thailand—with several countries in North Africa and Latin America also candidates to join these ranks. Others are pursuing inward-oriented, protectionist strategies, but have built up substantial industrial bases; still others are at lower stages of development because of their small base of capabilities.

In line with the reasoning advanced above, the development of their outward FDI is expected to diverge over time. The newly industrializing economies should generate greater sustained transnational activity, assuming their export growth is supported by the development of domestic capabilities and indigenous entrepreneurship. These countries have taken a dual path of export orientation and import substitution as a means to foster technological mastery. They have begun to acquire technological and other ownership advantages—partly through Governmental protection in the form of subsidies or assistance, partly through inward FDI which provides technological

benefit for both import-substitution programmes and export-oriented operations. This has caused domestic firms to expand their internationalization.

Some TNCs are attempting to compete in developed-country markets. Examples include the recent purchases of two large tuna-fish canners in the United States: Chicken of the Sea by Mantrust of Indonesia in 1989, and Bumble Bee by Unicord of Thailand in 1989. Another is the 1991 move by Siam Cement Group of Thailand to launch a joint venture in the United States with an affiliate of an Italian firm. Others have taken a more conventional approach by investing in neighbouring countries. ASEAN countries are heavily represented in FDI in Vietnam, including Indonesia, Malaysia, the Philippines and Thailand. The investment by Summa, a Malaysian banking concern, in Indovina Bank is expected to serve as a model for banking joint ventures.³⁴ An interesting feature of some of the investments made in developed countries is that they represent market-seeking as well as technology-seeking investment. This implies that such firms should develop ownership advantages in new and related areas, as the two sets of ownership advantages interact.

The inward-oriented economies may improve their performance if they are able to modify their incentive structures and strengthen their skills and infrastructures to make their industrial structures more efficient. The least developed countries are not expected to become steady exporters of FDI for some time to come, though sporadic activity may take place as some modern manufacturing or services take root efficiently. Their long-term prospects depend on their ability to launch sustained structural change.

At the risk of some simplification, the smaller investors can be subdivided under the same strategy-based categories as outlined above for leading investors—that is, by trade orientation, human capital endowments and reliance on domestic vs. foreign capital. What applies to the leaders of each group may, in other words, be expected to apply to the other countries in the appropriate group when they reach comparable levels of development.

An exception to the above grouping is China, which is difficult to classify either in a group of outward-oriented, export-oriented countries or in a group of inward-looking countries, or on a company-strategy basis. Since its open-door economic policy in 1979, outflows of FDI have been constantly increasing; cumulative flows during 1982-1991 accounted for about 15 per cent of outflows from developing countries during this period.³⁵ China International Trust and Investment Corporation (CITIC) is probably the largest investor from China, having invested about 3 billion yuan (\$574 million) by the end of 1990.³⁶ China has become the third largest investor in Hong Kong behind the United States and Japan, accounting for about one-tenth of total inward FDI stock by 1990. In general, Chinese TNCs not only prefer joint ventures, but also raise part of their capital either locally or in the international market to finance projects. This minimizes outflows of foreign exchanges from China.

4. Concluding observations

This section has sought to highlight the relevance of domestic policies and conditions to the nature of each country's FDI. Since these tend to differ very markedly among developing countries,

it is important to understand them in order to evaluate the feedbacks from FDI. In particular, the previous sections have highlighted differences between the four export-oriented Asian newly industrializing economies and the next tier of large investors, including Latin American newly industrializing economies (Argentina, Brazil and Mexico) and India.

The first group consists of a homogeneous set of economies with similar industrial, export and FDI propensities. Since these countries lead the developing world in the internationalization of production and industrial competitiveness, their differences are of particular interest to other countries and to this study. Comparisons with the early Japanese experience of FDI are also instructive.

The TNCs in the second group, which emerge from various settings, have very different features from those in the first group. Some have advanced ownership advantages based on technological effort at home, while others may have no distinct advantages and find themselves under intense pressure overseas. The volume of FDI, at least in manufacturing, tends to be relatively small, and does not signify a major internationalization of production by the enterprises concerned. Some, as in India, are motivated by the urge to escape domestic licensing and other constraints on growth. There is almost none of the restructuring pressure that forms an important motive for FDI in the East Asian newly industrializing economies. Nor is there a compelling need to establish beachheads in advanced industrial economies, save for a limited number of Brazilian and Mexican firms—and these do not yet compare with the assertiveness of the TNCs from the Republic of Korea or Taiwan Province of China.

The longer-term evolution of the extent, nature and content of transnationalization by these developing countries, including those in the third group, will thus reflect many factors. Quite apart from the macroeconomic and debt problems that currently exert a significant influence on most aspects of activity, particularly in the second group, factors that will shape their underlying competitive abilities are: trade strategy, educational policies, domestic competition policies, science-and-technology support, physical infrastructure development and policies relevant to technology import and inward FDI.³⁷ The countries that adopt more outward-looking trade strategies and back up their competitiveness by increasing the provision of skills, technology, domestic competition, technology support and infrastructure will experience a faster rise in ownership advantages—if support is also given to indigenous enterprises. At this stage, it is impossible to predict how events and strategies will turn out for the large semi-industrial countries.

The discussion has shown that the concept of "ownership advantages" as an indicator of domestic industrial strength is ambiguous. The possession of some advantage is necessary, and clearly indicative of some domestic competence. However, the fact that the advantage (or set of advantages) is being relocated overseas needs to be further analysed in terms of its domestic origins and its implication for domestic industrial structure and competence over the longer term. A relatively static readjustment of the location of advantages has very different implications from one where a dynamic, sustained process of creating new advantages and exploiting them in various locations is being launched. These issues are taken up in chapter III.

Notes

- 1 The estimated stock of FDI from Latin America and the Caribbean in the late 1980s was about \$42 billion, of which about \$29 billion originated in tax havens (Bermuda, Cayman Islands, Netherlands Antilles and Panama); see also Fujita, 1990.
- 2 Wells, 1983, p. 2; and UNCTC, 1988, p. 24. The differences in the period coverage, if stock is counted as accumulation of flows, and the differences in the country coverage, if FDI is estimated from data in host countries, resulted in different data among the studies.
- 3 Although a number of host countries are not included in this estimation due to the unavailability of data on FDI from developing countries, the actual FDI stock from developing countries is not much different from this as omitted data are considered to be small.
- 4 For example, for Asian developing countries, see ESCAP/UNCTC, 1988; for Latin America, see White, 1981, pp. 155-186.
- 5 Census and Statistics Department, *Annual Digest of Statistics, 1990 Edition*, table 4.3, p. 56.
- 6 "Hong Kong firms shift investment away from China: fresh pastures", *Far Eastern Economic Review*, 20 September 1990, pp. 92-93.
- 7 *Nihon Keizai Shimbun*, 4 July 1987, p. 7.
- 8 For some data on research and development by Hong Kong firms, see Chen, 1983a.
- 9 Assuming that no major changes will be brought about after 1997.
- 10 Census and Statistics Department, *Hong Kong External Trade*, March 1991, p. 7.
- 11 Population data from World Bank, *The World Bank Atlas 1991* (Washington, D. C., 1992).
- 12 World Bank, *World Development Report 1991* (Washington, D.C., 1991).
- 13 In July 1987, citizens and companies were allowed, for the first time in 38 years, to remit up to \$5 million a year. Outward FDI flows in the balance of payments indicate \$704 million in 1987, \$4,120 million in 1988, \$6,951 million in 1989, \$5,243 million in 1990 and \$1,854 million in 1991.
- 14 "The upstart taipans", *Far Eastern Economic Review*, 19 April 1990, pp. 84-88; "Taiwan firms' zeal for investing in Southeast Asia may be ebbing", *The Wall Street Journal*, 18 January 1991, p. A3B; "Taiwan's trade pattern turns upside down", *Financial Times*, 4 June 1991, p.6.
- 15 About 96 per cent of firms have fewer than 100 employees in manufacturing in 1986. Directorate-General of Budget, Accounting and Statistics, Executive Yuan, *The Report on 1986 Industrial and Commercial Census Taiwan-Fukien Area, The Republic of China* (October, 1988), table 29, pp. 128-133. There are only 184 enterprises that employ more than 1,000 persons, out of about 114,000 in manufacturing in 1986.
- 16 Taiwan Province of China has a relatively large-size public sector. For example, in terms of value-added, public enterprises in Taiwan Province of China account for one-quarter of total value-added in all industries, while in the Republic of Korea and Hong Kong they account for about 10 per cent and 2 per cent, respectively. (Data from Directorate-General of Budget, Accounting and Statistics, op. cit., table A, pp. 14-15 for Taiwan Province of China; *Nihon Keizai Shimbun*, 22 April 1989, p. 21, for Republic of Korea; and Census and Statistics Department, *Annual Digest of Statistics, 1990 Edition*, November 1990, table 4.1, for Hong Kong.
- 17 "Foreign acquisitions get the nod", *Euromoney*, October 1990, pp. 93-97.

- 18 Defined as those with more than 300 employees in mining, manufacturing and transportation, with more than 200 employees in construction, and with more than 20 in other industries.
- 19 Data from Bank of Korea, *Current Status of Foreign Direct Investment, 1991* (Seoul, 1992). Data are based on approved FDI only in manufacturing.
- 20 "Samsung heads the pack", *Korea Business World*, August 1991, pp. 41-42.
- 21 "Global 500: The world's biggest industrial corporations", *Fortune*, 29 July 1991.
- 22 Data from UNESCO, *Statistical Yearbook 1990* (Paris, 1990), table 5.18. Taiwan Province of China data from Directorate-General of Budget, Accounting and Statistics, Executive Yuan, *Social Indicators in Taiwan Area of the Republic of China, 1989* (Taipei, 1990), table 64.
- 23 UNESCO, op. cit., table 3.2, and Directorate-General of Budget, Accounting and Statistics (for the data of Taiwan Province of China), op. cit., table 58.
- 24 The World Bank categorized Argentina as one of "strongly inward-oriented" countries, with Mexico in "moderately outward-oriented" country group. Cited in "A survey of the Third World", *The Economist*, 23 September 1989, pp. 25-27.
- 25 UNESCO, op. cit., table 3.2
- 26 "Argentina and Brazil in further integration step", *Financial Times*, 6 September 1990, p.6, and *Nihon Keizai Shimbun*, 31 March 1991, p. 13.
- 27 "Brazilian firms make inroads with overseas investments", *Business Latin America*, 17 June 1991, pp. 193-194.
- 28 For these TNCs' activities, see C. Wells, 1988; "A hedge against volatility", *Financial Times*, 3 January 1990, p. 8; and "Brazil firms make inroads with overseas investments", *Business Latin America*, op. cit.
- 29 It should be noted that official data indicate an absolute decrease in outward FDI stock between 1985 and 1988.
- 30 According to a number of criteria (market share, size of assets, conglomerate connections etc.), a firm can be subject to various limitations in expansion within India.
- 31 Although there were performance requirements in certain industries since the mid-1970s, these were not strictly enforced until 1983.
- 32 The other company is Owens-Illinois, Inc.
- 33 Data from UNESCO, op. cit., table 5.5, pp. 5-28 to 5-36 and table 1.3, pp. 1-12 to 1-37.
- 34 "ASEAN investment helps to buoy Vietnam's economy", *Far Eastern Economic Review*, 27 June 1991, pp. 52-53.
- 35 Based on IMF, balance-of-payment tape retrieved in October 1992 with some countries' data supplemented from official national sources. Chinese FDI outflows during 1982-1991 amounted to \$5.4 billion.
- 36 *Nihon Keizai Shimbun*, 15 July 1991, p. 9.
- 37 Dunning, 1988, has a comprehensive list of such factors in his analysis of the investment-development path.

IMPACT ON HOME COUNTRIES**A. Introduction**

An evaluation of the impact of outward foreign direct investment (FDI) on the domestic economy poses as many problems as an evaluation of the welfare effects of inward FDI in developing countries. In principle, the calculation is straightforward: add the social value of earnings abroad of the investment, earnings of related activities at home and overseas and the value of non-financial feedbacks from the foreign activity; subtract the opportunity cost of the resources exported, the adjustment costs of domestic factors redeployed as a result of the FDI and any other negative externalities. The result is the net economic effect on the home country.

In practice, such evaluations clearly are subject to many qualifications and assumptions. Such evaluations must be made with reference to some counterfactual, as what would have happened had the investment not taken place; they also may have to deal with income redistribution effects, if these vary among different groups. The counterfactuals themselves are determined by assumptions made about domestic activity, trade and the reaction of foreign firms, and by whether marginal or non-marginal changes in FDI activity are considered.

It is hard enough to calculate some of the direct effects of FDI: how, for instance, does one calculate the value of technological progress made by an overseas affiliate, or the benefit to the home economy of placing an environmentally desirable facility abroad? It is much harder to estimate plausible counterfactuals and externalities. Diverse alternatives have been proposed, and—though the realistic set of counterfactuals is probably much smaller—broad information and considerable skill are required to identify this set.

It is only under highly restrictive simplifying assumptions that calculations can be made without bringing in externalities, varying counterfactuals and similar factors (Hood and Young, 1979, pp. 284-288). Thus, a simple two-factor neoclassical model that analyses the effects of inward FDI (MacDougall, 1960) can be used to work out the effects of resource transfer in a world with perfect competition, identical production functions, exogenous technology, full employment and

continuous balance-of-payment equilibrium (Jasay, 1960). Under these assumptions, and abstracting from risk differentials and terms-of-trade changes caused by capital flows and dividend repatriation, it can be shown that the private benefits of FDI may exceed its social benefits, as "too much" overseas investment would raise returns to capital at home while lowering them in the host country.

But this conclusion does not stand, even within the narrow theoretical framework used, if terms-of-trade effects are taken into account. If the effects of capital flows on returns to investment are small or negligible, moreover, there may be no divergence between private and social benefits and no "excessive" investment overseas (Frankel, 1965). If the beneficial externalities that may result from investment are considered, on the other hand, FDI outflows still may yield a net loss for the home country (Balogh and Streeten, 1960; Frankel, 1965). What these early, largely theoretical writings do not take into account is that externalities and "development benefits"¹ may also accrue to the home country, raising incomes and productivity faster than if FDI had not taken place (Hood and Young, 1979, p. 288).

These simplified models are of limited practical assistance in assessing the impact of FDI in the real world of market imperfections, unemployment, structural constraints to internal adjustment, technological gaps and oligopolistic corporate activity. While they provide some insights that merit exploration (discussed below), they assume away many real-life effects that—however difficult to model and quantify—must be considered nonetheless.

The following sections consider such effects, first by reviewing the literature on developed countries and then applying it to the developing world.

B. Balance-of-payment effects

The balance of payments and the closely related issue of the employment and income effects of outward FDI have traditionally attracted the most attention and controversy. These concerns have been debated in many countries, but they have received the most extensive research in the United States (especially during the 1960s) and, to a lesser extent, the United Kingdom. The empirical evidence is largely confined to the handful of countries where the problem has been thoroughly explored; developing-country transnational corporations (TNCs) have not been subjected to similar analysis, though some data are available on direct balance-of-payment effects (see below).

Balance-of-payment effects can be evaluated at several levels. At the most micro level are the foreign exchange inflows and outflows directly associated with a particular investment: the intermediate level considers the effects of counterfactual situations, but still confines analysis to partial equilibrium; the most macro level broadens the analysis to general equilibrium effects. The most macro level has not been empirically studied (Caves, 1982), and remains at a highly abstract level of theory; thus, the following discussion is limited to the micro and intermediate levels of analysis.

On the debit side, the direct balance-of-payment effects of outward FDI comprise the initial and subsequent outflows of capital invested overseas (as equity or loans) and imports from the affiliates set up. On the credit side, they include exports of equipment, parts or finished products to the affiliates, payments of royalties, fees and salaries to the parent, and repatriation of dividends, equity interest and loan principal. Reinvested profits appear as both credit and debit, and so cancel out. These direct effects provide an accurate measure of the total balance-of-payment impact of FDI, assuming that the balance is not separately affected by export displacement or stimulus, and that the macroeconomic consequences are negligible. However, these special assumptions clearly cannot be generalized.

Several studies have explicitly or implicitly made these assumptions in investigating the direct balance-of-payment effects of outward FDI as a measure of their total balance-of-payment contribution. Specifically, studies (Bergsten *et al.*, 1978) calculated the effects of TNCs from the United States on that country's balance of payments in terms of simple payback periods, based on affiliates' direct contributions in the form of dividend, royalty and fee payments. Leaving aside trade in products, intermediates and equipment, the studies concluded that the overall balance-of-payment effect of United States FDI was positive, and estimated the average payback period (that is, when the investment was fully recovered by affiliate remittances) at 10 to 12 years.

Other studies in the United States (Hufbauer and Adler, 1968) also included associated trade in products, intermediates and equipment in their calculations, exploring the balance-of-payment effects of outward FDI under three sets of assumptions. The "reverse classical" approach postulated that FDI did not affect capital formation in either the home or the host country, and did not displace (or add to) exports from the home country. The total balance-of-payment impact was measured by the direct effects: an initial capital export of \$100, partially offset by \$27 in exports of United States-made equipment, yielded a net debit of \$73; the continuing credit to the home country of \$11.70 per annum from fees, dividends and related exports implied a payback period of nine years.

A similar study of United Kingdom FDI (Reddaway *et al.*, 1968) estimated the initial cost of a £100 investment to the United Kingdom balance of payments at a net £89, with a continuing benefit of £8.10 per annum, implying a payback period of 11 years. This compared favourably with the estimated payback period of 22 years to recover the cost of raising long-term capital on international financial markets, assuming a continuing net return of £4 per annum.

The only comparable study on developing country FDI concerns India (Agarwal, 1986). The study presented official data on direct balance-of-payment effects of Indian ventures then in operation, in the process of formation or previously abandoned. The focus of this review is limited to data for companies in operation, as these are the only ones with direct relevance to the long-term effects of FDI. The data to 1982 show a substantial positive effect for India, as shown in table III.1.

The most striking finding of the Indian study is the high value of subsequent exports of equipment and components associated with FDI. While it is not easy to compare these data with the annualized values calculated in the United States and United Kingdom studies, it appears that Indian TNCs were far more closely tied to their home base than their counterparts from the United States and United Kingdom. This was confirmed by the official statements of the Government of

Table III.1. Balance-of-payment effects of Indian foreign direct investment, ^a up to 1982

Debit		Credit	
Initial investment	-464	Original equipment exports	280
Imports for equipment exports	-295	Subsequent equipment/components exports	1 029
		Raw material exports	163
		Exports of invisible assets ^b	128
		Dividends and fees	170
Total	-759	Total	1 770
Net balance-of-payment effect: 1 011			

Source: J.P. Agarwal, "Balance-of-payment effects on home countries", in K.M. Khan, ed., *Multinationals of the South: New Actors in the International Economy* (New York, St. Martin's Press, 1986), pp. 188-189.

a Only operating joint ventures.

b Capitalized value of invisible assets (good-will, patents, trademarks), based on returns expected from them.

India, which justified FDI from a capital-scarce country on grounds of its potential to promote exports.

This approach, however, does not yield proper indications of the balance-of-payment effects of FDI if the underlying assumptions about the counterfactuals are relaxed. In particular, the assumption that the setup of a production base overseas to service that market has no effect on domestic exports became the focus of heated controversy in the 1960s.

The second, or intermediate, level of evaluation attempts to compare the direct and indirect effects of FDI with what would have happened to exports and imports in the absence of a particular (marginal) investment. Critics of outward FDI (mainly labour unions in home countries) have long argued that the setup of foreign production amounts to the "export of jobs" and the loss of a corresponding value of production and employment for export activity at home. The validity of this argument depends on the counterfactuals assumed. If the true counterfactual is that a given foreign market can be served equally well by domestic production or by an affiliate overseas, and that the growth of sales in that market is not affected by the affiliate's presence, outward FDI would cause a loss of finished-product exports—and that loss would overwhelm any balance-of-payment gains from associated exports and from dividend, interest or royalty remittances. If, on the other hand, the foreign presence is necessary to maintain market share and effectively sell products, the result would be the opposite.

Negative balance-of-payment effects resulting from export displacement were quantified under so-called "classical" and "anti-classical" sets of counterfactuals (Hufbauer and Adler, 1968). An analysis based on classical assumptions determined that capital outflows led to a decline in net

investment at home and a rise in net investment in the host country. This approach estimated a negative balance-of-payment impact of \$15 per \$100 invested, imposing a perpetual drain on the home country caused primarily by export displacement rather than investment relocation. An analysis based on anti-classical assumptions produced findings between the extreme results of the classical and reverse-classical approaches.

This exercise represented a quantification of the various alternatives under simplifying assumptions, with no attempt to assess empirically which alternative was the most plausible. Still, the essential point was obvious: the model could be made much more complex and the parameter values refined, but the net balance-of-payment effects of outward FDI would crucially depend on assumptions concerning export displacement or creation and, to a lesser extent, net capital formation. In other words, the results could vary from a large plus to a large minus, primarily dependent on whether outward FDI displaced, did not affect or stimulated exports from the home country.

Various positions have been taken on this empirical question. At one extreme is the labour movement in the United States, which has argued since the 1960s that foreign production fully displaces exports. At the other extreme are various academic and business-school studies that have argued that FDI never displaces exports, and that the market would have been lost to competitors in the absence of an overseas facility.² The latter view was supported by case study material³ and by interviews with TNCs.⁴ Neither approach lends itself to firm generalizations across all FDI activity.

A more balanced and better substantiated view was provided by the product-life-cycle theory (Vernon, 1966), which related the sequence of export and FDI to a dynamic process of innovation, imitation and diffusion of technology. According to this theory, production and exports first occurred in the home country where, despite high labour costs, the availability of skills, technological infrastructure and large markets made the exploitation of new technologies economical. As the technology matured and competitors emerged overseas, the producer lost its trade edge abroad and tended to replace exports with FDI—which implies no net export displacement.⁵ However, such displacement could still occur if the decision to invest overseas was made earlier than required by changing competitive conditions (Bergsten *et al.*, 1978).

Moreover, as TNCs became better established internationally and the product life cycle shortened, such displacement could occur more rapidly. New products could be introduced simultaneously in several locations, and exclusively abroad in cases where overseas research-and-development facilities were established (Vernon, 1979; Mansfield *et al.*, 1982). Though the product-life-cycle literature does not directly address the issue of export displacement, TNC priorities in choosing optimal location clearly could diverge from the national interests of home countries: the two are identical only when all markets work perfectly with full foresight and free technology flows, absent any risk, Government intervention or economies of agglomeration (by locating in specific sites). In the real world of risk and uncertainty, with strategic interaction among large firms (and Governments) and technological and other factors influencing decisions to locate in particular sites, TNCs may well decide to produce in foreign countries even when there are solid reasons for

producing at home. It does not necessarily follow, however, that such a decision results in a net export displacement at home: when the dynamics of learning and innovation are considered and TNCs are established as true international producers, it is difficult to make such inferences (see section III.D below). In imperfect markets, it is plausible that the most successful agents (that is, the TNCs) are the best judges of where to allocate production.

Given the inherent problems in assessing export displacement by TNCs, some analysts have sought to investigate not hypothetical counterfactuals, but rather how TNC activity actually relates to export performance in particular industries. The relationship between exports of United States companies and sales of foreign affiliates was statistically examined, controlling for various industry characteristics, to assess whether FDI complements or competes with exports (Bergsten *et al.*, 1978). The study found that industries with low FDI also show low export levels; up to a point, FDI and export performance rise in tandem, but beyond that point additional FDI does not appear to promote exports. Thus, the relationship is both complementary and competitive. A more interesting conclusion is that, as TNCs become better established overseas, the relationship grows increasingly competitive as foreign production increasingly replaces United States exports. This corroborates the findings of the product-life-cycle literature (Bergsten *et al.*, 1978).

A similar analysis (Lipsey and Weiss, 1981) found that United States exports and sales of overseas affiliates were positively related for both developed and developing-country markets and that sales of affiliates substituted for exports from other developed countries, further bolstering United States competitiveness in a global sense. Later studies (Lipsey and Kravis, 1987; Blomström and Lipsey, 1986) found that United States and Swedish TNCs maintained their shares of world markets in global production at a time when their home countries were losing export market shares. The studies concluded that no export substitution occurred, and that exports generally increased. Transnational corporations maintained their competitiveness, but often decided to locate production overseas because of the shifting location advantages of their home countries in specific activities.

A study of the United Kingdom's direct investment position came to a similar conclusion (Dunning, 1981, chapter 8): the United Kingdom suffered no erosion in its competitive advantage on balance, since inward FDI was concentrated in activities using more advanced technology than that employed in sectors of greatest outward FDI. Foreign-direct-investment flows thus were facilitating the restructuring process through the phase-out of sunset industries and the transfer of resources to sunrise industries.

The evidence on early Japanese FDI suggests a similar phenomenon (Kojima, 1978, 1985), except that domestic upgrading was carried out by local firms rather than foreign investors. Over time, this transformed the character of Japanese TNCs as high-technology firms decided to internationalize their operations, less to seek low-cost foreign locations than to protect or enhance market shares threatened by protectionist policies abroad.

The above evidence suggests that TNCs respond to changing patterns of locational advantage efficiently, and that it is difficult to establish, in imperfect markets, that their locational decisions lead to a significant displacement of domestic exports. Given the underlying forces and policies that

lead to changing locational advantages, outward FDI tends to benefit rather than harm the balance of payments of the home country.

There are two qualifications to this conclusion. First, it says nothing about what would have happened if underlying forces and policies had been different, nor whether the presence of FDI in itself changed the evolution of locational advantages. It is possible, for instance, that retaining investment at home would have fostered greater technological progress or skill creation, as noted above.

Similarly, the establishment of overseas affiliates and the launching of research and development and training at these sites may have enhanced the competitive position of host countries (indeed, this is a major argument advanced in favour of TNC entry). This takes the argument into the realm of technology and skills, which are discussed later, suffice it to note for now that the distinction between TNCs as efficient respondents to changing market conditions and TNCs as agents affecting market conditions is significant. The latter phenomenon has received no formal study, in part because the problems in defining counterfactuals do not lend themselves readily to rigorous analysis; still, this qualification should be borne in mind.

The second qualification is that the argument is based on the experience of developed countries with liberal trade and industrial regimes. It may not apply to developing countries with policies of active intervention in trade, domestic competition, growth and location. For instance, a developing-country TNC may invest overseas even when domestic production is more economical in order to escape regulatory constraints on growth or diversification; this was an important factor in the decision by some Indian firms to become transnational.

Whether or not this leads to export displacement, however, depends on the home country and its previous trade relations with specific host countries. In Brazil, it is suggested (without rigorous evaluation) that FDI promoted rather than displaced exports.⁶

A rough calculation was made of export displacement caused by Indian FDI (Agarwal, 1986). In the absence of direct measures of firm-level exports and FDI, the study compared total Indian exports of specific products to a given country before and after the startup of production of those goods in the host country. Although difficulties arise from differing product definitions, four types of products were identified:

- those for which exports declined after Indian overseas ventures started production (about 40 per cent of the product categories studied);
- those that yielded no evidence of export displacement (about 15 per cent), either because the goods had not been exported by India to the host country or because exports had begun to decline before the FDI took place (suggesting that investments served to open up new markets or defend existing markets);
- those for which exports increased after FDI started (25 per cent); and
- those where no conclusion could be drawn because the FDI was too recent (20 per cent).

Of the cases in which some inference could be drawn, about half offered evidence of export displacement, a third yielded signs of export promotion and a fifth showed no effect. This mixture of effects conforms to the findings on the United States (Bergsten *et al.*, 1978). However, this type of calculation does not provide a true estimate of balance-of-payment effects because the counterfactual does not take into account the possibility of trade barriers or entry by competing firms from other countries (or the host country itself).

The case of India cannot be readily generalized to other developing countries. The Indian policy regime until recently has been exceptionally inward-oriented, which has led to a relatively poor export performance. Similarly, industrial policies until the mid-1980s were exceptionally restrictive on domestic private enterprises, providing incentives to invest abroad for purposes of diversification or access to foreign technology forbidden at home. In general, exports account for a relatively small proportion of sales (10-15 per cent or less) of the major Indian enterprises that are the most active investors overseas (Lall, 1983). The domestic market remains highly protected, and patterns of internal growth and competition are strongly influenced by Government policy. This means that export activity and international competitive pressures have a far weaker effect on Indian FDI decisions than in the more open developing countries.

In more export-oriented developing countries, primarily the newly industrializing economies of East Asia, the balance-of-payment effects of FDI are likely to be determined to a greater extent by shifting patterns of comparative advantage. The evidence on Asian newly industrializing economies cited earlier in this volume suggests that a large portion of FDI effectively relocated activities that had become uneconomical at home; in the case of garments, FDI received impetus from the pattern of quota allocations by developed-country importers. This observation applies in particular to Hong Kong and Taiwan Province of China, the dominant sources of outward FDI in the developing world. A relocation of production abroad has enabled their TNCs to maintain global market shares in mature products, while freeing domestic resources for export-oriented activity in newer products or services. The success of export-oriented affiliate production also has generated resources for home-country investments in structural upgrading. Thus, while FDI has clearly shifted certain export activities abroad, its net effect has been to maintain or increase competitiveness, thereby benefiting the home country's balance of payments.

With respect to import-substituting FDI in other developing countries, the picture is mixed. Some foreign production may well substitute for exports from the home country. But this is true only if the investment was not undertaken in response to import restrictions imposed by the host country, heightened competition from firms from other countries or growing competitive disadvantages at home. Investments made to meet such threats are defensive in nature, and serve to maintain a TNC's market share through local production; the net export displacement is nil, and the balance-of-payment benefits from repatriated earnings and associated exports.⁷ In the absence of better information, it is impossible to say which form of FDI predominates.

With respect to FDI in developed countries oriented to the local market, the strong likelihood is that a local presence helps not only to defend markets, but also to open new markets by providing enhanced marketing, information and customer feedback.

Drawing upon the developed-country evidence cited earlier, it is likely that, as developing-country TNCs become more firmly established and acquire a more international character, their global activities may grow faster than exports by their home countries. So long as TNCs can generate continuous ownership advantages, growing internationalization will benefit the home country by yielding significant returns on tangible and intangible assets invested. Transnational corporations will become increasingly efficient agents for responding to changing locational advantages, and will adapt and upgrade home-based activity in line with its underlying development. With the important qualification that internationalization in itself may diminish the TNC's commitment to the home economy—which in turn affects its dynamic comparative advantage—the net balance-of-payment effects are likely to be positive.

Regarding FDI in services, though some displacement of exports is possible, affiliates generally will help to expand the firm's market share in the host country by providing the continuous contact that many service activities require. At the same time, the investment will tend to encourage expanded manufactured exports in service activities related to the marketing of goods. Service affiliates thus may provide "market-expanding activities" to the TNCs concerned (Bergsten *et al.*, 1978, pp. 71-73). Over the longer term, again with growing internationalization, such market expansion will benefit all TNC operations—not just those located in the home country.

A large proportion of developing-country FDI at present is concentrated in areas such as marketing and banking which are related to the promotion of domestic exports. There seems little reason for concern about the balance-of-payment effects of such investment—if anything, they are probably strongly positive. Other service-related investments, as in hotels, oil exploration, technical services and consultancy, are also likely to be net foreign-exchange earners if efficiently conducted. They may also benefit home-country exports by creating a favourable "image" or by promoting sales of particular equipment or components.

Foreign direct investment in raw material extraction (mining, plantations, fishing, petroleum) is intended to provide secure and economical sources of supply to the home country. To the extent that they are more secure and economical than alternative sources, they yield positive balance-of-payment results to the home country. If some of the materials are sold to the host country or third parties, the effects are again positive if they do not displace exports from the home country. If the home country has the capacity to supply equipment and components for extractive operations, the positive effect is correspondingly higher.

Foreign direct investment in technology-seeking ventures may provide balance-of-payment benefits if the ventures earn economical returns (through sales of output or services overseas) and/or if the technological feedback strengthens the home country's competitive position in export-promoting or import-substituting activities. There is insufficient evidence on the experience of developing-country FDI of this nature to evaluate the impact of these investments.

With respect to manufacturing FDI, there are two main types: import-substituting and export-oriented (in the host country). Import-substituting FDI is more likely to yield a net displacement of home-country exports—but only if exports had not become less feasible or competitive due to market competition from other firms, tightened trade restrictions and rising

domestic production costs. While the net balance-of-payment effect has not been evaluated empirically, it is likely to be positive for the home country. An additional benefit in the Indian case is that TNCs seem to generate very high associated exports; it cannot yet be established whether this applied to other developing-country TNCs.

In export-oriented FDI, most relocation is intended to preserve or bolster world-market shares in the face of changing domestic comparative advantage or trade interventions in importing countries. It facilitates restructuring in the home economy within the context set by local endowments and strategies (as described in section III.E), enables new exports to emerge and provides resources for these exports. Ultimately, as TNCs become truly international and treat their home location as one among many production sites, the home country's balance-of-payment benefits from its TNCs largely to the extent that its endowments generate ownership advantages and the firms retain close linkages with the home economy. Such a level of internationalization is still some time in the future for developing, and even for many developed countries, but it is reasonable to anticipate such benefits to home countries over the longer term.

For non-manufacturing FDI, it is similarly difficult to evaluate balance-of-payment effects precisely, but investments efficiently carried out should yield a positive impact, on balance. If service firms also become fully internationalized, the same considerations with respect to home economies as noted for manufacturing TNCs would apply. The firms would draw on the home-country base of skills and institutions to the extent that these maintain competitiveness, and would feed into this base to the extent that they maintain special links at home.

In the final analysis, the national origin of productive agents affects the balance of payments only to the extent that it yields different corporate responses to the same economic signals that arise from present and future comparative advantages of specific locations. As TNCs mature and become so-called "global scanners" (Vernon, 1979), these differences are bound to become less pronounced. In the interim, it is reasonable to expect TNCs to retain special and close ties with their home economies. Even fully internationalized firms tend to keep their most important high-level functions and most substantial manufacturing bases in their countries of origin because of accumulated linkages and socio-cultural reasons. As a result, they contribute positively to the balance of payments because they generate new comparative advantages for their home countries, rather than simply passively responding to given locational factors.

Thus, the ultimate balance-of-payment effect of outward FDI is determined not so much by export displacement or creation in the static sense considered in traditional studies, but by the role of the firms concerned in creating new locational advantages at home. This is essentially the product-life-cycle approach to TNC activity, with FDI forming an integral part of domestic economic restructuring and upgrading. To the extent that TNCs contribute to this, their dynamic balance-of-payment effects are likely to be positive. Of course, if the domestic economy does not provide the conditions for a dynamic upgrading of particular industries or sectors, outward FDI may hasten the decline of those sectors and cease to contribute to structural adjustment, abandoning this role to non-TNCs or to inward FDI. In this case, FDI does not harm the balance of payments

because exports would have been lost in any case, but it does not act as the agent of dynamic comparative advantage.

Developing-country FDI is playing both types of roles. In countries with technologically dynamic industries such as the Republic of Korea and Taiwan Province of China, manufacturing TNCs are promoting upgrading and the creation of new comparative advantages in industry. Even in countries that are less dynamic and have large, inward-oriented industries (such as Argentina, Brazil or India) or FDI helps to promote a dynamic comparative advantage. But in these cases, industrial restructuring in the past has been held back by Government intervention, and outward FDI is weak because of the slower growth of ownership advantages at home. In countries with efficient, trade-based industries but relatively small indigenous technological bases (like Hong Kong or Singapore), outward FDI helps to defend export markets and to promote some domestic upgrading. However, the present trend seems to presage sustained "de-industrialization", with the dynamic role passing to other industries and firms and perhaps to inward FDI.

It should be emphasized that the inherent difficulties of specifying counterfactuals make it impossible to establish precisely the net balance-of-payment effect of FDI on home developing countries. But in no case does outward FDI seem to produce significant adverse balance-of-payment effects: on the whole, existing theory and evidence suggest that the effects are positive.

C. Employment and income effects

The issues surrounding employment and income effects are closely related to those concerning balance-of-payment effects, with similar problems of testing and measurement. As previously mentioned, labour unions have traditionally expressed concern about the "export of jobs" arising from outward FDI, especially in declining industries where eroding competitiveness has been manifested in domestic redundancies accompanied by the opening of plants in cheap-labour countries.⁹

Such complaints have surfaced most frequently in the United States, dating back to the 1960s when it was the main exporter of FDI in manufacturing. The AFL-CIO claimed that 500,000 jobs had been lost in the United States from 1966-1969, largely from "runaway" firms setting up labour-intensive operations overseas. More recently, fears of job losses have spread to Japan: the Ministry of International Trade and Industry has forecast that some 800,000 job opportunities will be lost from the mid-1980s to the year 2000.¹⁰ However, this measure was limited to the direct effects of FDI, with no allowance for the positive indirect effects arising from associated exports or for the possibility that eroding cost competitiveness may have produced domestic redundancies of similar or greater magnitude.

The true impact of FDI on employment and incomes depends on what would have happened to the activity in question had the investment not taken place. If the activity remained competitive and if the investment had an impact on domestic capital formation, FDI may cause a loss of jobs. On the other hand, if competitiveness was declining in some areas of activity (while rising in others) and if FDI did not affect domestic capital formation but influenced domestic upgrading, the net

effect may be employment creation. Such creation may not be in the same skill categories as the jobs lost, however, so that adjustment problems would arise (Hood and Young, 1979).

Several studies have been conducted on the employment impact of United States FDI. The United States Tariff Commission (1973) suggested that 2.4 million jobs would have been lost as a result of total outward FDI up to 1970 if foreign production substituted in full for United States exports. Against this, it set an estimated gain of 1.1 million jobs resulting from associated exports and inward FDI, on the assumption that inward FDI was encouraged by outward flows. Thus, net job losses came to a maximum of 1.3 million, which is reduced substantially if estimates of export displacement are lowered. A similar exercise (Hawkins, 1972) calculated the net effect in a range from 660,000 jobs lost to 240,000 jobs gained, dependent on the assumption concerning the proportion of export displacement resulting from foreign production. The study concluded that the net effect could be considered negligible.

However, the relevance of these studies is limited because they compare actualities with simple alternative scenarios, rather than with close-to-factual analyses of what might have happened otherwise (Bergsten *et al.*, 1978). Another investigation, based on nine case studies (Stobaugh *et al.*, 1976), argued that FDI had a negligible export-displacement impact and that 600,000 new jobs were created in the United States as a result of associated exports and supporting employment effects.¹¹ The most detailed empirical study of employment effects, conducted by Robert H. Frank and Robert T. Freeman (1978), calculated the actual degree of export displacement by foreign production. Accounting for the falling cost competitiveness of domestic production in the United States, the study measured the annual effect of FDI, including the effects on supplier industries. The employment effect ranged from plus 11,000 to minus 1 million jobs; the probable effect was a sizeable 120,000-260,000 net job loss, 70 per cent in the investing industry and 30 per cent in related suppliers. In the 21 industries studied, displacement effects appear to be stronger than job-creation effects.

Such quantification exercises tend to suffer from a rather static approach, apart from enormous data problems inherent in calculating counterfactuals. They ignore the structural changes continuously taking place at home and abroad, whereby some industries decline as others emerge and new comparative advantages are created. In these conditions, structural transformation and growth would be greatly impeded if sunset activities were prevented from closing down, or were forced to run down without being able to set up more competitive facilities overseas. The product-life-cycle approach postulates that dynamic firms improve their innovative performance and export penetration by relocating mature activities overseas and starting up new activities at home; the same holds true for dynamic industries. As long as employment and growth are maintained at the macroeconomic level, it seems misguided to focus excessively on employment changes in particular firms. In other words, the true counterfactual should be broader than the specific activities in which FDI takes place.

The real employment problem posed by FDI-related restructuring is not the net job loss, but rather the cost of workforce adjustment (Hood and Young, 1979). Two types of costs are involved. In a slow-growth economy that is losing competitiveness, restructuring and FDI may release labour

which can only be reabsorbed at lower wages in less-skilled jobs. In this case, the costs are borne directly by the workers, at least until better opportunities appear. In a high-growth economy that is creating new jobs, the labour released can be reabsorbed at higher wages, but only if it is trained in the new skills needed. When this retraining occurs within a TNC, as usually happens in Japan, the cost is borne by the firm; otherwise, the cost is carried by the state or the workers involved. Total annual adjustments in the United States were estimated at more than 1.5 million jobs around 1970.¹²

In the developing world, the issue of FDI-related work-force adjustments arises mainly for export-oriented newly industrializing economies that are relocating labour-intensive activities abroad. The large, inward-looking economies are not undergoing adjustments of this type; their FDI is more marginal to domestic activities; and their substantial employment problems are caused by internal factors. Hong Kong and Taiwan Province of China are most likely among developing-country investors to be experiencing the combination of high rates of job adjustment with dynamic growth and low unemployment; however, there are no studies available on this aspect of their FDI.

Concerning income effects of FDI, the available United States study (Musgrave, 1975) examined both long-term income gains and income distribution. Its model followed standard neoclassical reasoning that capital outflows raise the domestic return to capital and lower the return to labour. Calculations based on this assumption estimated that the \$80 billion of outward United States FDI stock as of 1968 lowered the share of labour in United States GNP from 79 per cent to 72 per cent, while raising the capital share from 21 per cent to 28 per cent. This represented a shift of \$25 billion in GNP from labour to capital, assuming an elasticity of substitution of 0.75 between the two.

This simple model, however, failed to account for trade adjustments, generation and transfer of technology and attraction of inward FDI. Most important, it ignored the structural upgrading of employment that FDI may promote. In fact, the share of labour in total national income increased during the 1950s and 1960s while the share of capital fluctuated around a relatively stable mean (Bergsten *et al.*, 1978). In a period of large FDI outflows, these data do not support the argument that large transfers have taken place from labour to capital; instead, economic growth appears to have manifested itself in an upgrading of labour as well as FDI.

Findings on the long-term income effects of United States FDI depend heavily on the counterfactual—in this case, whether or not FDI affected total net investment in the United States (Musgrave, 1975). A significant displacement of domestic investment did occur, but gains from increased foreign earnings largely offset the loss of domestic output. The study also concluded that domestic labour became less productive because of lower investment; it is equally plausible to argue, however, that FDI driven by product-cycle forces would accelerate the enhancement of labour productivity. Foreign taxation of United States TNCs proved an important source of loss to the home country, reflecting the effects of the foreign tax-credit scheme implemented by the United States Treasury (see section III.F).

One consequence of outward FDI for labour relations, not captured in statistical studies, may be that it biases the wage negotiation process in favour of employers. Since capital becomes mobile

while labour (at least at medium to low skill levels) does not, the bargaining power of the firm is increased. This may require remedial action, but preferably through international labour coordination or broader labour regulatory authority rather than through restriction of economically desirable FDI flows (Bergsten *et al.*, 1978, chapter 4). Since no formal studies have been made to analyze the impact of FDI on the respective bargaining strength of labour and employers, it is difficult to move beyond the level of conjectures in this field.

In sum, the effects of FDI outflows on employment and income are as difficult to quantify as balance-of-payment effects. Simple theoretical models cannot do justice to the complexities of structural change, innovation and labour upgrading that characterize all growing economies. As long as employment opportunities are expanding—an issue that goes well beyond the narrower scope of FDI—the real issue is whether FDI accelerates the adjustment process for workers moving from one set of jobs to another. The adjustment process raises two further questions: whether displaced workers shift to jobs of higher or lower productivity (or both); and how the costs of the adjustment are distributed among firms, workers and the Government. Inefficient adjustment may cause hardship, loss of income and longer-term competitive problems. Whether FDI contributes to the efficiency of the adjustment process depends on product-cycle considerations (whether the TNCs are technologically dynamic), macroeconomic processes, institutional support and the nature of the educational system. No simple generalizations can apply across industries, periods or countries.

For developing countries, the extent and distribution of employment adjustment costs of outward FDI will vary. Foreign direct investment by large, inward-oriented countries whose overseas investments represent a marginal part of total activities likely will have minimal impact on domestic employment or its structure. To the extent that additional exports are generated, associated employment will rise. But jobs distribution over work categories is unlikely to change significantly; to the extent it does, the shift should be favourable, as the more skill-intensive activities will be the major overseas investors.

Foreign direct investment by smaller, export-oriented countries probably will produce more significant adjustment costs and shifts in the distribution of labour. The rapid phase-out of labour-intensive operations and their replacement by more skill- and technology-intensive activities will involve relatively extensive job movements and transitional problems. The pattern is likely to vary by country: workers in Hong Kong are moving increasingly to services (unless they leave altogether); in Singapore, to foreign TNCs or services; in Taiwan Province of China, from mature small firms to higher-technology firms of small to medium scale; and in the Republic of Korea, partly from small mature firms to more technologically advanced companies, and partly across activities within the large *chaebol*. In the absence of better information, it is impossible to evaluate how high the adjustment costs may be and how they may be distributed.

D. Technology and skill effects

It is universally accepted that TNCs from developed countries are one of the leading vehicles for technology transfer across national boundaries. At the same time, it is recognized that several other vehicles exist, including significant arm's-length technology sales by TNCs themselves. The technological impact on the home countries of TNCs' FDI activity depends on whether technologies transferred to affiliates "leak" to benefit competitors at a rate faster than would otherwise have occurred; and to what extent international production, sometimes giving rise to overseas research and development (by affiliates), feeds back into technological progress at home.

On the "leakage" question,¹³ the argument has focused primarily on the loss of proprietary knowledge through licensing as opposed to "classic" FDI in wholly or majority-owned affiliates, considered preferable because control remains with the investor. Although FDI also can result in technological leaks through loss of skilled workers and imitation by local competitors, the loss of know-how is more limited when the technology is complex and difficult to transfer without long-term training and when local technological capabilities are relatively underdeveloped. In a world where licensing is competitive and technological knowledge is dispersed among a widening array of countries, it is plausible to argue that FDI conserves technological advantages as long as possible. This argument underpins the rationale for overseas investment in the product-cycle model. The technology-based argument against FDI, again arising mainly from United States labour unions, is thus very weak.

At the same time, it is likely that FDI offers substantial benefits to domestic technological development. This is so for three reasons:

- First, given the high and rising costs of new technology development, FDI permits these fixed costs to be spread over a larger volume of sales. Based on data collected by Edward Mansfield *et al.* (1982) from a sample of 30 United States TNCs in 1974, it was estimated that restrictions on affiliates' use of new technology would have reduced domestic research and development by 15 per cent. This is likely an underestimate of the overall technological effect because the affiliates already existed and had contributed to past technological expenditures. Moreover, once TNCs mature and base their technology strategy on global markets, the effects of production outside the home country on the research-and-development effort are likely to be very large and positive.
- The second benefit is likely to arise from research and development undertaken by affiliates themselves. Transnational corporations from the United States (and, more recently, other developed countries) are investing significant and growing sums in affiliate research and development, and various kinds of division of research-and-development labour between parent and affiliate are emerging (Ronstadt, 1977). The share of United States patents taken out by the overseas research arms of the world's largest firms grew from 9.8 per cent in 1969-1972 to 10.6 per cent in 1983-1986 (Dunning, 1991)—even as total patent grants surged sharply over the period. The diversification and spread of research and development over different countries can become a source of technological advantage.

- Third, affiliates can “tap into” technological developments in advanced host countries, both by establishing links with their science-and-technology infrastructures and by observing, or establishing alliances with, their competitors (Cantwell, 1989, chapter 7). International alliances in technology are growing apace,¹⁴ and a widespread production network would tend to encourage this trend (though the prime consideration is the firm’s capacity for innovation, which also may be enhanced by international production). Even without a direct alliance, however, the benefits from location in leading countries of innovation are likely to be very large.

Similar arguments can be advanced on the skills issue. Outward FDI utilizes high-level skills in the investor, allows the upgrading of employee skills, provides resources for further investments in training and exposes employees to new situations and contacts that may feed back into corporate efficiency.

For developed countries, the benefits of outward FDI on these grounds seem clear and fairly unambiguous. But what about developing-country TNCs, where many of these technological considerations do not seem to apply?

There are two broad types of TNCs from developing countries to consider. The first is defined as fairly low-technology enterprises whose advantage lies in informal learning and efficient management or marketing; the second involves the more advanced, generally larger and more sophisticated technology-based firms that use state-of-the-art knowledge and conduct some formal research and development at home.

The former, or “traditional”, developing-country TNCs may not gain from FDI in terms of increasing its domestic research and development or tapping into research and development abroad. This does not, however, mean that it derives no technological benefits from overseas activity. Exposure to different operating conditions and consumers may well feed into its informal technological learning process, which is continuous even in simple activities (Lall, 1983, 1987). Low-technology firms from highly protected home environments are particularly likely to benefit from such exposure, though they may also collapse if the shock is too great.

By contrast, the “new breed” developing-country TNCs broadly resemble its developed country counterpart. If its international production is successful, its domestic research-and-development effort is likely to be stimulated. More intense competition abroad, especially if affiliates are located in open economies (or in advanced industrial countries), is likely both to stimulate and to contribute to the firm’s technological growth. An affiliate’s role in monitoring technological change is of even greater significance; joint ventures overseas with developed-country TNCs can provide additional technological benefits.

Again, differences can be expected among TNCs from various developing countries. Transnational corporations that are highly export-oriented and specialized in advanced products are likely to exploit the technological opportunities offered by FDI, especially in advanced host countries, more intensively than those from more inward-looking economies. The latter are likely to benefit most from exposure to increased competition and direct contacts with industry leaders. For firms