

CHAPTER VIII

BOOSTING EXPORT COMPETITIVENESS

A. The competitiveness challenge

Countries engage in international trade for a variety of reasons. Exports, in particular, are a means to generate the foreign exchange required to finance the import of goods and services; to obtain economies of specialization, scale and scope in production; and to learn from the experience in export markets. In a globalizing world, furthermore, export success can serve as a measure for the competitiveness of a country's industries.

Export success among developing countries has been concentrated in a few countries (annex tables A.VIII.1 and A.VIII.2). The comparative advantage of most developing countries lies traditionally in primary commodities and unskilled-labour-intensive manufactures. Over time, as they grow and accumulate capital and skills, and wages rise, their competitive base has to change. They have to upgrade their primary and labour-intensive exports into higher value-added items, and they have to move into new, more advanced, export-oriented activities. Both require greater inputs of skill and technology. Countries can attain these objectives in several ways: by improving and deepening the capabilities of domestic enterprises, by tapping into TNC networks as conduits for trade, or by attracting FDI into export activities and upgrading these activities over time. These strategies may be complementary or alternatives. In most cases they are found together, but different countries deploy different combinations of domestic enterprise-led and FDI-led export development. Neither strategy is easy.

The technological context of export competitiveness is changing rapidly. This can be illustrated by changing patterns of world trade (box VIII.1). There is a consistent trend for exports of technology-intensive products to grow faster than others.¹ Manufactured exports as a whole expand far more rapidly than primary products. Within manufactured exports, growth rises with technological complexity. As a consequence, there are large changes in trade share by technological category (figure VIII.1). Complex (high- and medium-technology) manufactured products are the most dynamic element in world trade. In the 50 fastest-growing manufactures in world trade, they account for over 60 per cent (annex table A.VIII.3). The leading four are all high-technology electronics products; together they accounted for one third of the value of dynamic exports in 1995 and for 37 per cent of the growth in value since 1980. High- and medium-technology products in the group accounted for three-quarters of the total value of dynamic exports and just under half of all manufactured exports in 1995. This trend has continued beyond 1995.

Box VIII.1. The changing technology composition of world exports and exports from developing countries

The share in world merchandise trade of technologically complex products^a has risen steadily in recent years. In fact, the higher the level of technological sophistication, the higher the export growth rate – with differences in dynamism rising over time. World exports of primary products grew at a modest 2.3 per cent *per annum* during 1980-1990 and at only 1.4 per cent over 1990-1995. At the other end of the spectrum, high-technology products (fine chemicals and pharmaceuticals, advanced electronics, aircraft, and precision instruments) grew at around 12 per cent per annum (compound in both periods). Medium-technology products (most industrial machinery, automobiles, simple electronics, chemicals) grew at 8.4 per cent and 6.9 per cent. Low-technology products (textiles, clothing, sports goods, toys, simple metal and plastic products, footwear) grew at 7.7 per cent and 5.6 per cent, and resource-based manufactures at 6.0 per cent and 5.3 per cent. When export growth rates generally declined after the 1980s, complex products maintained their growth better than simpler products.

Of the value of the 50 most dynamic merchandise exports in the world over 1980-1995, medium- and high-technology products accounted for a full 75 per cent. Within these very dynamic exports, high-technology products again grew the fastest, followed by medium technology products. Low-technology products were the slowest-growing category. Technological sophistication is thus increasingly important for trade growth.

Over 1980-1995, developing economies had faster rates of export growth than developed ones in all categories of products by technology intensity. In line with received trade theory, the developing economies' share was highest (around 34 per cent) in low-technology products at the end of the period. However, contrary to expectations, their export growth rates were higher in the case of technologically complex products. Consequently, their share in high-technology exports (30 per cent) was higher than for resource based and medium-technology exports, and may soon overtake their share of low-technology exports. In 1995, the value of their high-technology exports (\$299 billion) was higher than low-technology exports (\$266 billion), and comprised the largest single category. This was partly due to the relocation of labour-intensive processes in high-technology production by TNCs, and partly to the growth of indigenous capabilities in countries such as the Republic of Korea and Taiwan Province of China.

Export success in the developing world, however, was highly concentrated by region and country. Asian developing countries accounted for 78 per cent of total manufactured exports, and 89 per cent of high-technology exports. Latin America accounted for 17 per cent of the total, 28 per cent of resource-based, 12 per cent of low-technology, 28 per cent of medium technology and 11 per cent of high-technology manufactures. Mexico dominated Latin American export activity after 1990, mainly because of NAFTA: in 1995, it alone accounted for 90 per cent of the region's high-technology, 62 per cent of medium-technology and 50 per cent of low-technology exports. Sub-Saharan Africa contributed 1.4 per cent of the developing world's manufactured exports in 1995; if South Africa and Mauritius are excluded, the share in world merchandise trade drops to 0.1 per cent (in high-technology products, to 0.2 per cent for medium-technology products and zero for high-technology products).

Just 12 economies accounted for 92 per cent of total manufactured exports by developing countries in 1995. These are composed of nine countries in Asia (the four mature newly-industrializing economies, the three newly-industrializing economies, and India and China) and three in Latin America (Argentina, Brazil and Mexico). The level of export concentration has increased over time, from 78 per cent in 1985. The level of concentration rises with technological sophistication, being lowest in resource-based products and highest in high-technology products. The shares of the top 10 exporters in total developing country exports in 1997 were: high-technology 98 per cent, medium-technology 87 per cent, low-technology 84 per cent and resource-based 72 per cent. The concentration level for total manufactured exports was 85 per cent.

Source: Lall, 1998 and annex table A.VIII.3.

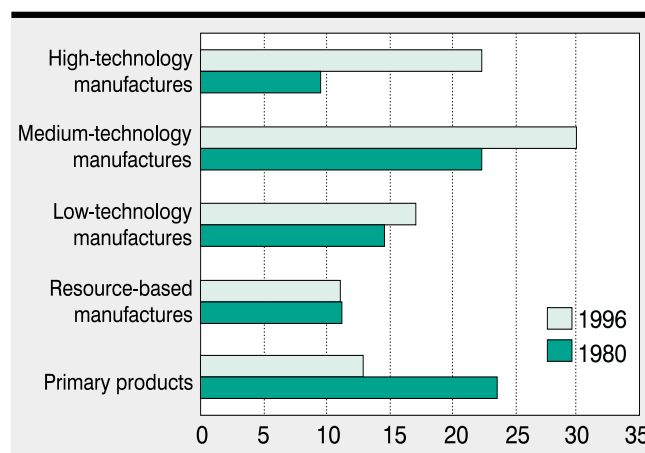
^a This classification of exports builds on methodologies developed by the OECD and the United States National Science Foundation, using R&D expenditure as a share of turnover as an indicator of technological intensity. Low-technology products - textiles and clothing, footwear, sports goods, simple metal products - have R&D spending generally below two per cent of turnover. Medium-technology products - most industrial machinery, automobiles, chemicals, simple electronics - are characterized by R&D in the two to five per cent range, while high-technology products - advanced electronics, aerospace, pharmaceuticals and fine chemicals, precision instruments - have R&D exceeding five per cent of turnover. Medium-technology products are complex in terms of processes and skill requirements, but differ from the high-technology group in that the technology does not change rapidly. In this exercise, the trade data are at the three-digit standard international trade classification system (SITC) level. Thus, they do not reflect growth rates for products at more detailed levels: At the five-digit level, some resource-based and low-technology products, for example, grow quite rapidly, and feature among the group of 50 most dynamic exports in world trade (annex table VIII.1). It also needs to be borne in mind that the SITC organizes products by materials used or purpose. This does not capture difference among products in terms of their quality and unit value, and hence it does not distinguish between skill-intensive, high-quality products (designer-label shirts, for example) as opposed to low-quality goods (for example, mass-produced shirts). The exercise is nevertheless as good an approximation as possible, given the trade data available.

What does this mean for export competitiveness? Markets for technologically complex products are growing faster than those for other products because of the higher income elasticity of demand and greater scope for product innovation and productivity increases. Thus, it is easier for a country to sustain export growth if it can establish a competitive position in these products rather than in traditional resource-based or simple labour-intensive products. It is still possible to grow rapidly in slow-growing product groups, by specializing in dynamic products or by expanding market shares. Some low-technology products face slow demand growth and technological change, but enjoy rapid trade growth because of rapid relocation of production from high- to low-wage countries. This is the case, for example, with recent growth of exports of clothing and footwear. However, growth is likely to slow as the restructuring process matures. More importantly, a competitive position in such products is vulnerable to easy entry by new, lower-wage competitors. The simultaneous entry of several producers can create a glut and considerably lower prices. It is possible to establish more secure, high-value niches by entering high-quality segments, but this is difficult. It requires advanced technological and marketing capabilities, and until now largely remains the preserve of industrialized countries and established traders. Export sustainability requires that developing countries push into these segments, but also that they diversify into more complex, dynamic products as much as they can. Diversification has another important benefit: low-technology products generally offer limited scope for learning and beneficial technological spillovers in comparison to complex products. Thus, export dynamism has large overlaps with industrial and technological deepening (chapter VII).

Past strategies of protected import substitution have often held developing economies back from exploiting fully their initial endowments or creating new skill- or technology-based advantages. Trade and investment liberalization can stimulate both. But it may not suffice by itself. Developing countries face pervasive market, structural and institutional deficiencies that can diminish or abort a vigorous response to market signals. It is necessary to calibrate trade liberalization to the pace at which supply capabilities can develop, and to develop the requisite skill, capital, technology, and other capabilities. Otherwise, a leap into the world of technology- or skill-based competitiveness and growth may prove impossible or exceptionally difficult.

It is not easy for developing countries to launch new exports. They face problems in reaching world levels of productivity and quality. It is costly to collect information about consumer needs and designs or the requirements of industrial firms (where they are exporting intermediate products). Delivery and effective marketing are also difficult. These problems rise with the technical complexity and differentiation of a product. The easiest segments to enter involve simple production processes with low skill needs, no scale economies, undifferentiated products and stable technologies. The most difficult involve complex processes with high learning and skill requirements, rapidly changing technologies, large economies of scale or scope, branded products and after-sale servicing needs. These difficulties notwithstanding, developing countries need to make every effort to enter export markets. TNCs can help in this effort.

Figure VIII.1: Shares of technologically-complex products in world trade, 1980, 1996
(Percentage)



Source: Lall, 1998.

B. TNC strategies and role in trade

TNCs are significant actors in world trade. The paucity of data, however, makes it difficult to put precise figures on their global shares. In the United States, for example, TNCs, both local and foreign combined, accounted for three-quarters of total exports in 1996; over a third was intra-firm. If data from the United States were to be extrapolated for the world as a whole, TNCs would account for two-thirds to three-quarters of world exports, and more than a third of world exports would be between affiliated firms. Another estimate indicates that foreign affiliates of TNCs account for more than one fifth of world exports² and one third of developing country exports.³

The patterns of trade associated with different TNC strategies in developing countries can be quite complex (UNCTAD, 1996a). They are the outcome of their motivations for FDI (market-, efficiency- or resource-seeking) and their organizational strategies. In traditional stand-alone strategies, bilateral trade between home and host countries largely consists of the export of headquarter services from the parent firm to an affiliate. Where TNCs adopt simple integration strategies between parent and affiliate firms, the volume of exports from host countries can be significant. The use of more complex integration strategies creates a range of opportunities for developing-country exports in products, resources, information and services, both with unrelated firms in world markets and within TNC networks. These networks provide foreign affiliates, and hence developing host countries, privileged access to internal and external international markets. Domestic firms, in turn, can gain access to these markets by linking themselves to TNC networks through sub-contracting and other arrangements (UNCTAD, 1996a). To the extent that FDI helps build export-oriented capacities in host countries and contributes to industrial restructuring, it can increase host countries' competitiveness more generally.

These opportunities may benefit some developing countries while disadvantaging others, depending on corporate strategies. As trade and investment restrictions decrease, the locational decisions of TNCs on plants or corporate functions (e.g. accounting) depend increasingly on economic factors (UNCTAD, 1998a). These include the costs of reaching competitive levels of efficiency as well as transport, marketing and coordination costs. Some activities may be widely dispersed to diversify risk or to be near markets, raw materials or low-cost labour. Others may be more concentrated in a few locations to take advantage of economies of scale in production, innovation or decision-making and agglomeration benefits. In many of the complex and innovation-based industries in which most large TNCs flourish, the forces making for concentration may be stronger. As low-cost labour *per se* becomes less important as a competitive factor, transport and communication costs continue to fall and markets become more globalized, however, more countries that can offer competitive locations can attract FDI.

TNCs themselves are also large markets for internal transactions (intra-firm trade). These markets are, by definition, open only to affiliates and parent firms. Each TNC system comprises a market in which three types of transactions take place: sales by the parent firm to its foreign affiliates; sales by foreign affiliates to their parent firms; and sales between affiliates in different countries. Intra-firm exports of the first category are estimated to be approximately one quarter of exports for Japan (UNCTAD, 1995a) and the United States (box VIII.2). They accounted for over 40 per cent of United States parent company exports in 1996; the share has increased by some 10 percentage points since 1977. For the affiliates of United States TNCs, imports from parent firms represent more than 80 per cent of their total imports from the United States (annex table A.VIII.4). Such intra-firm trade provides affiliates access to firm-specific technology and knowledge. For United States affiliates, the markets offered by other affiliates of the corporate network are more important than the those of the parent companies, and their significance has increased over time, although in the case of affiliates in developing countries, the situation is the reverse (annex table A.VIII.5). The growth of intra-affiliate trade indicates changing industrial structures and consumption patterns in host countries. These changes are also reflected in the export propensities of affiliates (annex table A.VIII.6). As host developing countries grow, domestic markets become more attractive and domestic costs rise, foreign affiliates tend to export

a lower proportion of their output. For example, in the dynamic East Asian economies, the export propensities of foreign affiliates have declined in the 1990s with the growth of local markets and rising labour costs.

Box VIII.2. The ownership structure of United States exports

The share of TNCs in world exports is difficult to estimate because of the lack of comprehensive data on trade by the ownership of enterprises. The only way to get a general picture is to extrapolate data from countries that provide such information. The United States is the only country to do so on a comprehensive basis. There are six possible export relationships:

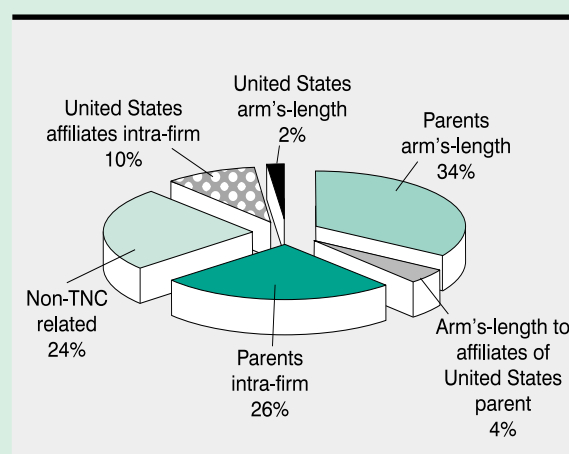
- parent companies exporting to affiliated persons;
- parent companies exporting to unaffiliated persons;
- affiliates of foreign companies exporting to affiliated persons;
- affiliates of foreign companies exporting to unaffiliated persons;
- uninational firms exporting to the affiliates of domestic companies;
- uninational firms exporting to unaffiliated persons.

Parent companies account for 60 per cent of the total value of United States exports (box figure VIII. 1);^a just under half of this is intra-firm. Total intra-firm exports, parent exports to affiliates plus affiliate exports to foreign parents, comes to 36 per cent of total exports. Previous research shows that the intra-firm exports of parents from Japan and Sweden are roughly similar to that for the United States (UNCTAD, 1995), suggesting that this pattern applies to parent companies from developed home countries. If the United States pattern could be generalized, TNCs would account for around three quarters, and intra-firm trade for over one third of world merchandise exports.

Source: UNCTAD.

^a Some companies could be simultaneously affiliates of foreign and United States companies. The share of exports attributable to such companies is 10 per cent of the total United States merchandise exports. The figure could thus be redrawn to show that affiliates of foreign companies account for 22 per cent of total exports and United States parent companies 50 per cent.

TNCs and exports from the United States: 1996 ^a



Source: UNCTAD, based on published and unpublished data from the United States Department of Commerce and World Trade Organization.

^a Data for affiliates of foreign companies that are also parent companies in the United States have been included in the data for the parent companies of the United States. The figure is estimated to be 10 per cent of total United States exports.

There is a close relationship between the intensity of intra-firm trade and the R&D intensity of an activity because rapid technological change involves higher transaction costs. For example, the pharmaceutical industry, which spends more than 12 per cent of its production costs on R&D, routes nearly 95 per cent of its international trade through intra-firm networks (OECD, 1996a). In the clothing industry, which spends less than one per cent on R&D, the corresponding figure is only five per cent; however, non-equity relationships and trade between firms linked through such relationships are important in this industry. This has implications for developing host countries. Countries that have - or can establish - more complex and technology-intensive industries and activities have significant opportunities for export expansion by integrating more closely into TNC networks. On the other hand, those that can only attract FDI in low-skill manufacturing activities may not be able to access the dynamic internalized markets of TNCs, but can take advantage of the trading networks built up through inter-firm agreements of various kinds.

TNCs also have a role to play in trade in commercial services. In the new context, the potential for exporting services across borders has increased considerably, thanks to technological advances in telecommunications and computer-communication links that enhance the tradability of information-intensive services. While FDI remains one mode of delivery for many services, such as financial services, business services and telecommunications services in which TNCs have strong competitive advantages, there is scope for increasing trade at arm's-length. This growth potential can be exploited by developing countries that host TNCs in such services. They may be able to acquire access to the internal and external markets of TNCs as they take advantage of the liberalized trading system.

C. The role of FDI in building export competitiveness

TNCs impact on export competitiveness in a variety of ways, both positively and negatively (table VIII.1). Their greatest potential contribution lies in difficult, technology- and marketing-intensive products, where they have the largest ownership advantages over other firms. There are, of course, different kinds of TNCs. The large globalized firms from industrial countries can promote exports best in complex or branded products. TNCs from developing countries or smaller firms from industrial countries might promote exports of simpler or less marketing-intensive products, or increase regional exports. This section deals with the role of TNCs in strengthening the *manufacturing* export competitiveness of developing countries. The focus here is on manufacturing as manufactured products are relevant for a wide group of countries and hold considerable potential for dynamic growth. This is not to say that TNCs do not play a role in other sectors as well. Indeed, traditionally, they were important in natural resource exports (ESCAP/UNCTC, 1985; ESCAP/UNCTAD, 1994), and their role is growing in the export of certain processed agricultural products (box VIII.5). They are also playing an increasing role in services, especially in tourism (UNCTAD, 1998c).

1. Technology and trade patterns

The pattern of manufacturing export success in the developing world is highly skewed, as noted earlier (box VIII.1). A small number of countries dominate manufactured export activity, with concentration level rising by level of technological sophistication (annex table A.VIII.1). While there are differences in specialization, the same economies appear in the list of top exporters of most product categories. If exports are measured on a *per capita* basis, most leaders remain the same, although large countries like China and India move down the list (annex table A.VIII.2). Some small countries appear unexpectedly high on the list, e.g. Trinidad and Tobago and Oman in medium technology and resource-based exports (based on oil production and some assembly) and Mauritius (garment exports) (annex table A.VIII.2).

Reflecting TNC strategies and host country conditions, the role of TNCs in manufactured exports, disaggregated by different technological categories, has varied among countries and over time.

Low-technology activities. TNCs from developed countries played a critical role in the initial stages in stimulating labour-intensive exports from developing countries; TNCs from developing countries become more important in later stages. The evolution differed by host region and country, largely reflecting the growth of local capabilities. International production involving labour-intensive activities, led by clothing, started in the 1960s, when developed countries eased their import barriers and facilitated offshore processing by granting tariff privileges. Declining transport costs and the liberalization of FDI regimes made the process economical. The developing countries that attracted export-oriented FDI had low-cost semi-skilled labour. But they also had more: attractive fiscal incentives, export-oriented production facilities like export processing zones (EPZs) and infrastructure, and, in the most successful cases, a cadre of skilled technicians and managers. EPZs contain the disruption caused to domestic industry in host countries; industrialized countries used import quotas on the most aggressive exporters to contain damage to domestic industries in the home country. The latter policy was a key factor in spreading activity to new locations which had under-utilized quotas (Navaretti, Faini and Silberston, 1995).

Table VIII.1. Possible contributions of inward FDI to competitive advantages of host countries

Issue	Positive contribution	Negative contribution	Host country characteristics that favour positive contributions
1. Resources	By providing additional resources and capabilities, viz. capital, technology management skills, access to markets	May provide too few, or wrong kind of resources and assets. Can cut off foreign markets compared with those serviced by domestic firms. Can fail to adjust to localized capabilities and needs.	Availability of local resources at low real cost, particularly those complementary to those provided by foreign firms. Minimal structural distortions or institutional impediments to upgrading of indigenous assets. Development strategies that help promote dynamic comparative advantage.
2. Entrepreneurship	By injecting new entrepreneurship, management styles, work cultures and more dynamic competitive practices.	An inability of foreign entrepreneurship, management styles and working practices to accommodate or, where appropriate, change local business cultures. The introduction of foreign industrial relations procedures may lead to industrial unrest. The pursuance of anti-competitive practices may lead to an unacceptable degree of market concentration.	The policies pursued by host governments to promote local entrepreneurship and a keen and customer-driven work ethic; the character and efficiency of capital markets; the effectiveness of appropriate market-facilitating policies. Large countries may find it easier to introduce some of these conditions than smaller countries.
3. Efficiency	By a more efficient resource allocation, competitive stimulus and spill-over effects on suppliers and/or customers. FDI can help upgrade domestic resources and capabilities as well as the productivity of indigenous firms, and foster clusters of related activities to the benefit of the participating firms.	Can limit the upgrading of indigenous resources and capabilities by restricting local production to low value-added activities and importing the major proportion of higher value-added intermediate products. May also reduce the opportunities for domestic agglomerative economies by confining its linkages to foreign suppliers and industrial customers.	The form and efficiency of macro-organizational policies and administrative regimes. In particular, the benefits likely to be derived from FDI rest on host governments providing an adequate legal, commercial and assigning priority to policies that help upgrade human and technological capabilities and encouraging regional clusters of related activities, e.g., science and industrial parks.
4. Tax revenue	By adding to the host nation's gross domestic product (GDP), via 1-3 above, and by providing additional tax revenue to governments.	By restricting the growth of GDP via 1-3 above. By transfer pricing or other devices to lower taxes paid to host governments.	See 1-3 above. Suitable policies of tax authorities of host governments to minimize transfer pricing abuse. Countries that have the most to offer TNCs are likely to be the most successful in implementing these policies.
5. Balance of payments	By improving the balance of payments, through import substitution, export generating or efficiency-seeking investments.	By worsening the balance of payments, through limiting exports and promoting imports and out-competing indigenous firms that export more and import less.	Need to take a long view of importing and exporting behaviour of foreign affiliates. The key issue is not the balance of payments <i>per se</i> , but the contribution of FDI to economic efficiency, growth and stability. However, countries with a chronic balance-of-payment deficit may find it difficult to completely liberalize their balance-of-payments policies.
6. International economic integration	By linking better the host economy with the global market-place and helping to advance economic growth by fostering a more efficient international division of labour.	By worsening the balance of payments, through limiting exports and promoting imports and out-competing indigenous firms that export more and import less.	As 3 above and, in particular, the extent to which host country governments can pursue policies that encourage investing firms to upgrade their value-added activities and invest in activities that enhance the dynamic comparative advantage of indigenous resources. The gains from 6 are particularly important for smaller countries.
7. Political, social and cultural	By more directly exposing the host economy to the political and economic systems of other countries; the values and demand structures of foreign households; attitudes to work practices; incentives; industrial relations and foreign workers; and many different customs and behavioral norms of foreign societies.	By causing political, social and cultural unrest or divisiveness; by the introduction of unacceptable values (e.g. with respect to advertising, business customs, labour practices and environmental standards); and by the direct interference of foreign companies in the political regime or electoral process of the host country.	The extent which a society is strong and stable enough to adjust smoothly to technological and political change. Also, the strength and quality of government regulations and norms; the nature of the host country's goals and its perceived trade-off between, for instance, economic growth, political sovereignty and cultural autonomy. The difficulties in optimizing the benefits of the openness induced by FDI will be greatest in countries which are most culturally distinct from their trading or investing partners.

Source: UNCTAD, based on Dunning, 1994, pp. 46-47.

The search for new locations for clothing production involved not just producers from developed countries but also garment retailers, importers and wholesalers. Each used different ways of securing low-cost supplies. Many textile and garment manufacturers used FDI, setting up wholly-owned affiliates overseas. Retailers and wholesalers (and some producers) preferred arm's-length buying or subcontracting arrangements with local firms in low-wage countries, providing the designs, fabrics and accessories and, where necessary, technical assistance. TNCs set up the mass production of standardized items in low-wage economies like Bangladesh or in economies with privileged access to their home markets such as Morocco or Costa Rica. They set up more sophisticated facilities, with quicker response times, higher-quality products and more local linkages in countries in the advanced newly-industrializing economies (and, more recently, in Central and Eastern Europe). The role of FDI – but not necessarily that of TNCs – was low in countries where local firms had good capabilities and could undertake subcontracting at low cost to the buyer. The FDI role tended to be larger when local capabilities were weak (Ernst, Ganiatsos, Mytelka, 1998a).

In the early stages, in the 1960s and 1970s, most developing-economy clothing exports came from local firms in Asia (mainly Hong Kong, China; the Republic of Korea; and Taiwan Province of China). Over time, these firms developed their capabilities further, diversifying products, intensifying local linkages, improving quality and broadening their base of markets and buyers. Many moved into designing products, establishing marketing facilities overseas, some even succeeding in promoting their own brands, notably in destination markets in other developing countries. As wages rose and quota limits were filled, they relocated their activities – generally the simpler products and processes – to cheaper sites. Over time, they came to account for large parts of textile and clothing exports from Asia. Much of the relocation by firms from the Asian newly-industrializing economies took the form of FDI and joint ventures in neighbouring countries – an early impetus to the emergence of developing-country TNCs (UNCTAD, 1995a). However, there was also significant subcontracting to local firms. In due course, newly-industrializing economies' exporters became important intermediaries for customers and TNCs in rich countries, a triangular relationship unique to the region.

The learning process was repeated in the newer developing country entrants, as local enterprises developed capabilities and took increasing shares of export activity. In the 1990s, the main recipient of FDI from the newly-industrializing economies was China, now by far the largest exporter of clothing and other low-technology products in the developing world (annex table A.VIII.1). Other important recipients of FDI from newly industrializing Asian economies in clothing were Bangladesh, Indonesia, Malaysia, Philippines, Sri Lanka and Vietnam; there is also some activity in Africa and Latin America, particularly Central America and the Caribbean. Traditional textile exporters in India and Pakistan also went into clothing exports successfully, selling directly to buyers from developed countries and with relatively low direct foreign involvement.

European TNCs have been important in labour-intensive exports from North Africa, and United States firms in exports from Central America and the Caribbean. This process started later, in the 1980s, when producers of brand-named clothing started to look for low-cost sites with unfilled quotas (to meet the intense competition from Asia). Their choice of location was strongly influenced by market access and tariff provisions granted by their home countries. While there was also increasing participation by local firms in the host countries, there was, in general, less development of local capabilities than in Asia (Mortimore, 1998a). Most production remains in low-quality segments where wage costs are the main competitive factor; there is little design capability or independent marketing. The triangular arrangement that has taken strong hold in Asia is absent.

Medium- and high-technology activities. The export role of FDI, particularly by TNCs from developed countries, has understandably been larger in complex industrial activities. Again, this role has varied by country, and has been especially important in three types of activities: *offshore assembly, mature infant industries and large-scale processing of natural resources for exports.*

- *Offshore assembly* for export is concentrated in electrical and electronic industries (Yeats, 1998), with some activity in automotive and other engineering products. The activity tends to have low local content and take place in EPZs, in relative isolation from the domestic economy of host countries (box VIII.3). While its determinants – low labour costs – are similar to those of low-technology export-oriented activities, high-technology activity differs in its organization. It is predominantly a part of integrated TNC systems (making subcontracting to independent local firms difficult); advanced technological functions and processes remain in the home countries. These systems have developed complex specialization patterns, with assembly facilities being set up in emerging newly-industrializing economies, more advanced facilities in mature newly-industrializing economies, and design in home countries. For instance, in the hard disk drive industry, United States TNCs conduct innovative R&D at home, perform complex technological tasks in Singapore and less advanced ones in Thailand and, more recently, China (Wong, 1997).

The activity of TNCs in offshore assembly for exports in medium- and high-technology activities is also far more concentrated than in low-technology assembly. The main developing countries involved are Malaysia, Philippines, Singapore and Thailand in Asia and Mexico in Latin America (annex table A.VIII.1). Taiwan Province of China also has a substantial TNC presence in electronics, but local firms have considerable technological

Box VIII.3. Boosting export competitiveness with EPZs

EPZs are geographically distinct areas into which materials are imported duty free and transformed for export, with strictly controlled trade with the rest of the country where they are located. They vary considerably in size and composition. In some cases, they are as large as industrial parks; many countries offer EPZ privileges to individual factories (with in-bond facilities). In others, such as Singapore, they cover the entire country. EPZs allow to exploit the location-specific assets of a host country while avoiding the restrictions imposed by its trade regime, providing good infrastructure and offering fiscal incentives.

Although there are EPZs in developed countries (in 1997, the United States had 213 out of an estimated 845), they are predominantly located in developing countries, where the locational advantage is low-cost labour. Apart from access to duty-free imports, most EPZs offer incentives such as tax holidays and training grants. The impact of EPZs on increasing exports by host developing countries is undeniable. Many countries, such as Costa Rica, China, Mauritius, Bangladesh, Singapore, Malaysia and Sri Lanka, have enjoyed spectacular growth in manufactured exports from EPZs. Such exports account for 50 per cent of Haiti's garment exports and 77 per cent of Mauritius's total exports. The most successful exports have been garments (driven by quota allocation systems under the Multi-Fibre Agreement) and semi-conductors (annex table A.IX.3).

The impact of EPZs on long-term export competitiveness, however, is unclear. An once-for-all increase in exports based on low wages is not the same as sustained upgrading of skills and capabilities. The generous use of incentives to attract FDI to EPZs often raises doubts about the net contribution of EPZs to the country. Their sole benefit often lies in the employment of low-wage, low-skilled labour, with little spillover to domestic firms or to skill and technology development. A transition from labour-intensive assembly with very low value added to more value-added activities and deeper local linkages may not take place. Where it does, it takes time. In Bangladesh, where garment exports from EPZs began in the 1970s, there are signs only now that the industry is moving beyond the simple assembly of shirts.

However, there are several cases where EPZs have deepened their linkages and technological levels over time. In Malaysia, electronics exporters have attracted other TNCs to deepen backward linkages, and have also increased sourcing from local firms. They have upgraded their technological activity and enlarged their product range. However, such development is not automatic: much depends on policies for upgrading skills and attracting the right kind of investor. Much of Singapore's success is due to careful targeting of industries such as electronics, which accounts for over half of exports, and to inducements for TNCs to upgrade their technologies. In turn, this was feasible only because of government investments in skills, infrastructure and support institutions (box IX.5).

Source: UNCTAD, based on ILO, 1998c and van Heerden, 1999.

capabilities and lead the export effort often linked to TNCs through non-equity mechanisms. The established exporters have important first mover advantages – the sunk costs to TNCs of training local workers, developing the infrastructure and building up a base of suppliers (largely also foreign) are substantial. However, the activity is still very dynamic, and TNCs are setting up new facilities. In Latin America, Costa Rica, for example, has attracted a large (\$500 million) semiconductor plant from Intel (box VI.7).

There are large differences in local technological capabilities and content. The highest technological content of TNC activities is in Singapore, where production concentrates on sophisticated producer electronics and components. This specialization is the result of government policies to provide high levels of skills, technical support and subsidies to promote targeted activities. TNCs have set up advanced manufacturing, design and even development capabilities, and are gradually moving some of their regional headquarters to Singapore. Malaysia comes next: some R&D capabilities are being developed in foreign affiliates, mainly for process improvement and in mature consumer products. Thailand and Philippines lag behind Malaysia in technological depth. The Philippines has long had a large education base, which is attracting a wave of new electronics FDI, particularly in semiconductors. Consequently, over the past two years, the Philippines is the only country in the region with rapidly growing electronics exports. In 1998, its semiconductor exports overtook Malaysia, a much longer-established exporter. Mexico is the newest entrant to high-technology exports and still has very low localization levels, though its relatively good supply of technical skills means that design functions can be located there. The rest of Latin America lags in high technology export activity; recent liberalization has led its export structure to specialize increasingly in automotive and resource processing activities (Benavente *et al.*, 1997).

- The second type of complex export-oriented activity involves *mature infant industries* and is an outgrowth of import substitution, from industries being restructured because of economic liberalization (Londero and Teitel, 1998). In most large import-substituting economies with a large foreign presence, such as Mexico and Argentina, TNCs lead the export surge. The most striking example is the automotive industry, now the single largest manufactured exporter from Latin America. Automotive TNCs have rationalized production and sourcing across the region and raised technological levels considerably, promoted by a special policy regime. In some cases they induced upgrading of their suppliers and deepened their own technology into design and research activity in some major production centres (Mortimore, 1997, 1998b). However, at the same time, liberalization has led to the cutting down of several other manufacturing activities and capabilities in Latin America and (Mexico excepted) to low levels of high-technology production and exports (see box VII.3). In countries like India, where liberalization still has some way to go and foreign presence is low, the export response has been led mainly by local firms, but has been weak so far.
- The third type of TNC activity involves *large-scale processing of natural resources* for export. Unlike earlier resource-extracting activities that had little local value added, this activity involves large new world-class plants, high levels of local skills and tight integration into international networks. The main focus of this type of export-oriented FDI has been Latin America. The liberalization of investment regimes, along with technological developments, revitalized FDI in the primary sector. A large part of the investment went into the search for raw materials (mining projects in Chile; mining, oil and natural gas in Argentina, Mexico and Venezuela). Another large part went into manufacturing industries processing primary products. These industries had been strengthened by government policy in the 1980s. But the liberalization of FDI served to attract considerable foreign interest in building state-of-the-art facilities in the region (Benavente *et al.*, 1997).

Given the advanced technological, manufacturing and marketing capabilities required, few developing economies have important local exporters of sophisticated manufactures. The main exceptions are the Republic of Korea and Taiwan Province of China. They pursued relatively autonomous technological strategies and built up the skill base to enable export competitiveness. However, they did use TNCs in their strategy; their presence and technology transfer were important for export development when these countries started to export electrical machinery and electronics in the 1960s (UNCTAD, 1995a; UNCTAD, 1996b). As local enterprises acquired competence and government policies increasingly favoured national ownership, the direct role of TNCs diminished. Their indirect role, particularly via licensing or original equipment manufacture arrangements, continued. As local firms grew and became international competitors, it became harder for them to obtain technology from TNCs. Independent R&D then became vital in order to copy, absorb and create technology; the leading firms set up large research and design departments and invested heavily in innovation (Hobday, 1995; Kim, 1997). More recently, they have begun to use strategic alliances with leading foreign TNCs to expand their technology base. All in all, the autonomous strategy has given these economies much greater local content in sophisticated manufacturing and industrial depth.

However, this skilful mix of strategy has succeeded in only a few cases – most countries have been unable to meet the skill, information and bureaucratic demands of this strategy to mount efficiently the range and depth of policies needed for domestic capacity-building. Furthermore, under the new rules of the game, the scope for industrial policies that favour domestic capacity-building is diminishing. A number of the tools used for example by the Asian newly-industrializing economies are no longer permitted today for advanced developing countries, or are difficult to apply. Technologies are changing much faster and production systems are more integrated, and are raising the barriers of entry into sophisticated markets. In the future, developing countries may well use TNCs more to move into advanced export activity, either through FDI or by tapping into TNC distribution systems.

Indeed, elsewhere in the developing world, for complex products, an FDI-assisted export strategy has been more common than local enterprise-led export strategies. A substantial proportion of such manufactured exports from developing countries comes from foreign affiliates (annex table A.I.8), and a significant part of this takes the form of intra-firm trade. An FDI-assisted export strategy can provide rapid entry into complex activities, along with continuous access to new technologies and close integration into global markets and networks. The result can be impressive export growth; indeed, the relocation of labour-intensive processes in high technology activities has been a major factor in the recent export growth and diversification in the developing world.

However, this strategy is not without costs and risks. Most exports start at the bottom of the skill and technology ladder. The risk is that an erosion of competitiveness (as wages rise or technologies change) follows a burst of exports based on low-wage advantages. Unless the country improves its skill, technology, supplier and infrastructure base, the FDI-assisted route can run out of steam; the creation of backward linkages is particularly important here. As with domestic firm-based strategies, therefore, the upgrading of local factors and institutions becomes vital under FDI-assisted strategies once inherited advantages reach their limit. The only difference may be that the static base of competitive advantage lasts longer under an FDI-assisted strategy.

It would be wrong, therefore, to consider the two policy approaches - domestic-enterprise based versus TNC-assisted export drives - as mutually exclusive. Indeed, both have worked as far as exports are concerned. In many instances they are mutually supportive. A strong base of local capabilities can attract higher quality, technologically more advanced FDI, with greater local linkages and spillovers. Over time, a more rapid growth of local skills and capabilities can induce faster and greater upgrading of affiliate activities. The competitiveness of the domestic industrial sector can benefit from a stronger TNC presence and competition. A large, export-oriented TNC base can stimulate greater competence in local firms and provide stronger direct links to global markets and technologies. As local firms grow in competence, they can themselves go transnational, or enter strategic alliances with other TNCs.

2. Expanding market access for exports

a. Advantages of TNCs

Foreign affiliates have several potential advantages over local firms in developing host countries in accessing and serving foreign markets. Assuming identical production costs, therefore, they can export more from a host economy than their local counterparts in products where such marketing advantages are significant. Affiliates draw an advantage from the very fact of being part of a TNC system and hence being able to use the system's physical distribution network or exploit their parent firms' links with customers. The parent company may have strong links with buyers in importing countries; such links are important in getting orders of customized industrial products or projects (e.g. capital goods, specialized components or turnkey plants). Again, these are difficult for new entrants to replicate. Foreign affiliates also face lower transaction costs and have other marketing advantages in exporting than do local firms. They have access to established brand names, warehousing, transport facilities and marketing links, trade finance and channels overseas. Affiliates often can use established brand names which are particularly important in differentiated consumer products. Competing local firms face a severe handicap in having to sell unbranded products, unless they are able to invest the large sums needed to develop independent brands (and the distribution and servicing they require), or a TNC is willing to franchise or license the use of its brand. Both can happen. Some developing country firms have gained the size and spread to build up global brands, but they are few and primarily from advanced newly-industrializing economies. TNCs allow independent firms to sell under their brands, under original equipment manufacture (OEM) arrangements, as in electronics (box VIII.4), or under international subcontracting, as in clothing.

OEM in electronics in the developing world is confined to a few newly-industrializing economies with strong local capabilities, mainly the Republic of Korea and Taiwan Province of China (Hobday, 1995). Other Asian economies exporting electronics have had to rely on foreign affiliates. The subcontracting of simple products like clothing is more common, and here foreign buyers offer an alternative way of overcoming the costs of exporting. Increasingly, investors from developing countries are emerging as an alternative to developed country TNCs, especially in export production of simple products, particularly at the low quality end.

A number of foreign affiliates are parts of integrated international production systems. Such systems can be of two types (or their combination): different stages of production located in different countries, or different components each sourced from several countries. The first system entails different processes at different levels of technology, spread over countries according to factor costs and capabilities. The second involves distribution of similar production activities across affiliates in countries with similar capabilities. In the latter case, production facilities are distributed geographically to diversify risk, reap scale economies or meet government demands (say, to achieve a rough balance in trade or maintain employment). For instance, automobile firms spread their engine and component manufacture over several countries. While it is possible for non-affiliates to export via such networks, the transaction and coordination costs of participation can be high. The costs rise with the complexity of a network, sophistication and proprietary value of technology, frequency of changes, and speed of response required. Consequently, TNCs are unlikely to involve independent firms deeply in such networks unless the product is simple and standardized, or the independent firm is a specialized supplier of long standing.

Finally, foreign affiliates may have easier access to developed country markets, or face lower tariffs there, because of lobbying by parent companies. One important form of access is favourable treatment of offshore processing (with duties imposed only on value-added overseas). This is favoured by TNCs seeking to relocate labour-intensive processes in low wage areas to maintain competitiveness (Helleiner, 1989). The growth of *maquiladora* exports from Mexico, for instance, owes greatly to such treatment by the Government of the United States. TNCs in many developed countries press for provisions of this sort, while trade unions in the home countries tend to oppose them to prevent the "export of jobs".

Box VIII.4. Technological learning through OEM: Korea's Daewoo and Japan's NEC

Daewoo Electronics, part of the Korean *chaebol*/the Daewoo Group, entered an original equipment manufacturing arrangement (OEM) with Japan's NEC in 1981. OEM is a form of inter-firm relationship that involves the supplying firms manufacturing equipment to the buyer's specifications, sold under the buyer's brand name. NEC sought OEM arrangements with the Korean firm because Japanese wages were too high to manufacture mid-range colour televisions competitively. This case illustrates how an OEM arrangement can provide valuable technologies and experience to an independent supplier. As was common practice for OEM suppliers, Daewoo provided prototype samples (19-inch colour televisions) to be tested by NEC engineers. Daewoo was already manufacturing televisions and exporting some to Australia. It had acquired its technological capabilities through reverse engineering and licensing a few key technologies. However, those methods were not sufficient to take it to the technological frontier, and the samples it sent to NEC suffered from several inadequacies. To the surprise of Daewoo executives, NEC found over 80 problems with their television samples, ranging from poor sound quality to faulty control knobs. Nevertheless, NEC was convinced that Daewoo had the ability to become a good OEM supplier and so established the relationship.

Because it was in NEC's interest to enhance Daewoo's capabilities to manufacture high-quality products, it provided a great deal of technological help to its partner. For example, in measuring the quality of sound and vision, Daewoo engineers initially relied on their "eyes and ears". Their NEC counterparts introduced them to much more accurate electronic measuring devices that the Koreans did not even know existed. NEC engineers instructed Daewoo on how to use them, and Daewoo adopted them in all its relevant manufacturing processes. Daewoo engineers maintain that such technical tasks as enhancing sound quality can be complex and elusive, and no "blue-print" exists for such tasks. Given the tacit elements in the technology, the direct interaction with experienced engineers was the best way to learn.

OEM provided much more than tacit technical knowledge. It also led Daewoo to define more clearly its technological gaps and needs, and to find ways of solving complex technological problems. Perhaps the most important contribution of OEM was that it set "higher sights" for Daewoo, in terms of process technologies and product quality. While Daewoo could have imported some necessary technologies from abroad, it felt that the contribution of NEC to identifying its deficiencies and setting specific targets was invaluable, and could not have been replaced by a licensing relationship.

The OEM relationship was not without problems. There was constant bargaining on prices, number of products and duration of contracts. However, Daewoo executives felt that, despite such problems, the OEM arrangement freed them from marketing, distribution and after-sales problems in crucial stages of the firm's development, allowing them to concentrate on enhancing technological and production capabilities. In fact, for a long time Daewoo made larger profits from OEM exports than from their own-brand exports, because of heavy marketing and sales costs. Today, Daewoo Electronics is a TNC with its own international brand as one of the world's largest producers of television sets. However, it continues as the main OEM supplier to both NEC and Sony.

Source: Cyhn, 1999.

b. Disadvantages of TNCs

Being part of TNC systems can also have costs for export competitiveness. Affiliates have to conform to sourcing and location patterns imposed by the parent firm. They are more prone than domestic firms to source inputs as imports from overseas. This may be from other affiliates in the TNC network,⁴ or from established suppliers based in the home country or third countries. A high import propensity of affiliates is observed in both low- and high-technological industries - in the former, since affiliates are often limited to processing imported inputs; in the latter, because affiliates' production is capital-intensive or requires sophisticated inputs not available locally. Import intensity can be high in some services industries as well, notably in tourism. Here, one observes problems of leakages, especially in the case of luxury tourism under franchises in low-income developing countries. Capital and consumption goods not available locally are imported, and profits remitted, thus cutting into the export earnings generated (UNCTAD, 1998e).

Where the parent firm has a regional or global strategy (many do not), affiliates cannot choose whether to export, or, if they do, which markets to serve. TNCs do not encourage competition among affiliates. Where they have affiliates in different markets, they may prohibit competing exports. The process of deep integration then takes a different direction. As noted, there is a possibility that, in a liberalized world, TNCs may centralize production in a few larger-scale facilities. This can boost exports from affiliates that become such bases, but lower or eliminate exports from others, converting them into sale or final-assembly bases. Only to the extent that the process is cumulative, will successful affiliates will deepen their capabilities and pull further ahead of others. In these circumstances, local firms may actually do better than affiliates operating as part of a TNC network because they are not subject to such market access decisions. However, to take advantage of their freedom they must have the technological and marketing capabilities to match TNC competitors.

c. Non-equity links: some considerations

In *low-technology* activities, there are readily available alternatives to TNCs in the form of international buyers, which handle the bulk of developing world exports of many low-technology products. Buying arrangements provide great scope for local firms to diversify their capabilities and markets. Once skills and networks have developed, local firms can themselves become TNCs and outsource in other developing countries.

However, buying arrangements do not *per se* ensure technological upgrading and diversification (box VIII.5). It is more often the case that supplying firms stay at the bottom of the technology ladder under a subcontracting relationship, and lose markets if wages rise and buyers move on to cheaper locations. Much depends on the ability of exporters to use the inputs and contacts provided by buyers to raise quality and skill levels, develop new products, find new buyers and, ultimately, build their own marketing networks and brands. This depends in turn on the learning environment in which a firm operates. If the environment is supportive, with adequate capital, skills, suppliers, and so on, upgrading is much more feasible. The main reason why the first-tier Asian newly-industrializing economies were able to use buying relations so efficiently was that their Governments could provide such environments. Where such an environment exists, there is a good case for promoting independent subcontracting relations rather than relying heavily on FDI. Alternatively, there may be a case for encouraging FDI from more advanced developing countries on a joint venture basis. The main exception is where low-technology exports require strong brand names – in this case, the cost of developing autonomous export capabilities can be very high indeed.

Independent marketing arrangements in *high-technology activities* also offer considerable scope for upgrading technology and export capabilities. Efficient local firms can sell directly to retailers or industrial buyers, and use the knowledge obtained to move up the technology ladder. They can also sell to TNCs under original equipment manufacturing arrangements: OEM arrangements have been a major avenue for technology transfer to exporters. Over time, they can develop their own product designs, brands and marketing networks overseas, though this can prove to be a much more risky and expensive task. Foreign affiliates involved in assembly activities, generally as part of integrated international production chains, may have greater difficulty in upgrading their technological status. Their process technologies may improve as wages rise, but the critical technological inputs and activities may remain centralized elsewhere.

Leading electronics firms in the Republic of Korea and Taiwan Province of China are good examples of local firms using arm's-length technology transfer and exporting arrangements to build their capabilities (Hobday, 1995). If the firms had been set up as affiliates, it is doubtful whether they would have been able to develop the diversity and depth of local technology and content that they have. For instance, affiliates in the same industries in Malaysia, Thailand or the Philippines have not developed capabilities to similar depth or sophistication. Their equipment and processes have certainly become more complex, but the level of local content remains low. Intra-firm trade has boosted their export capacity dramatically, but their technological status has lagged behind.

The more technologically sophisticated an export-oriented activity – and the larger the potential learning benefits – the stronger is the case for developing autonomous capabilities. Not only is there more scope for learning within a firm, there is also more scope for beneficial spillovers to related firms and to the whole learning system. By the same reasoning, however, the costs and needs of domestic capability-building in complex activities are correspondingly high. It is for this reason that so few countries have developed the capabilities to compete independently in medium- and high-technology activities. In most circumstances, participating in TNC networks offers the best avenue to access foreign markets in these products. However, not all countries possess the minimum requirements demanded by TNCs.

* * *

The role of TNCs in export markets is large and growing. In fact, to support their competitive positions, successful national exporters themselves tend to go transnational, investing in developing as well as developed countries. Firms linked to TNCs tend to follow them overseas with supporting production facilities. With growing liberalization and globalization, such trends will intensify. This does not necessarily mean that the same set of TNCs from the same home countries will benefit and increase their dominance of world trade. The identity of competitive firms is constantly changing, and increasing numbers will hail from developing countries. Their market shares are, of course, difficult to predict. But a portfolio of locational assets will be increasingly important for their international competitiveness, and hence will lead to the further growth of developing country export-oriented FDI.

Box VIII.5. TNCs and the evolution of modern agri-business

Agri-business, or production and trade in unprocessed and processed agricultural food products, is highly concentrated, and growing more so over time. For example, UNCTAD estimates that five TNCs handled around half of world trade in green coffee in 1996; their share had risen from about 40 per cent in 1980. In coffee roasting and manufacturing, just four groups account for half of the market. In cocoa, the number of trading houses in London has fallen from over 30 in 1980 to around 10. The six largest chocolate manufacturers today account for half of world sales, the result of several mergers. A series of (continuing) M&As in the vegetable oil industry during the 1990s has led to a small number of vertically integrated TNCs dominating production, distribution and trade in both oilseeds and oils (Pugsley, 1998). TNC dominance in bananas and canned pineapples is well known. These companies have either integrated backwards into growing or have established strong contractual links with suppliers (contractual links are easier here than in coffee or cocoa). Large retail organizations may also purchase from smaller producers, but TNCs command a price premium because of their high quality standards and well-known brands.

There has been a sharp and persistent decline in international prices of unprocessed agricultural products. However, prices of processed products marketed by TNCs have not declined. On the contrary, the difference between the international price of the unprocessed and final products has increased considerably since early 1970, and at an accelerated rate in the 1980s. If the mark-up of consumer prices over world prices in 1975 was 1, in 1994 it reached 2.9 for coffee, 2.7 for wheat, 2.5 for sugar, 2.2 for rice, and 1.7 for beef. “In all major consumer markets, decreases in world commodity prices have been transmitted to domestic consumer prices much less than have increases... The increasing spreads have certainly cost several billion dollars every year to countries producing and exporting commodities by restraining the expansion of the final demand for these products” (Morisset, 1998, p. 503). Neither trade and tax policies, nor factors such as transport, processing and marketing costs or changes in quality standards fully explain the rising spreads. A significant part of the explanation lies in product differentiation in processed agricultural products. Product attributes are becoming increasingly psychological, raising marketing costs, concentration levels and barriers to entry for developing country producers. Brand names associated with TNCs provide a major advantage in reaching consumers, particularly of foodstuffs. Developing-country exporters find it almost impossible to differentiate their products and launch new brands to compete with established ones.

Another important change is the declining importance of traders, who earlier acted as a bridge between buyers and sellers who were largely ignorant of each other and of the prices set. Now, communications technology, including the Internet, allows buyers and sellers to find each other and communicate more easily. This increases competition, cutting profit margins for traders and eroding

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(Box VIII.5, concluded)

their main competitive advantage – information. “Price information is not only widely available, but can be obtained instantly, severely reducing the opportunities for arbitrage and narrowing profit margins” (Pugsley, 1998, p. 35). With deregulation in exporting countries, TNC trading houses and processors of commodities, such as chocolate makers, are increasingly buying the raw materials directly from shippers. Trade is increasingly undertaken by large consolidated TNCs; traders are being relegated to specialized tasks. Intensified competition favours those with access to cheaper finance and good logistics. Large size gives advantages on both counts. With deregulation and the disappearance of marketing boards, large companies with warehousing and shipping facilities in the producing countries are able to exploit their financial and logistical advantages, even buying the produce directly from the farmer. Improved logistics also allow large firms to buy increasingly on a ‘just-in-time’ basis, reducing the cost of holding stocks and raising their competitiveness relative to firms that do not have access to such financing.

While TNCs have been important in expanding trade of processed foods, large retailers have provided important channels for exporters of non-traditional commodities such as fresh fruit and vegetables. For example, links with United Kingdom supermarkets have provided African producers with access to a growing market, as well as incentives to improve quality and efficiency. However, this carries the risk of excessive reliance on these supermarkets and importers for marketing, product innovation and technical assistance. Such risks can take several forms. (i) The producer may only learn to carry out a narrow range of production and quality control activities. (ii) Having the value-added marketing activities in distant places limits the scope for acquiring new competencies. (iii) High dependence on one or two buyers increases the vulnerability of producers to new sources of supply. (iv) Concentration of innovative activities in the hands of retailers and importers leaves producers vulnerable to shifts in tastes of overseas consumers and marketing strategies of large buyers (Humphrey, *et al.*, pp.1-4). Thus, while participation in buyer-driven commodity chains provides significant opportunities for growth, the next issue for producers is to turn these into producer-driven chains.

Source: UNCTAD.

3. Building dynamic comparative advantages

Many developing host countries expect TNCs to be agents for the creation of dynamic comparative advantage, particularly in the export of manufactured products (Helleiner, 1973). Dynamism can take many different forms, depending on the nature of the host economy and the time-frame considered. In the short term, it can mean moving up to the next level of technological complexity: for a developing country with unprocessed primary exports and endowments of unskilled labour, dynamism means the launching of simple manufactured exports. For countries established in simple exports, it means the shift to higher value added products using relatively simple technologies. For those with a more diverse base of exports, it means entry into high technology products, and so on. In the long term, dynamism means not just the shift up the skill and technology scale in particular activities, but also *deepening the content* of export activity and *building the capacity* to sustain such a shift across a range of tradable activities in response to changing world demand and technologies. This means, in turn, that export activity needs to lead to greater local content in terms of labour, resources and intermediate products, more complex technological functions (design and development), and more intense linkages with the local technology system (chapter VII).

There are several reasons why countries may expect TNCs to dynamize their comparative advantage in all these cases. TNCs are considered well placed – relative to local firms – to provide the tangible and intangible assets needed to transform existing resources, skills and technical competence to world levels. They are believed to be better able to overcome the cost of marketing overseas, providing the information, marketing, brand name and other assets needed to generate exports. Over time, they can keep up more readily with changing technologies and shifting demand in different markets. At the same time, as noted in the analysis of technology, developing countries worry that TNCs transfer the technologies and skills that use their existing resources and capabilities, but do not do enough to upgrade or deepen them.

Both perceptions can be valid – the extent depends on the specific country context. TNCs *can* dynamize comparative advantage, but only where the host economy is able to mount the right policies and improve the base of capabilities that investors draw upon. Or, they also may not provide the dynamic benefits that comparable local firms do, for reasons noted earlier: the technological deepening of foreign affiliates, their local linkages and their spillover benefits may be less than those of comparable local firms. However, this is only so where comparable local firms exist in activities undertaken by foreign affiliates, or where a country is able to mount the policies needed to enable local firms to develop the necessary capabilities. Generalizations are difficult. What is possible is to review existing, often patchy, data on the contribution of TNCs to export activity and qualitative evidence on its upgrading in particular countries.

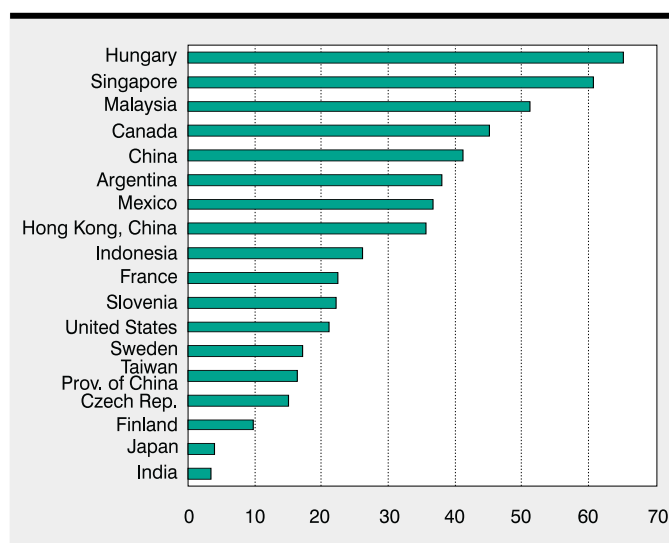
A useful indicator to start with is the share of foreign affiliates in merchandise exports. The evidence shows large differences in these shares across a number of countries, reflecting their locational advantages as export bases (figure VIII.2, annex table A.I.8 and annex table A.VIII.7). countries with a low level of FDI (such as Japan) or with low locational advantages have very low shares. Countries with a large FDI presence and strong locational advantages such as close proximity to, and integration with, a large market (Canada), or input cost advantages (Hungary, Singapore, Malaysia and China), have high shares.⁵ The shares of foreign affiliates in exports can also vary greatly by industry, as exemplified by a comparison of the Czech Republic and Hungary (figure VIII.3). Such variations in foreign affiliate shares in national exports are to be expected. They reflect differences in the amount and type of FDI a country receives and the relative export competence of domestic enterprises and foreign affiliates.

The fact that the ratio of foreign affiliate exports in total exports varies across countries does not say anything about the extent to which FDI may influence the export performance of countries. However, a statistical analysis of the relationship between FDI and 1995 manufactured exports in a cross-section of 52 countries suggests a significant positive relationship between FDI inflows and export performance as well as between FDI inflows and the technological sophistication of exports (box VIII.6). The relationship is stronger for developing than for developed countries, and in high- than in low-technology activities. The data thus suggest that there is a correlation between FDI and export dynamism in the developing world, at least in a cross-section sense.

The positive statistical relationship between FDI and export performance, as well as the relatively high share of foreign affiliates in the exports of some countries, may reflect partly a higher export propensity of foreign affiliates as compared with domestic firms. While there are industry-level differences, the evidence from a number of studies in both developed and developing countries suggests that foreign affiliates are more export-oriented than their domestic counterparts. For example, the mean difference in export propensities of foreign and domestic

Figure VIII.2. Shares of TNCs in primary and manufactured exports, latest available year^a

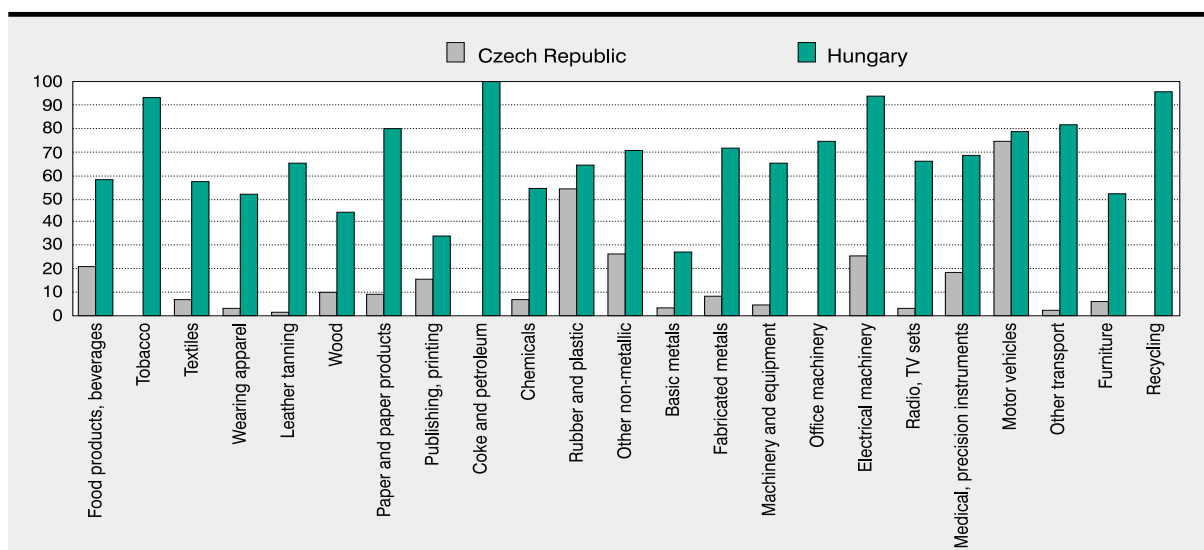
(Percentage)



Source: UNCTAD, based on table A.I.8; Ramstetter, 1998; Chudnovsky et al, 1997; VIIES, 1998.

^a 1991 for India; 1992 for France; 1993 for Mexico; 1994 for Canada, Finland, Malaysia and Sweden; 1995 for Argentina, Japan and Taiwan Province of China; 1996 for Czech Republic, Hungary, Indonesia, Singapore, Slovenia and the United States; 1997 for Hong Kong, China.

Figure VIII.3. The share of foreign affiliates in total manufacturing exports: Czech Republic and Hungary, 1995



Source: VIIES, 1998.

Box VIII.6. FDI and manufactured export performance: some statistical relations

The relationship between inward FDI and export performance was investigated by cross-section regression analysis for 52 developed and developing countries. The dependent variable was manufactured exports (total and grouped by technological categories), measured in dollar values and per capita to account for country size. The explanatory variables were inward FDI per capita, R&D (financed by productive enterprises as a percentage of GDP), and *per capita* manufacturing value added (this variable controls for the size of the industrial sector). All variables were expressed in natural logarithms, so the coefficients are elasticities. The data are for 1995.

All countries					
Variable	Total manufactured exports	High-technology exports	Medium- technology exports	Low-technology exports	Share of high-technology exports in total exports
Constant	9.30***	5.68*	10.02***	7.82***	-3.63***
FDI per capita	0.36**	0.55***	0.31*	0.28***	0.19**
R&D	0.16*	0.55***	0.22**	0.13	0.39***
MVA	0.64***	0.51	0.91***	0.56***	-0.14
Adjusted R ²	0.80	0.78	0.83	0.70	0.59
No. of observations	52	52	52	52	52
Developing countries					
Constant	8.31	3.55	8.44**	8.05***	-4.76***
FDI per capita	0.45**	0.78***	0.39	0.31**	0.33***
R&D	0.19**	0.61***	0.24**	0.16*	0.42***
MVA	0.55*	0.34	0.75**	0.58**	-0.21
Adjusted R ²	0.71	0.71	0.69	0.59	0.56
No. of observations	33	33	33	33	33
Developed countries					
Constant	14.47***	12.84***	14.08***	14.69**	-1.60
FDI per capita	0.29***	0.21**	0.28**	0.36**	-0.08
R&D	-0.30*	0.34	-0.06	-0.89**	0.645**
MVA	1.52**	1.43**	1.62***	1.94***	-0.10
Adjusted R ²	0.60	0.74	0.63	0.53	0.53
No. of observations	19	19	19	19	19

*** significant at the one per cent level.
 ** significant at the five per cent level.
 * significant at the 10 per cent level.

All variables are in log form. The standard errors are corrected for heteroskedasticity.

/...

(Box VIII.6, concluded)

There is a positive and significant correlation between FDI and manufactured export performance for the whole sample (though the level of significance is low for medium-technology exports). The impact of FDI rises with the technology intensity of exports. Thus, a one per cent rise in *per capita* FDI leads to a 0.55 per cent rise in high technology, a 0.31 per cent rise in medium technology, and a 0.28 per cent rise in low technology, exports. The R&D variable has a similar pattern of effects (its effect on low-technology exports is not statistically significant). Taking the technological composition of exports as the dependent variable, the strongest and most significant influence is R&D; however, FDI is also significant and positive. A one per cent rise in FDI *per capita* is associated with a 0.19 per cent rise in the share of high technology in manufactured exports. The MVA variable is positive and highly significant for medium- and low-technology exports, indicating that the level of industrial development is important in explaining competitiveness in these products.

The links between FDI and export performance change slightly when the sample is split into developed and developing countries. In the developing country sample, FDI is highly significant for high-technology exports, with an elasticity of 0.78; it is also significant (at the 10 per cent level) for low-technology exports but is insignificant for medium-technology exports. It is highly significant and positive for the share of high-technology exports. The R&D and MVA variables follow the same pattern as for the whole sample. The developed country sample (the size is small, only 19 countries) also shows a positive coefficient for FDI for all types of manufactured exports, but the coefficient is highest for low technology products. The share of high-technology exports shows no relationship with FDI, but is strongly related to R&D. The MVA variable is a strong influence on export competitiveness.

While these exercises do not establish a clear causal connection, they “explain” a large part of the variation in the dependent variables, and their patterns are plausible. They support the (more scattered and qualitative) evidence that suggests that TNCs play an important role in exporting from developing countries, and that this role is particularly large in high-technology products (in developing countries, where exports have been driven by the relocation of assembly processes by TNCs). The consistency of the results from these regressions suggests that FDI can be a real and positive factor in export performance.

Source: UNCTAD.

manufacturing plants is positive and statistically significant in such export-oriented economies as Hong Kong, China; Indonesia; Malaysia; Singapore; and Taiwan Province of China (Ramstetter, 1998). Similarly, in Mexico, foreign plants were found more likely to export than domestic plants in 1986 and 1989 (Aitken, Hanson and Harrison, 1997). However, the East Asian economies, and to some extent Mexico in the late 1980s, pursued strongly export-oriented policies that encouraged both domestic and foreign firms to enter export-oriented activities. In other countries, with high levels of protection and small markets, domestic firms were more outward oriented than foreign affiliates (Athukorala *et al.*, 1995).

Important questions arise relating to the export performance of TNCs in a more dynamic setting. How do they react as technology changes and wages and other costs rise in a developing host country, making it uneconomical as an export site? Do they dynamize comparative advantage by upgrading facilities and local capabilities or do they move their facilities to cheaper locations?

Both outcomes are possible. Which happens depends on the industry, the technology and host-country factors. From the perspective of TNCs, the main considerations are the rate at which costs are rising, the possibility of offsetting this by improved technology and the cost of implementing that technology, weighed against the costs of relocating. Relocation costs depend on the sunk costs. Operations for which sunk costs tend to be low and technical change incremental – simple activities with low costs of training and so on – tend to relocate rather than dynamize capabilities in their original location. This is often (but not always) the case with such activities as clothing and footwear. By contrast, industries with high sunk costs tend to “stick”, unless the technological change is so drastic that it either becomes economical (despite sunk costs) to relocate or it is not possible to use new technology at the old location. Apart from that, the capacity of affiliates to absorb new technologies plays a role, as do efforts by governments

to retain and upgrade investment. Shifting comparative advantage due to technological upgrading may explain the changing export propensities of United States foreign affiliates (annex table A.VIII.6). Over time, their export propensities have declined in some regions (e.g. Asia) and risen in others (e.g. Latin America). This may reflect that, in Asia, the rising cost of producing simpler export-oriented products in which most Asian countries had a comparative advantage at an earlier stage has not yet been offset by increased competitiveness in more technology-intensive products.

The upgrading of comparative advantage is not a discrete “either/or” decision. There are many possible levels of upgrading, depending on the ability of a host economy to provide the capabilities needed. For instance, TNCs can train employees, but only if the base of formal qualifications needed is present. They can develop the skills for advanced product design locally only if enough design engineers are available. They can import more advanced equipment, but only if local staff can be trained at reasonable cost to use it at world levels of efficiency. Importing skilled personnel can relax the skill constraint temporarily, but this is an expensive solution that can only be used for a small number of high level tasks. Therefore, building up a strong education base that facilitates skills upgrading is indispensable (see also chapters VII and IX).

Malaysia provides a good case of a TNC-assisted build-up of dynamic comparative advantage and also illustrates the limits to such a process. Export-oriented electronics TNCs originally set up simple labour-intensive assembly in that country to take advantage of cheap, disciplined, semi-skilled, English-speaking workers, good infrastructure and attractive incentives (Lall, forthcoming). The operations were isolated in export enclaves with practically no domestic supply or technology linkages. As wages rose, technologies changed and the Government put on pressure to increase local content and deepen technology levels, electronics TNCs responded by automating assembly processes, bringing them to levels employed in high wage countries (Hobday, 1996; Rasiah, 1995). They invested massively in raising worker skills – Intel’s facility is referred to as “Intel University” – and sent high-level staff overseas for extensive training. They induced their international suppliers to set up affiliates in Malaysia and helped local firms (still relatively few) to develop supply capabilities. The technological content of affiliates rose as they were assigned some process and product design work. At the same time, low technology foreign investors in garments (and large local garment manufacturers) started to wind down assembly operations in response to rising wages. Several shifted their most labour-intensive operations to neighbouring low-wage economies such as Viet Nam.

However, Malaysia suffers from a scarcity of high-level technical and engineering skills. Despite more engineering courses in universities and sending students overseas, the number of engineers and technicians (relative to the size and sophistication of the industrial sector) lags well behind that in such economies as Singapore, the Republic of Korea, Taiwan Province of China or the Philippines. The country allows the liberal use of expatriate engineers and technicians, but human capital shortages are a major – perhaps *the* major – constraint on further technological upgrading. This may well be the main reason why the level of technology in electronics TNCs in Malaysia continues to trail behind that in Singapore.

In upgrading their comparative advantage and restructuring their industries accordingly, many developing countries face a large legacy of uncompetitive plants, inefficient institutions and inadequate factor markets. Raising competitiveness means restructuring and upgrading existing activities as well as setting up new ones. As noted earlier, TNCs contribute to exports in the case of previously import-substituting regimes by taking some mature infant industries into export markets. This generally involves a lengthy and costly process of technological upgrading and restructuring. Many physical facilities were obsolete and inefficient, many suppliers small-scale and technologically backward and many skills inadequate or wrongly directed (Blömstrom, 1990). Coping with small and protected markets did create capabilities, but not necessarily of the type that would be useful in a liberal and global trading environment. A lot of fresh learning and re-learning had to take place before competitive capabilities were developed.

Another recent example of TNC-assisted restructuring is the Latin American automobile industry.⁶ It is based in Argentina, Brazil and Mexico. In the 1990s, each of these countries entered regional trade agreements (MERCOSUR and NAFTA) that induced the automotive TNCs dominating the industry to rationalize, integrate and upgrade their facilities. From production for national and regional markets in a setting of high import protection, local content rules, export obligations and price controls they had to move to production at much higher levels of technical and marketing efficiency to compete in international markets. Mexico's passage is particularly impressive:

Foreign direct investment in the order of \$10 billion, first in modern engine plants, and later in modern passenger vehicle plants, completely transformed the industry. It made it the most important industry in the Mexican economy, more so if one includes the explosion of in-bond assembly activities ("*maquiladora*") of auto parts. Mexican automotive exports to the United States rose 4.6 times during 1990-97, from \$4.5 billion to \$20.8 billion. Over 90 per cent went to the North American market. By 1996, Mexico accounted for 10.4 per cent of North American imports of passenger vehicles, 10.8 per cent of commercial vehicles, 12.6 per cent of engines and eight per cent of auto parts. The automobile industry accounted for over 21 percent of the value of Mexico's total exports to North America (Mortimore, 1998b, p. 105).

Ford of Mexico changed its entire production strategy. It did not modernize its old plant, which was used to serve the domestic market, but built new, sophisticated engine and vehicle assembly facilities for \$3 billion to serve the North American market. Local content of export models fell and imports of components and parts rose. The three United States TNCs (Ford, General Motors and Chrysler) took advantage of the *maquiladora* facilities to integrate parts production with their operations in the United States. Consequently, Mexican auto parts exports to the United States rose sharply. However, the restructuring also resulted in a contraction of the local supplier industry, which found it difficult to raise its technological levels to international standards (Mortimore, 1998b).

FDI can also act as catalyst for the restructuring of domestic firms, directly in those linked to TNCs, or indirectly by intensified competition between domestic firms and foreign affiliates.⁷ This is particularly the case in growing industries, e.g. software in India (box VIII.7). But countries cannot rely on TNCs alone to advance restructuring. In the textile and clothing industry, for example, where subcontracting arrangements with TNCs are predominant, the availability of a wide range of potential subcontractors in different host countries means that a subcontractor may be cut out of export markets at short notice. The limited relationships that exists between subcontractors and TNC buyers, and the absence of links with the ultimate clients, make it difficult for domestic firms to build dynamic comparative advantages and restructure their activities. However, firms that develop a sustained relationship with buyers can move up the value chain, even to the point where they can develop their own brand names (Van Heerden, 1999). In general, judging from the experience of Asian newly-industrializing economies, successful restructuring in the textile and clothing industry in developing countries require substantial effort by local firms, backed by government support, to improve their capabilities (including through outward FDI into low-cost locations), learn (including from TNCs) how to compete in international markets, and develop their own marketing channels (UNCTAD, 1995a, chapter V).

Restructuring by TNCs also implies that small or relatively inefficient import substituting affiliates may have to be wound down, or merged with larger, more viable firms, as affiliates are exposed to world competition. The economic determinants of these processes have been noted: the level of capabilities in existence, the distance from competitive frontiers and the efficacy of policies and institutions to support upgrading. The larger the distance, and the less adequate the policy measures to improve factors - or, to provide direct aid to restructuring firms or areas as done extensively in developed countries - the greater the likelihood of there being losers. Strategic factors include a TNC's view of a particular location in its global and regional operations, its assessment of country risk, the competitive pressures it faces and its technological strengths and weaknesses.

Box VIII.7. FDI and upgrading competitiveness in the Indian software industry

The Indian software export industry, based around Bangalore, Mumbai, Delhi and Madras, had a significant boost in the initial stages from an EPZ. In 1985, Citibank established a wholly-owned, export-oriented, offshore software company in the Santa Cruz Electronics Export Processing Zone in Mumbai. India's attractions were twofold: low-cost English-speaking skilled labour and a time difference between Europe and North America that allowed for almost 24-hour workdays.

The bulk of the FDI in this industry went into what is known in the software industry low-level data entry work. This refers to contracts in which the client gives software developers exact specifications, and leaves little to the discretion or creativity of the programmers. This form of export activity did not, however, promise much by way of skill upgrading. An integral part of the restructuring of the industry was the attraction of Texas Instruments (TI) in 1986, which established its first wholly owned export-oriented subsidiary. In addition to regulatory accommodation, the Government of India developed a Software Technology Parks of India Scheme (1988), where it provided infrastructure, buildings, electricity, telecommunications facilities and high-speed satellite links. In 1989, Hewlett-Packard (HP) set up a 100 per cent owned subsidiary in Bangalore. In 1990-1991 quantitative restrictions on imports of intermediate and capital goods for software exports were abolished.

The TI and HP investments helped the Indian software industry at a critical stage of its development. They demonstrated that India was a viable host for FDI in relatively advanced forms of software writing. Since then, many domestic firms have developed a reputation for reliable, high-quality work at relatively low cost, and have been able to move beyond simple data entry or on-site services. They have won higher value-added work where they are entrusted with a whole project instead of specific components. Others have been able to develop complete software packages, which are rebadged and sold overseas (similar to the OEM relationship in consumer electronics).

The export competitiveness of the Indian software industry is now well established. Exports in 1995 were \$485 million, and in 1998 reached \$1.75 billion. Until March 1999, exports climbed to \$2.65 billion. The five largest software companies in India today are domestically owned; two of these are quoted on NASDAQ. TNCs played an important initial role in mobilizing domestic capabilities. With government assistance and the removal of import restrictions, domestic companies were then able to supersede foreign affiliates in terms of export competitiveness.

Source: UNCTAD, based on Lateef, 1997; and Taylor, 1999.

The interaction of these factors causes continuous changes in the location of activities and sourcing of supplies by TNCs. For instance, in the automobile industry, TNCs are shifting their plants and suppliers across countries in line with changing locational advantages as well as corporate strategies. Corporate strategic differences aside, the response of TNCs is likely to be similar to that of other firms. However, for obvious reasons, it is likely to be more rapid and definitive.

D. Conclusions and policy implications

The trends are clear: there is an increasing liberalization of trade in a globalizing world economy. The impact of liberalization, globalization and technological change on trade so far has been highly skewed. Export success is concentrated among a few developing countries, and the level of concentration has risen over time and with the sophistication of the technology involved. Among the successful economies, a few, such as the Republic of Korea and Taiwan Province of China, have been able to establish autonomous competitive positions in complex products. Others have used TNCs to spearhead their export drive. TNCs have generally played a role in promoting export competitiveness, though their role has differed by country. Their potential contribution to strengthening the export competitiveness of developing countries within the existing patterns of comparative advantage - and to dynamize this advantage - remains to be exploited fully. Indeed, in many cases it has not even been broached. In the new policy and technological setting, their role in upgrading export competitiveness has considerable potential, if the domestic and international policy environments are supportive.

The discussion in this chapter has focussed on *export* competitiveness in manufactures, since these constitute the core of trade flows, and since, for the past three decades, they have provided the broadest scope for upgrading comparative advantage. This is not to belittle the importance of commodity exports - which remain the key export items for many developing countries - or the export potential of some dynamic commodities - where new technologies are transforming their use or creating new markets - or to ignore the export-generating possibilities in knowledge-intensive services that have become tradable as a result of technological innovation. Policies directed at boosting export competitiveness increasingly need to examine the best ways of exploiting export markets for traditional commodities as well as to anticipate emerging opportunities. For commodities, resource-rich economies might examine policy measures to bring more value-adding activities to the host country - for example by targeting FDI in trade or marketing. With respect to services, governments need to examine which parts of the (increasingly segmented) value chains they might be able to capture, as TNCs increasingly split them up and disperse them among different locations. They can, moreover, target FDI associated with tourism, health, or educational services, or use electronic commerce to attract new business.

There are several sets of policy issues related to the role of FDI in boosting export competitiveness in developing countries. Some of the main issues for different groups of developing countries are:

- For countries with strong national innovation systems and exports led by national enterprises, the main issues include the following. Can their enterprises and institutions continue to cope with the rapid pace of technical change and keep up with world technology frontiers? Can they move from imitation and absorption to genuine innovation? Can they keep ahead of emerging competition from cheaper countries and make inroads into markets held by the more advanced industrial countries? What role should inward FDI play in maintaining export competitiveness? How should national enterprises relate to TNCs, both as competitors and as potential collaborators?
- For countries that have entered areas of dynamic comparative advantage assisted by TNCs, the issues relate to sustainability and upgrading. Can they continue to attract TNCs that source high-technology products as their wages rise and cheaper competitors appear? How can they induce higher local content and technological depth in local affiliate operations? How can they ensure beneficial spillovers from TNCs to local firms? More generally, how can they strengthen their national innovation systems to ensure that they graduate to sustained growth in sophisticated manufacturing by both TNCs and local firms?
- For countries that have attracted FDI into low technology export activity but have failed to diversify their export base or to move into higher value products, the main issues concern broadening the competitive base. How much can they upgrade their exports into less vulnerable, more value-added products within the low technology groups? How can they diversify into more complex activities? How can they attract TNCs into a different set of activities and build more advanced domestic skills and capabilities?
- For countries that have built up sizeable industries behind protective walls but have not made the transition to dynamic export growth by either foreign or local enterprises, the issues relate to the incentive regime and industrial restructuring. What is the best way to liberalize in order to build upon the existing base of capabilities and make the FDI regime competitive? How can existing industries be reoriented and upgraded to become export competitive? How can foreign affiliates be induced to integrate their operations better into their parent companies' global operations? How can new export-oriented FDI be attracted, initially to a range of activities and over time to higher technology activities? What role can TNCs play in restructuring domestic firms? What can be done to re-gear the national technology system to international competitiveness?

- For countries with weak industries, marginalized in export growth and FDI, the issues relate to their ability to attract FDI and to stimulate industrial growth in general. How can they improve their investment climate and attract manufacturing FDI? What is the best way to create the basic skills and institutions needed to promote learning in simple industrial activities and diversify production from the primary sector? How can they attract investments, as a first step, into the low technology activities becoming uncompetitive in more advanced developing countries? What needs to be done to upgrade traditional SMEs to participate in manufactured export activity?

In view of the objective of enhancing export competitiveness, a common set of preconditions and issues runs through all of these groups. The preconditions encompass prudent macroeconomic management - especially of the exchange rate - and an institutional environment conducive to exporting.⁸ The common issues relate to liberalizing FDI and trade regimes; attracting export-oriented FDI and upgrading TNC activity; and strengthening domestic skills, capabilities and institutions. Each of these has a vital role to play in realizing the role of FDI in generating and upgrading exports. The precise nature of the policy problems differ, however, according to the level of national capabilities and development, the nature of the policy regime and the form of participation in TNC networks. It cannot be tackled in detail here, but some generalizations are possible.

The first set of policy measures relates to liberalization. The new institutions and rules of international trade and especially the nature of technological change suggest that globalization will continue. In this new context, the way to raise productivity and living standards lies in greater participation in international investment and trade - albeit with due preparation to ensure that liberalization does not lead to economic devastation or technological stagnation. The pace of liberalization has to be calibrated to ensure that domestic capabilities improve and the productive structure is upgraded. The rules of the game may provide sufficient flexibility to developing countries to manage this calibration, but taking advantage of them needs careful preparation and market-friendly strategies. In this situation, governments face several options to increase trade competitiveness.

Liberalization has been widespread. In the trade area, it has happened to a large extent in the framework of GATT/WTO; in the investment area, it has taken place largely unilaterally (see chapter IV).⁹ Given the interrelationships between FDI and trade (UNCTAD, 1996b), both trends encourage export-oriented FDI. This is also true in regional contexts where free trade agreements are increasingly free investment agreements as well. In fact, in some cases their very purpose is to make an area more attractive for intra- and inter-regional FDI, as in the case of the ASEAN Investment Area (chapter IV). Similarly, MERCOSUR has triggered FDI among member countries as well as from investors outside the region interested in exploiting economies of scale in intraregional trade or in using the region as an export platform.

This liberalization process has, however, not been uniform. A number of countries have opted to use protection, because full-fledged liberalization could create problems for the survival of domestic industries. In such policy situations, selective liberalization might be a way to reconcile efforts to attract export-oriented FDI with the need to protect particular economic activities or industries. Selective liberalization can take various forms, for example, EPZs - which limit trade and investment liberalization to a spatially-confined area; bonded-warehouse and duty drawback systems - which exempt export-oriented industries from domestic tariffs;¹⁰ and gradual tariff phase-outs over a period of time - which allow an economy to shield selectively certain products or industries considered strategic. Governments might also pursue a policy of "trade neutrality". The objective of this policy is to eliminate any anti-export bias (to the extent that it exists) whereby exporters may be buying inputs at prices above world prices, but can only sell their output at world prices. Trade neutrality might serve to attract export-oriented FDI.

The second policy issue is that of attracting FDI by targeting investment conducive to export competitiveness and upgrading. Again, a variety of measures are available. Where an investment promotion agency exists, it could gear at least part of its activities to this objective. Targeting as a policy instrument may be particularly effective if it has top-level government support and where it is incorporated into a cohesive overall policy framework. The more concrete elements of targeting range from systematically providing comprehensive information on industries with export-potential (e.g. databases on local firms and their capabilities, ideally made available through the Internet), to active research and investment promotion.

A special effort, for example, could be made to draw FDI into industries in which the host country has a revealed comparative advantage (RCA), i.e. where its exports of a product are growing faster than exports of that product worldwide (box VIII.8). If this can be combined with attracting TNCs that have a competitive edge in that product and in world trade, a virtuous cycle could be in the making. Targeting initiatives might also seek out TNCs from developing countries, for example SMEs, that are active in particular export niches or which serve as specialized supplier industries to global exporters. With the growth of FDI from developing countries, it can become an important reservoir of capital and other assets, and may facilitate access into new markets. This might require Governments to review their FDI regulatory framework to see whether it is not biased against non-traditional TNCs.¹¹

The third issue for policy consideration is that of domestic capacity. Strengthening domestic enterprises, as well as the skills, capabilities and institutions on which they rely is probably the single most important long-term element for a successful export-oriented policy. This is so regardless of the role FDI plays in export activity: reliance on TNCs does not eliminate the need to invest in domestic capabilities. The entry of TNCs can complement and catalyse domestic resources; it cannot substitute for them. To foster the creation of backward linkages and to increase the share of value added in the host economy, countries - developed and developing - have used local content requirements. Such requirements are subject to provisions of the Agreement on Trade-Related Investment Measures (TRIMs) (WTO, 1995). Developing countries have also used export performance requirements to encourage the export orientation of foreign affiliates.

Domestic capacity-building also calls for measures to support local export-oriented industries that can serve as a magnet for FDI; nurturing efficient supplier networks is a related measure. Governments can, for example, initiate training programmes for domestic companies to upgrade their product quality and productivity or they can enlist the assistance of the TNCs engaged in the export sector for this training. Indonesia and Malaysia, for example, have had successful programmes in which TNCs in the export sector have conducted training courses for

Box VIII.8. Targeting export-related FDI

A technique called “investor targeting strategy” has been developed by investment promotion agencies to conserve resources yet attract TNC investment in industries in which the host country has a revealed comparative advantage. The first step in developing such a strategy is to identify the industries in which the host country has a revealed comparative advantage. This is done by assessing the country’s trade performance by comparing its export statistics with global trade flows. The second step is to determine why the country has a revealed comparative advantage in these industries and not in others. This can be done, for example, by a location audit, which investigates the major cost factors that go into producing, marketing and shipping these products. Often a location audit can identify factors that, if modified, would allow the country to develop a comparative advantage in other industries. The third step is to determine which competitor countries are performing well in the same product segment, as well as which countries have a revealed comparative disadvantage in the same industries. The fourth step is to identify TNCs that are active investors in these countries. These TNCs can be contacted directly in a focused promotion campaign. Those that are in countries which are successful exporters of the product or product group concerned might be interested in expanding their locations. Those that are in countries displaying a comparative disadvantage might be interested in relocating to a new competitive host economy. Depending on the type of incentives system the Government has established, FDI in these industries might be encouraged by additional incentives.

Source: UNCTAD.

domestic companies in supplier industries (box IX.7). Targeted incentives might include incentives for creating specific skills required by a particular export industry which can yield large dividends in dynamizing the export structure. The skilful use of incentives, and investment in skills and supply capabilities, can also induce sequential investment into the upgrading of affiliates.

Strengthening export competitiveness and upgrading is not merely an issue of *domestic* policy for host developing countries. These countries cannot reach full export competitiveness as long as developed countries restrict access to their markets. Many developed countries have tariff regimes that are characterized by tariff escalation for processed goods locking out potential suppliers - and in the process deterring potential foreign investors in those industries. Similarly, restrictions on certain industries have hampered the development of competitive industries in developing countries that would have a comparative advantage, given their natural resource and labour endowments (e.g. the Multifibre Agreement). In other industries - such as tropical beverages and some categories of vegetables or fruit - tariff peaks make it difficult for developing countries to develop export markets (UNCTAD, 1997c and 1997e; Kaplan and Kaplinsky, 1999).

In a broader context, an efficient rule-based multilateral trading system is of critical importance to developing countries. WTO membership, and the capacity to follow up on implementation, are important since a number of policy instruments of that Organization have a direct bearing on the impact of FDI on export competitiveness and upgrading. These concern, in particular, domestic content, and trade-balancing requirements and restrictions on exports. They are contained in the Agreement on Trade-related Investment Measures (TRIMs) (WTO, 1995). It requires WTO members to notify the use of instruments contained in the TRIMs illustrative list, and to phase out their use by 1 January 1997 for developed countries, by 1 January 2000 for developing countries, and by 1 January 2002 for least developed countries. Developing countries can seek extension of these transitional periods, taking into account the individual development, financial and trade needs of the country concerned (WTO, 1995, p. 164). Indeed, given that some developing countries have found these measures useful, proposals have been made to extend the transitional period. Active and skilful participation by developing countries can help ensure that the review of the TRIMs Agreement accords with their development interests (box VIII.9).¹² As the multilateral trade environment is being developed further, the links between trade and FDI need to be assessed carefully by developing countries

Box VIII.9. TRIMs and developing countries: questions for consideration

The TRIMs Agreement was concluded in 1994 and came into force on 1 January 1995 (WTO, 1995). It applies only to trade in goods and is limited to a clarification of GATT Articles on national treatment on internal taxation and regulation and general elimination of quantitative restrictions. The operative component of the TRIMs Agreement is the prohibition of the application of any trade-related investment measure that is inconsistent with Article III or Article XI of GATT 1994. An Illustrative List annexed to the TRIMs Agreement contain examples of measures that are inconsistent with Article III.4 or Article XI.1 of GATT 1994. The most important restriction for developing countries is that on local content. Indeed, local-content requirements have been the most common notification to the WTO under the TRIMs agreement (UNCTAD, 1998a, p. 58).

The TRIMs Agreement is scheduled for review beginning 1 January 2000. The following issues are among those relevant for both development and export competitiveness (UNCTAD, 1999b):

- Could one carve out certain TRIMs on the basis of developmental considerations?
- What are the elements of a positive agenda for TRIMs, and if more TRIMs would be included, what might be the price?
- What are the interlinkages between TRIMs and incentives, especially from a development perspective?
- What are the relations between TRIMs and other investment-distorting trade measures, such as anti-dumping, subsidies and rules of origin?

The TRIMs Agreement is an example of how the international framework can reduce policy space at the national level. A similar situation is observed in some regional agreements (e.g. NAFTA) and some bilateral investment agreements (UNCTAD, 1998b).

Source: UNCTAD.

as they formulate their agenda. The ability to conduct complex investment discussions and negotiate international investment agreements is increasingly important for determining the role that FDI can play in boosting the export competitiveness of developing countries.

* * *

In conclusion, TNCs have the potential to contribute to export competitiveness in host countries. Their role is particularly large in the most dynamic segments of export activity and, within those, in activities where increasing amounts of trade are inside corporate networks. How well developing countries *use* this potential depends largely on their own strategies and efforts. Opening up passively to international investment and trade is useful, but it is only a partial answer. Its main benefit lies in realizing existing comparative advantages based on natural resources and initial capabilities. Where capabilities are weak and static, FDI may well lead only to a short-lived hump in export performance. To build a more sustainable and dynamic export base, countries have to use proactive policies such as those suggested above. They also need to improve their human capital and capabilities in order to attract higher quality investment. This allows them to attract more sophisticated activities and functions from foreign investors and to strengthen domestic enterprises as direct exporters and as suppliers to TNCs. Only the development of a local capability base will allow countries to plug into the dynamic segments of export activity. TNCs can, in turn, help in the further development of domestic capabilities (chapter VII), leading to a virtuous circle of rising incomes, higher-quality FDI and dynamic competitiveness in trade.

Notes

- 1 The data are from Lall, 1998. For a discussion of the classification used, see box VIII.1.
- 2 Estimated for a sample of developed and developing countries that accounted for 40 per cent of world exports in 1994. Based on home country data for foreign affiliates, they are estimated to account for somewhat more than one-third of world exports in 1998 (table I.2).
- 3 This estimate is based on exports from a sample of 12 developing countries between 1993-1996, using 1996 as the base year. These countries accounted for 13 per cent of world exports and 32 per cent of developing country exports.
- 4 A form of intra-firm trade which lends itself to transfer pricing, discussed in chapter VI.
- 5 In Singapore and Malaysia the shares of foreign affiliates in manufactured exports as a percentage of total manufacturing exports are higher, over 70 per cent each, according to Ramstetter, 1998. Also see UNCTAD, 1996b.
- 6 For an extensive discussion of this phenomenon in Asia, see UNCTAD, 1995a, ch.V.
- 7 In some cases, domestic firms can upgrade and diversify exports more than affiliates. They can reach out to new markets, whereas affiliates may continue to supply only other parts of a TNC system.
- 8 It includes the provision of trade-related physical and institutional infrastructure such as transport and telecommunications infrastructure; standardization bureaus; efficient procedures for implementing customs regulations; access to export finance and insurance; and other trade facilitation services.
- 9 Thus, virtually all WTO members have made some bound commitments on investment, including access and national treatment in their GATS schedules. In particular, the post-Uruguay Round negotiations on financial and basic telecommunications services resulted in major commitments with respect to investment in these industries.
- 10 A bonded-warehouse system allows export producers to import inputs duty free and place them in the bonded warehouse at their plant site. After production, finished products are again placed in the bonded warehouse prior to export. Under a system of duty and tax remission or drawback on inputs for export production, import duties and taxes on imported inputs are refunded (drawn back) when the final product is exported. Duty drawback provisions are subject to the Agreement on Subsidies and Countervailing Measures and need to be notified to the WTO, specifically stating form, amount involved, policy objective or purpose, duration and statistical data (WTO, 1995, p. 297; also see chapter IV for a related discussion).
- 11 For a discussion of these issues, see UNCTAD, 1998n.
- 12 For a discussion of TRIMs, see UNCTC and UNCTAD, 1991; UNCTAD, 1999h; UNCTAD, 1999r; and Moran, 1998.