CHAPTER IV

FOREIGN DIRECT INVESTMENT, MARKET STRUCTURE AND COMPETITION

Introduction

As countries liberalize their foreign-direct-investment (FDI) regimes, and firms increase international investment and production, it is important to consider how the locational and marketing strategies of transnational corporations (TNCs) interact with the competitive structure and behaviour of the markets in which they operate. In a liberalized environment, markets play a major role in determining how economic performance is influenced by FDI (see the introduction to Part Two).

In today's world of freer trade and FDI, the markets for many products -- and competition in them -- are increasingly regional or global. Trade liberalization expands opportunities for firms (or suppliers) to reach buyers located in an increasing number of countries, within a region or across regions. The liberalization of FDI regimes enables firms to locate production -- final or intermediate -- wherever it can be done most efficiently, with a view towards serving buyers not only in host or home countries but also in other countries from locations best suited for reaching them. Global convergence of tastes and demand, and technological improvements in transport and communications, strengthen these tendencies.

What links TNC production in one location and consumers in other locations within a global or regional market is international trade: through exports, firms compete in product markets other than those where production takes place. This has always been the case in natural resource-based industries. However, liberalization and globalization have reinforced the complementarity between FDI and trade by extending it to a wider array of industries, products and activities and a wider set of locations. As a consequence, many more firms today distribute their activities horizontally (at the same point) or vertically (at different points) on their value chains in sites in different countries.

Despite the emerging supranational geographic scope of many product markets, there are good reasons for considering separately the impact of TNC activities on the structure of markets and the strength and nature of competition within host economies. One important reason is that many products in the services sector -- which accounts for more than a half of the economic activity in all developed countries and is the single largest sector in most developing countries -- can only be delivered to buyers by suppliers who are physically present in the same location as the buyers. Although technological advances in information and telecommunications technologies have rendered several information-intensive services transportable across distances, many producer as well as consumer services require the coincidence of production and consumption. Secondly, in some industries, physical proximity to customers carries significant benefits, either because of high transport costs or the need to adapt the product to customers' tastes. Furthermore, in many countries -- especially developing countries -- markets for goods are still integrated only to a limited extent into regional and global markets, either due to continued protection against trade of certain domestic industries and markets, or because their small size and geographic location limits their involvement in international trade. In all these cases, national markets are segmented, to a greater or less extent, from one another, and FDI that enables the entry of foreign suppliers has the potential to influence market structure and industry performance.

Liberalizing FDI regimes is expected to contribute to the contestability of national markets for goods and services,[1] since it means that foreign firms are now more freely able to establish production operations, including those serving local markets. The entry of TNCs and the activities of their affiliates can influence the structure of host country markets for the products of the industries in which TNCs participate, and, given appropriate conditions -- including the presence of other firms and the openness of markets to competition by domestic and foreign firms -- strengthen competition. However, market structures in host countries might sometimes become more concentrated after TNC entry, providing greater scope for anticompetitive behaviour by firms, including TNCs. That is mainly because TNCs are often larger in size, and have greater resource and marketing strengths than national firms, especially in developing countries.

Section A of this chapter focuses on the nature of the interaction between inward FDI and the structure of, and competition in, host country markets (for goods and services), and the implications for industry performance and consumer welfare. The effects, at TNC entry, on the structure of an industry and on the market for the product of the industry in a host country depend mainly on the mode of entry. Once foreign affiliates are established in the market, their size and competitive strengths relative to those of local or other foreign competitors, their growth strategies, their behaviour with respect to competition and the responses of local firms and other foreign suppliers may further affect the structure of the host country market. Within the context of the post-FDI market structure, the behaviour of TNCs may be procompetitive, with potential benefits in terms of static and dynamic efficiency for the performance of the industries in which they operate and for consumer welfare. Under certain conditions, however, there may be scope for anticompetitive behaviour as well. Government policies and actions to attract FDI, which might grant protected markets to TNCs through special concessions in order to attract their investments, could further expand the scope for anticompetitive effects.

Trade liberalization enables firms to sell to buyers regardless of where they are located, and buyers to obtain products from sellers regardless of the latter's location. The result is that the markets for many (tradable) products transcend national boundaries. Investment liberalization allows firms to combine international production and trade in the most effective manner to access resources as well as markets. This has contributed to increased TNC activity and the proliferation of networks of production facilities both within TNCs and between TNCs and unrelated firms,

with potential implications for supply response in markets through FDI. Furthermore, the efficient combination of FDI and trade and the efficiencies generated by integrated international production that characterize TNCs in some industries often strengthen the competitiveness of the TNCs involved, increasing competition, influencing market structures and affecting the performance of industries. Section B of this chapter focuses on these issues, in particular the impact of integrated international production on competition in regional or global markets, and the implications for consumers and producers located in individual countries that participate in those markets.

A. Foreign direct investment, market structure and competition in host economies

1. Inward investment and the contestability of markets

The opening up of economies and markets to inward FDI and other forms of participation by TNCs can contribute directly towards increasing the contestability of host country markets. First, with the removal of restrictions and establishment of standards of treatment, these markets can now be entered by firms from other countries by establishing affiliates (as well as entering contractual arrangements) that produce goods and services for sale within the countries concerned. In the case of the markets for many services and some goods, producing locally may be the only way in which foreign firms could enter the markets. Furthermore, TNCs may be better able than purely domestic firms in a host country to overcome some of the cost-related barriers to entry that limit the number of firms in some industries (and the markets for their products).

Barriers to the entry of firms to a market arise from regulatory restrictions to the activities of domestic firms, trade and/or FDI, from non-formal impediments to the above due to organizational practices within a host country, and from barriers due to the particular geography of the country. They also arise from high set-up costs that must be incurred in order to produce (and sell) a product, and scale economies that limit the number of sellers who can enjoy positive profits; some of the costs may be sunk costs, or costs that cannot be recovered if the firm were to decide to leave the industry or market. The cost-related structural barriers to entry to an industry (and the market for its product) are typically related to one or more of the following factors: large capital costs for establishing an efficient scale of production; economies of scale (at the plant level) in production; economies of scale (at the firm level) in advertising, marketing and/or research and development (R&D) and organizational complexity which can also involve, in certain industries, high fixed costs and scale economies (Caves, 1996, pp. 83-84).

Foreign direct investment by TNCs is generally based on firm-specific assets that arises from several of these sources of structural barriers to entry. Firms investing abroad face costs that domestic firms in a host country do not face. Overcoming them requires some competitive advantage on the part of a firm, in the form of ownership-specific advantages or proprietary assets (UNCTC, 1992b; Dunning, 1993; Caves 1996). Such assets usually take the form of technological, organizational or marketing knowledge, goodwill and/or brand names; these are typically associated with the entry barriers mentioned above -- especially R&D, advertising and marketing expenditures. Transnational corporations are therefore often better able than host country firms that are not transnational enterprises to enter some host country markets in industries with such high cost-related entry barriers.[2] They establish affiliates abroad when they find transferring proprietary assets internally advantageous -- that is, when they find such investment more profitable than exporting final products or providing the services of the proprietary assets they possess through contractual arrangements -- and enter into contractual arrangements for production when they find such arrangements more convenient or profitable than either exporting or setting up their own

production operations.

In recent years, FDI by small and medium-sized enterprises, including firms based in developing countries, has assumed increasing importance (UNCTAD, 1993b). The competitive advantages of these enterprises are not conducive to overcoming most of the cost-related entry barriers mentioned above. Most importantly, small and medium-sized TNCs have limited financial capabilities and are therefore at a disadvantage in overcoming barriers due to scale economies. However, they have intangible assets, developed through research and development, in the form of proprietary technology, the ability to adapt or down-scale mature technologies, flexibility of management, experience and knowledge of marketing, and market access (UNCTAD, 1993b, p. 89). Although these advantages seem capable of being developed by any firm, they can give small and medium-sized TNCs an edge over small and medium-sized enterprises that serve only their own local markets. Small and medium-sized TNCs typically exploit their advantages in niche production for markets that do not attract FDI by larger TNCs, adding to the contestability of these markets when regulatory barriers are removed.

Firms' possession of ownership-specific advantages that can be profitably exploited through FDI does not, of course, mean that the liberalization of FDI policies will necessarily result in the establishment of foreign affiliates in every liberalizing country. That depends on whether a country has some locational advantages, such as relatively large and growing markets, or low-cost resources, which TNCs could exploit. Moreover, whether TNC entry into an industry translates into TNC entry into a *market* in the host country depends on the kind of FDI a country attracts: if FDI is market-seeking -- that is, produces goods or services for sale in the market in a host country -- the entry of TNCs into a well-defined industry is tantamount to entry into the host country market for the product in question. If the investment is made mainly for serving markets elsewhere -- by obtaining natural resources, or low-cost labour, or for augmenting the created assets that a TNC possesses -- that might not necessarily be the case, although there may be indirect effects through effects on factor markets. However, even in these instances, the entry of a TNC into an industry generally means entry to the host country market: few foreign affiliates have export-sales ratios of 100 per cent.

The markets in which opening up to FDI is most likely to enhance contestability and inject competition are those for services. Many services cannot be traded across distances, and FDI is the only modality through which foreign providers can enter host country markets for these services. It is therefore in the service industries that FDI makes (or might make) a considerable difference as regards potential and actual competition. In manufacturing, FDI liberalization is likely to affect entry to different host country industries (and the corresponding markets) differently, depending upon the advantages of proximity to the consumer as compared with those of economies of scale at the plant level.[3]

2. Transnational corporations and host country market concentration

The entry and subsequent activities of TNCs interact with the structure of markets for goods and services in developed and developing host countries in several different ways. Traditionally, the aspect of market structure that has attracted most attention has been that of market concentration.[4] This remains a useful starting point for an analysis of the impact of FDI on host country markets: although high concentration need not be equated with a lack of competition, it facilitates the exercise of market power and anticompetitive behaviour, which is a major focus of interest for competition-policy authorities. However, any observed association between concentration and TNC activity needs to be carefully considered before concluding that there is a

causal relationship. Above all, concentration must be viewed in the light of other elements of market structure, especially the degree of contestability of a market and the extent of product differentiation, and in the light of dynamic changes, such as innovation, that affect the performance of an industry.

(a) The positive correlation between transnational corporation activity and industry/market concentration

Conceptually as well as empirically, there are good reasons for expecting that the extent of TNC activity is typically more pronounced in industries that are more highly concentrated. As discussed, TNCs possess special advantages that are typically generated in industries with relatively high cost -related barriers to entry and that are conducive to their entering such industries in host countries. Moreover, there is widespread acceptance that FDI originates in home country oligopolies (Frischtak and Newfarmer, 1994, p. 6). The positive correlation between the degree of transnationalization of firms and the degree of concentration in industries can be illustrated with respect to intra-European-Union FDI and industrial concentration within the European Union, where, overall, the tendency of firms to engage in and disperse their production activity across borders was greater, the more concentrated the industry (Davies, Lyons, *et al.*,1996).[5] However, data for the European Union also show that not all concentrated industries are characterized by high degrees of firm transnationalization (table IV.1); in particular, TNC activity was relatively low in industries in which production scale economies were high but in which there were relatively large intra-European Union trade flows. Moreover, high degrees of TNC activity were not necessarily associated with high concentration in industries; this lack of association was typically the case in industries characterized by moderate production economies and low intra-European Union trade that were also subject to significant product differentiation (but not R&D). Nevertheless, the general tendency over the full population of manufacturing industries was that differentiated product industries exposed to trade competition were not only the most concentrated as a group but also recorded the highest TNC participation (table IV.2). Industries with smaller production-scale economies and homogeneous products were the least concentrated and also had the lowest TNC participation.

As regards host countries, numerous studies for individual developing countries as well as developed economies indicate a positive correlation between TNC activity and the concentration of producers in host country industries.[6] A positive correlation between TNC activity and market concentration in host countries has also been observed, to some extent, with respect to small and medium-sized TNCs.[7] Although some of this evidence relates to industry rather than market concentration, it could be (and generally seems to have been) interpreted to indicate a correlation between TNC activity and *seller* concentration in host country *markets*. Strictly speaking, such an interpretation would be correct only if host-country based producers of a good or service are the only competitors in the relevant market, defined to include the market for reasonably substitutable goods and services. This generally would be the case for non-tradables, e.g., many services. In the case of traded goods and services, however, industry concentration would not necessarily reflect market or seller concentration, unless, due to protection or other factors, there is no trade. Moreover, due to limited data availability, production concentration ratios often apply to industries as a whole, not to individual product markets. For example, although concentration in "pharmaceuticals" is typically relatively moderate, concentration in some markets for individual types drugs is high.[8]

Nevertheless, the positive correlation mentioned above, if carefully interpreted and supplemented by other information, can be used as a starting point for examining aspects of the relationship between inward FDI and market concentration. However, two factors make it difficult to generalize as regards the nature of any causal relationship between TNC activity and market

Table IV.1. The most transnationalized and concentrated industries[a] within the European Union, 1987

(Index)

Industry	Transnationalization index[b]	Concentration index[c] (C5)	Industry type[d]
(a) Highly concentrated with high TNC involvement			
Computers	3.52	71	D(R),T
Soaps and detergents	3.13	35	D(AR)
Radio and TV	2.98	37	D(AR),T
Transmission equipment	2.80	33	D(R)T
Glass	2.74	38	T
Rubber	2.49	49	D(R),T
Electric lamps etc.	2.19	65	D(R),S,T
Confectionery	2.12	44	D(A)
Optical instruments	2.00	73	D(AR),T
(b) High TNC involvement, but less concentrated			
Oils and fats	2.61	23	D(A)
Dairy products	2.12	14	D(A)
Concrete	2.06	12	
Other foods	1.98	17	D(A)
Fruits and vegetables	1.89	14	D(A),T
Soft drinks	1.81	29	D(A)
(c) Highly concentrated, but lower TNC involvement			
Domestic electrical appliances	1.69	46	D(AR),S,T
Abrasives	1.61	36	S,T
Sugar	1.33	32	
Motor vehicles	1.28	63	D(AR),S,T
Domestic and office chemicals	1.24	63	D(R),S,T
Cycles and motorcycles	1.22	39	D(R),S,T
Paint	1.15	36	D(AR)
Man-made fibres	1.13	63	D(R),S,T
Iron and steel	1.12	40	S,T
Tobacco	1.07	56	D(A),S
Steel tubes	1.04	41	S,T
Aerospace	1.03	57	D(R),S,T
Steel cold forming	1.03	34	T
Railway stock	1.00	40	D(R),S

Source: based on Davies, Lyons *et al*., 1996, table 7.2.

[a] These include the 29 industries that are either highly concentrated and/or with high TNC involvement, drawn from a total of 100 industries, covering, in principle, all manufacturing industries.

[b] Transnationalization is measured by the intra-European Union NM index which is the "number equivalent" of the Hirfindahl-index-based M index (explained below). It varies between 1 and an upper limit which cannot exceed the "number equivalent" of the European Union member States -- in practical terms, about 4.5. It reflects the extent to which the leading five firms in the industry spread their production activities across the European Union member States. It is measured, for a given industry (j) as NMj = 1/1-Mj, where Mj = $\sum_{i=1}^{5}$ MijVij where Mij is the M index for firm i in that industry and Vij is a weight showing the relative size of firm i in terms of its share in total sales of the largest five firms in the industry. The M index measures the extent to which a firm spreads its production activities along European Union member States. It is measured as M = 1 - $\sum_{k=1}^{11} X_k^2/X^2$ where X_k = the firm's output in country K, X=the firms output in the European Union and 11 is the total number of European Union countries.

[c] The concentration index (C5) shows the share of total production in the European Union accounted for by the five largest firms.

[d] Key to the industry characteristics: D = differentiated (A, R, and AR reflect differentiation via advertising, R&D, and both advertising and R&D, respectively); S = significant production scale economies relative to the size of the market; T = typically large trade flows.

Table IV.2. Contestability,[a] concentration and TNCs in manufacturing in the European Union and the United Kingdom

Industry	European Union (1987)		United Kingdom (1992)	
	Typical national concentration[b]	Transnationalization index[c]	Typical national concentration[d]	Share of TNCs in sales[e]
Large production scale economies, differentiated products				
(i) High trade exposure				
Producer chemicals	45	1.6	44	35
Computers	66	3.6	51	76
Electrical (excluding * below)	42	2.3	39	38
Motor vehicles	81	1.3	66	61
Tractors	54	1.7	71	64
Rubber products	46	2.6	46	46
(ii) Law trade exposure				
Consumer chemicals	33	2.4	47	39
Aerospace	70	1.0	85	5
Ships and rail stock	54	1.0	64	..
Processed food, drink, tobacco	46	1.9	62	27
Insulated cables, telecommunications equipment etc. * (see above)	47	1.9	37	29
Large production scale economies, homogeneous products				
(i) High trade exposure				
Iron and steel	61	1.1	80	6
Non-ferrous metals	40	1.9	43	47
(ii) Low trade exposure				
Cement	51	1.1	78	3
Glass	40	2.9	50	22
Smaller production scale economies, differentiated products				
(i) High trade exposure				
Mechanical engineering	24	1.2	21	25
Instrument engineering	33	1.8	29	32
Smaller production scale economies, homogeneous products				
(i) High trade exposure				
Textiles	24	1.2	28	8
(ii) Low trade exposure				
Basic food industries	34	1.4	34	8
Other building materials	28	1.4	40	10
Metal goods	18	1.3	16	20
Clothing and leather	14	1.1	27	6
Timber and furniture	16	1.0	18	5
Paper, printing and publishing	25	1.5	16	21
Other manufacturing	18	1.1	12	18

Source: based on Davies, Lyons *et al*., 1996, table 7.2, and data from United Kingdom, Central Statistical Office, 1995.

[a] The industries are grouped into the four groups indicated, using data on typical minimum efficient production scale, advertising and R&D expenditures, and trade flows deflated by total industry sales. The groups are listed in inverse order relative to their contestability based on the above-mentioned characteristics. The industry figures refer to averages for individual 3 digit industries within them and cover, in all, 100 three digit industries that cover, in principle, all manufacturing. Most are self-explanatory; but consumer chemicals refers to paint, pharmaceuticals, toilet preparations, soaps and detergents; basic food refers to grain, milling, animal feeds, meat products and fish products.

[b] Mean four-firm national (production) concentration ratio of the United States, Japan, the United Kingdom, Germany, Italy and Belgium.

[c] Transnationalization is measured by the *NM index* (see notes to table IV.1).

[d] Mean four-firm national (production) concentration ratio for the United Kingdom.

[e] The proportion of total sales of United Kingdom-produced output accounted for by foreign affiliates.

concentration; they also suggest that, while a correlation can draw attention to situations in which one or the other is more likely, the actual relationship must be examined on a case-by-case basis:

- First, FDI is generally associated with some form of firm-specific or proprietary asset that enables a TNC to overcome the disadvantage of operating in a foreign environment. Such assets -- including technology, organizational or managerial practices and knowledge, brand names or marketing networks -- are usually associated with product differentiation and large expenditures on advertising and marketing and on R&D and innovation.

- Second, product differentiation, high R&D expenditures and high advertising costs are closely related to the degree of concentration in an industry (Curry and George, 1983; Davies and Lyons, 1989). As the size of a market increases, leading firms (in markets with differentiated products) find it profitable to expand their expenditures on "endogenous sunk costs" (R&D and advertising), as they strive for continuous quality enhancement (actual or perceived). The upshot is that concentration remains high, as compared to other markets in which the product is more homogeneous and competition is conducted more simply via price.

Since FDI and industry concentration share common causes, the positive correlation between TNC activity and market concentration in host countries could imply not only that TNC activity leads to higher concentration or that higher concentration stimulates TNC entry; it could also imply that both are related to a third factor: the tendency of firm-specific assets and product differentiation and/or R&D to go hand in hand. Differentiated product industries and R&D intensive industries (and markets) tend to be concentrated and to be populated by TNCs. The importance of each of the above in explaining the observed correlation can be expected to vary in different cases, suggesting that it is important to look at the changes that occur in a market due to the entry of FDI and the activities of foreign affiliates in order to understand whether and to what extent FDI affects market concentration.

(b) The impact of foreign direct investment on host-country market concentration

Moving from the observed correlation to the possible effects of the entry of FDI and the operations of TNCs on the number of firms and the concentration of sellers in the market for a product, such effects may occur, initially, because the very entry of a TNC into a host country industry could affect the number of sellers and their relative shares in the market for its product(s). Subsequently, over the medium and long term, TNC participation and conduct may contribute to increasing or decreasing concentration, depending upon the sizes of the market; its openness to entry by domestic firms, TNCs and imports; the relative size and competitive strengths of foreign affiliates and domestic firms and their respective strategies and behaviour with respect to growth and competition; and the role played by imports.

i. At-entry effects on concentration

Greenfield investment -- investment in new production facilities -- will necessarily add to the number of firms engaged in the production of a good or service and, if the production is for sale in the host country market, to the number of sellers in the market for the good or service. An exception would be when sales through the establishment of a foreign affiliate simply replace (fully) sales through exports by the parent firm or another affiliate of the TNC to the market in question.

On the other hand, FDI through a merger or acquisition invariably leaves the number of producers and sellers of a product unchanged.

This suggests that the initial direct effect of greenfield FDI is normally to reduce -- or, at least, leave unchanged -- the concentration of producers in an industry and, hence, of sellers of the product. An exception is if an entrant's scale of production and sales is significantly larger than that of incumbent firms in the local market (and of imports, in the case of tradables); then, it would immediately secure a large share of the market, increasing concentration; in addition, if a single TNC undertakes greenfield investment for producing a good or service that is new and unavailable through trade, the foreign affiliate will, initially, be a monopoly. In comparison, FDI-entry through a merger or acquisition (M&A) would increase the concentration of producers / sellers in a market if the merger or take-over results in increased sales for the newly created foreign affiliates; or leave it unchanged, if its size is the same as that of the incumbent firm acquired. (It is unlikely that the scale of operations of the new firm would be reduced at the time of entry to such an extent that the degree of concentration decreases.)

About half of FDI inflows worldwide during 1989-1996 (annex tables B.7 and B.8) is estimated to have taken place through M&As, with 90 per cent of cross-border deals being made in developed countries.[9] Until 1992, entry of TNCs into the developing world through M&As was almost entirely confined to transactions in Latin America and the Caribbean (UNCTAD, 1996a, p. 11). Since 1992, the practice has extended to Asia and Central and Eastern Europe. Privatization during the 1990s has contributed to increasing entry through M&As in developing countries and economies in transition.

The choice of the route of entry is related to firm-, industry- and country-specific factors. Entry obviously has to be via new plants when the investment is in an industry in which no local producers are present. Furthermore, initial foreign entrants in a host economy or industry, especially those with strong competitive advantages, as well as small and medium-sized TNCs, tend to prefer greenfield entry (Dunning, 1993, p. 432; UNCTAD, 1993b, p. 82). This is particularly likely when the industry entered is the same as that in which a TNC is based at home. By contrast, TNCs that follow other firms -- often with a view towards protecting their international market positions -- may prefer an acquisition or merger that allows a speedier build-up of production capability in host countries (Dubin, 1975; Knickerbocker, 1973). Speedier entry to particular markets through M&As may also be preferred in order to pre-empt competitors from entering it, or to avoid the unfavourable consequences of not being active in it. In some industries, the transaction costs associated with M&As, especially those related to retraining the work force or infusing a new business outlook and culture, may be perceived to be greater than the set up costs of a greenfield venture (Dunning, 1993, p. 432). A merger or take-over may also be preferred if the investing company has only some of the competitive advantages necessary for success and needs to augment its resources; this is likely to be particularly important in industries in which firms produce for a market wider than the host country market. Entry by acquisition has also been observed to be more common in industries that are already concentrated (Caves and Mehra, 1986; Baldwin and Caves, 1991). In fact, at the extreme, in an industry that is a "natural" monopoly due to increasing returns to scale, the only way for a TNC to enter a host economy may be by the acquisition of an incumbent monopoly, whether private or state-owned. Country-specific factors, including the size of the market (which determine whether a new firm can profitably enter) and the institutional mechanisms, especially the structure of capital markets for implementing M&As, also influence the mode of entry. For example, some countries, such as Japan and many developing countries, are reluctant to allow foreign acquisitions, while others such as the United Kingdom or the United States have a more facilitating environment for M&As.

The high incidence of M&As as a mode of entry by TNCs into developed countries suggests that the direct and immediate impact of FDI in reducing concentration in developed host country markets may be limited. However, the specific implications will depend on the counterfactual, i.e., what would have happened to the market structure in the absence of FDI. For example, a cross-border merger involving an ailing firm in a host economy may be quite different from one with a thriving enterprise. If a merger or acquisition is undertaken with a view towards increasing efficiency and reducing production costs, it may well allow the survival of an incumbent firm and its operations in the host country, thereby preventing a reduction in the number of firms and increased concentration in the market. A merger or acquisition may also lead to a down-scaling of the size of operations of the acquired firm (or even its closing down), again raising the possibility of increased concentration. Much depends on the rationale for any merger or acquisition (Dunning, 1993, p. 432).

In contrast, the traditional tendency of TNCs to enter developing countries primarily through greenfield FDI suggests that, in these economies, the direct and immediate effect of FDI would often be to increase the number of sellers and decrease concentration in the relevant markets. The extent to which this follows depends, however, on the product, the degree to which the market for it is already developed, and whether or not there is competition through trade. To the extent that there are well-established incumbent firms / sellers of the products in which greenfield investments take place, reduced concentration is quite likely. However, if FDI takes place in the market for a new product or a market in which demand far exceeds the supply capacities of incumbent firms / sellers, much depends upon how many TNCs enter a market. The entry of a single TNC could result in its acquiring immediately a large share of the market, raising concentration or creating a monopoly. This is sometimes the case in developing countries, especially in capital-intensive industries, in new products or in segments of markets not served by incumbent competitors. On the other hand, the entry of a number of TNCs will reduce this possibility; for example, in some countries of Central and Eastern Europe, the entry of FDI, especially in small and medium-sized enterprises, has helped to de-monopolize and broaden the structures of markets previously dominated by large state-owned enterprises (chapter II).

ii. Post-entry effects on market concentration

Whatever its mode of entry, inward FDI can make a difference for market concentration in the relevant host-country market, especially in industries with high barriers to entry. In particular, TNC participation could reduce concentration in such industries and in the corresponding markets for their products if the good or service produced by the foreign affiliate is sold in the local market. This effect is likely to be especially important if the product is a good or service that must be produced close to the customer (box IV.1).

However, the actual impact and implications of TNC participation on product market concentration in any particular situation depend upon a number of factors:

- The number and size of TNC operations relative to indigenous and other competitors in host country markets. The average size of foreign affiliates of TNCs often tends to be larger than that of indigenous competitors, according to empirical studies relating to developed as well as developing host countries.[10] The tendency of TNCs to undertake sequential investments to expand their foreign affiliate capacities can widen this gap, if local firms' investments do not rise proportionately. The growth strategies of TNCs (after entry), which often include acquisition of local competitors, could also work in the same direction (Frischtak and Newfarmer, 1994, p. 15). There is some evidence that TNCs,

Box IV.1. TNCs, entry barriers and market concentration: three examples from the United Kingdom

Transnational corporations are often able to enter host country markets that are effectively barred to entry by domestic (non-TNC) firms, but the effects on concentration can differ. This is illustrated by three specific examples from recent years, for the United Kingdom.

The first example is the entry of Mars (United States) into the United Kingdom ice-cream market. The market for ice cream is dominated in many European countries by large TNCs, especially Unilever and Nestlé. In the United Kingdom, Unilever had a market share of over 60 per cent. Success on a national scale in this industry necessitates a strong brand image supported by heavy advertising (United Kingdom, MMC, 1994). Given the fragmented nature of much of the retail market, it also requires a firm to have well-developed expertise and facilities in distribution. For many years, the United Kingdom industry had not witnessed significant entry, and this was presumably because of the large sunk costs which would be needed to support that entry. However, in 1989, there was a significant entrant -- Mars, the United States chocolate-bar manufacturer, a firm that had already incurred most of the relevant sunk costs in the adjacent chocolate-bar industry in both the United Kingdom and elsewhere. Importantly, the specific asset (a strong brand image and loyalty) was transferable, and Mars made significant inroads into the market, achieving a market share of 14 per cent within four years. Concentration clearly declined, both in terms of producers and sellers. In addition, Mars expanded the ice-cream market considerably through the addition of new and upscale products, acting as a catalyst for renewed focus on its worldwide activities in ice cream on the part of Unilever.

A second example, from the chocolate confectionary market, was the acquisition in 1989 of one of the two largest United Kingdom manufacturers, Rowntree, by Nestlé (Switzerland). Most informed opinion at the time interpreted the motive for acquisition as the purchase of the brand loyalty associated with two of Rowntree's strongest brands, Kit-Kat and Polo Mints. These complemented Nestlé's product range, placing it in a very strong market position in all segments of product space in the United Kingdom and beyond. In this case, Nestlé was already selling in the United Kingdom market prior to the acquisition, and its entry effectively reduced the number of large competitors from four to three.

A third case is the entry, in the mid-1980s, of the Japanese car manufacturer Nissan through a large-scale greenfield investment, sinking considerable costs, in the United Kingdom market. Nissan previously exported to the United Kingdom. But a combination of voluntary export restraints and a welcoming attitude on the part of the Government of the United Kingdom induced it to invest in the country. Within a matter of a few years, it became a very prominent United Kingdom producer, with a significant, and increasing share of United Kingdom production and sales. In this case, the concentration of producers declined initially, while seller concentration remained the same. In the long-run, Nissan's share in the United Kingdom market rose further, facilitated by the avoidance of tariff and transport costs associated with exporting and a strengthening of its competitive position.

The full impact in the longer-term of these new entries cannot, however, be understood without an appreciation of the changes under way in competition and concentration at the global level. This is especially the case with the automobile market, in which the United Kingdom market (like that of most developed and many developing countries) is substantially integrated into the world market and in which firms are increasingly competing through innovation and relying on knowledge-based inter-firm networks for that purpose (Mytelka, forthcoming).

Source: based on Sutton (1991), appendix 12.1; United Kingdom, MMC (1994); Clarke, Davies and Duffield (forthcoming).

because of their access to relatively large pools of resources, dominate M&As in host countries, and that this sometimes leads to increased concentration, although oligopolistic reaction prevented that from happening in some markets (Frischtak and Newfarmer, 1994, p. 15). There are notable exceptions, however: for example, if FDI takes place simply as part of a strategy to follow other firms and maintain a market presence, or to establish foreign affiliates that are truncated or miniature versions of parent companies, they could be smaller than their local counterparts. This was found to be the case in developed countries with small domestic markets and in some developing countries (Safarian, 1969, Jenkins, 1984). Moreover, the presence of other foreign affiliates, outward-investor TNCs based in the host economy, and multiproduct domestic firms which are also of large size, as well as of trade, can make a difference to the relative importance of a new foreign affiliate and its share in the market. In addition, in the case of small and medium-sized TNCs and TNCs from developing countries, the disparity between the size of foreign affiliates and host country indigenous firms may be smaller than that related to affiliates of developed country TNCs, although available data show that small and medium-sized TNCs are larger, in terms of worldwide sales, capital and employment than small and medium-sized firms on the average (UNCTAD, 1993b).

- The reaction of host country firms to TNC entry and operations. In existing product markets, host country firms -- especially if previously protected from competition from trade, FDI or even other domestic enterprises -- may pursue defensive strategies such as combining their operations or entering into joint ventures with TNCs in order to strengthen their competitiveness (box IV.2). Or they may exit the industry, being unused to the kinds of competition (e.g., based on high advertising or R&D) introduced by TNCs or unable to compete. This may result, at least in the initial stages of TNC participation in a country, in increasing rather than decreasing concentration. In cases in which a TNC introduces a new product into an economy, the host country market can be expected, initially, to be a monopoly; its longer-term structure depends upon whether more suppliers enter through FDI and trade, and whether domestic firms have the technological and other capabilities to enter the newly created market or can learn and compete. In developing countries, such entry to new product markets by indigenous firms is often through joint ventures and non-equity arrangements with TNCs.

- The competitive performance of TNCs relative to that of domestic firms, and its effects on indigenous firms in terms of their longer-term survival and strengthening of their capabilities. There is considerable evidence to suggest that, because of their various competitive strengths, stemming from the fact that they are part of TNC systems, foreign affiliates are often more efficient and productive than their local counterparts in the industries in which they operate (see below and UNCTAD, 1995a). This could have varying effects on concentration and the market power that foreign firms may acquire in a host country market: positive spillovers through competition (see below) could improve the performance of local firms, enabling them to survive and maintain their shares of the market, leaving concentration unaffected or decreasing it. On the other hand, if the gap in capabilities is large and / or the economy relatively small, some indigenous firms might be forced to close, with the possibility of increasing concentration and the role of foreign firms, especially in the absence of trade. However, in certain industries and in host countries characterized by relatively small product markets, TNCs focus on market segments that involve limited domestic participation, so that, regardless of their size, they do not crowd out domestic

Box IV.2. Defensive reactions and responses to the entry of FDI: illustrations from the retailing industry in Asia

As part of their liberalization of FDI policies, many developing countries are opening up a number of service industries to FDI. Since FDI is the only modality whereby foreign firms can deliver services to a market, this is likely to enhance competition in the provision of the services concerned. The recent experience of the retailing industry in two Asian economies provides an illustration.

In January 1996, the Republic of Korea lifted almost all legal restrictions on foreign access to its retail-trade industry. A number of TNCs have already entered into the Korean market and others are preparing to do so. Foreign investors are entering almost all of the country's distribution areas, except for those related to grains and gasoline.

The leader of the wave of foreign investment in the industry is a Dutch-based cash-and-carry trade company, Makro, which started as a Dutch-Korean joint venture, Makro Korea, and opened a membership-only warehouse discount store in Inchon. The Makro Inchon store is equipped to sell as many as 15,000 different products, while the average local discount store handles only 3,000 to 4,000 varieties of goods in much smaller space. The distinguishing feature of membership-only warehouse stores is that they reduce expenditures in advertising, interior design and staff, while maximizing operational efficiency by standardizing their operating system. As a result, these stores can offer consumer lower prices for the products they sell. Similarly, by adopting self-service and quick-return systems, many discount stores can lower their selling prices considerably. Consumers experienced the effect of competition in this segment of the Korean distribution industry when simultaneously with the opening of the Makro Inchon store, Price Club of Shinsegae and Kim's Club of New Core Department Store cut the prices of 400 and 200 items respectively, by an average of 2 to 3 per cent.

Competition can be expected to increase further when other TNCs considering entry, such as Carrefour and Promodes of France, Wal-Mart of the United States and Marks and Spencer of the United Kingdom, enter the Korean market. While foreign distribution firms are trying to capture a bigger share of the retailing market, local companies are gearing up to keep this market from the new competitors. In particular, large business conglomerates are aggressively entering the retail business. For example, Samsung Corporation plans to open eight shopping malls, five logistics centres and about 30 supercentres and hypermarkets by the year 2000; in addition, it plans to open two department stores (one of which will include a theme park in a 23-storied complex). Others with similar plans include the Daewoo, Sunkyong and LG groups. Local department stores are also trying to reinforce their competitiveness by expanding their stores and reorganizing their management systems; they are expected to open about 100 new stores by the year 2000 in order to gain advantages in terms of economies of scale and to broaden their existing stores. At the same time, they are developing their own branded goods at low prices, and furnishing their stores with high-priced and high-quality goods.

In the Philippines, steps are being taken to allow TNCs to enter retailing. Since 1995, several bills have been introduced in Congress to liberalize rules regarding the entry of foreign firms to retail trade, long closed to foreign participation. At present, the structure of retail trade in the Philippines is quite fragmented at one end and very concentrated at the other. According to one survey, 2,508 "department stores and supermarkets" accounted for 6 per cent of the number of establishments and 37 per cent of employment in retailing. Among retailers in nine product areas that were among the 5,000 largest companies in the Philippines, the top three accounted for an average of 38 per cent of sales. Another indication of concentration is that the Philippine Retailers Association has only just over a hundred members. The Philippine retailing industry has been characterized as an oligopsony between a few retailers and many manufacturers and an oligopoly between a few retailers and many consumers.[a]

Retailers have responded to the prospect of liberalization and increased competition from TNCs in number of ways. The Philippine Retailers Association neither completely rejected the ideas of retail trade liberalization nor did it articulate a favourable position. Its position was that the opening of the large-scale segment of the retail business be done on the basis of joint ventures between Filipino and

/...

(Box IV.2, cont'd)

foreign firms in which the foreign partner controlled a maximum of 40 per cent of the shares. It is also recommended keeping small and medium-sized business closed to foreign firms. Through the Philippine Retailers Association, retailers submitted briefs to the Government stating that, despite the industry structure, their profit margins on sales are the lowest in the region. Nevertheless, Filipino retailers were doing well. They also claimed that foreign retailers will have a higher import propensity than domestic ones. And, referring to the experience of other Asian countries, they warned that unconditional entry of foreign retailers will displace small retailers and increase unemployment.

Beyond taking an active role in discussions related to the regulatory process, the largest Philippine retailers have made a number of strategic moves. They have formed alliances with foreign wholesalers to increase efficiency, since foreign entry is already permitted in the wholesale sector. They have continued to expand the number of stores and malls. They have modernized existing stores and malls to make them more attractive. They have incrased foreign sourcing, a major competitive strength of foreign retailers. They have diversified geographically (e.g., Shoe Mart into China) and into other industries (e.g., Ever's parent company into real estate development). Some of the large firms have also begun discussion with foreign retailers about joint ventures in the future. They have taken several other initiatives as well, to upgrade their competitiveness.

The case of the Korean and Philippine retail industries illustrate how well-established incumbent firms and other potential competitors can respond to potential or actual entry of TNCs in concentrated industries to change the industry structure and / or the competition process: influencing the regulatory process, increasing scale, scope and efficiency, lowering prices and margins, diversifying geographically and into other industries and attempting to form alliances with potential entrants.

Source: UNCTAD, based on Y.J. Sohn, "Survival game: defeat or be defeated. Foreign giants coming into the local distribution market", *Business Korea*, February 1996, pp. 23-26; and information obtained from the Philippine Retailers Association.

[a] By senator Sergio Osmeña, in the "explanatory note" to S.B. 1890.

firms (box IV.3). In either case, however, openness to entry by FDI and, in the case of tradable products, trade is important for minimizing the possibility of market concentration.

Furthermore, over time, the competitive advantages of foreign affiliates may be eroded, and domestic firms may increase their shares and new ones enter. Indigenous firms may build up their capabilities and reclaim an industry, reducing concentration as well as the role of TNCs as is illustrated by the export-oriented garment industry in Thailand, where most Japanese firms established in the 1970s had, by the 1980s, been taken over by their Thai managers (Petri, 1993), and the same industry in Mauritius, in which local affiliates of Hong Kong, China firms faced increasing competition from indigenous firms (Wells, 1993). Much depends, of course, on the pace of technological capacity-building by domestic entrepreneurs. For example, in the consumer electronics industry of Thailand, unlike in the garment industry mentioned above, capacity building has been slow and foreign-investors have continued to dominate and even increased their dominance of the industry since its inception in the 1970s (Poapongsakorn and Tonguthai, forthcoming).

- The conduct of TNCs and other firms in the market. If TNCs acquire dominant positions (by virtue of their market power and facilitated, in some cases, by their transnationality), some TNCs may be able to indulge in anticompetitive practices against domestic (and other) incumbents, and erect even higher barriers to the entry of new firms (section IV.A.3). The willingness of governments to give market power to TNCs in exchange for FDI could also facilitate the erection of barriers to potential competitors and contribute to further increasing market concentration (section IV.A.4).

Box IV. 3. FDI, market structure and competition in South Africa's banking industry

Transnational banks tend to focus their host country activities on certain market segments, products and services, especially including those related to the banking services required by other TNCs in host countries and those related to trade (UNCTC, 1989). One implication of this is that liberalization of policies restricting FDI in banking does not necessarily result in increasing the competition faced by national banks in all banking product markets, or substantial crowding out of national banks. However, the entry of TNCs does inject competition into host country markets for specific banking products, influencing market structure and the positions of incumbent banks. Recent experience in the banking industry of South Africa provides an illustration.

Soon after the elections in 1994, South African legislation was amended to allow foreign banks to conduct business in South Africa. Very quickly, foreign banks started to return to South Africa. As of May 1997, 10 foreign banks, seven branches of foreign banks and 56 representative offices of foreign banks had established themselves in South Africa (Business Map 1997, p.19). As the foreign banks recognized that the size of the market was relatively small, they focused on penetrating niche markets that were not dominated by the (four) major incumbent commercial banks (and two strongly competitive merchant banks). These niche markets included those for advisory services in industry issues; foreign currency loans; trade finance; large cross-border corporate financial deals; privatization deals; and the distribution of local equities internationally -- in brief, all areas in which they can take advantage of their specific assets, especially their better knowledge of foreign markets, and the sheer size of their operations and financial strength. Areas where local competition was already fierce before the entry were generally not among the main targets of foreign banks. Lending, for instance, has been characterized by relatively small margins, making it attractive to foreign firms only "if it was part of a broader relationship" with a firm involving also other services. According to some sources, however, the entry of foreign firms lead to a further squeeze of profits in this business.

Local banks in South Africa have had some time to gear up for competition with foreign affiliates of transnational banks. Many are apparently planning to enter into joint ventures and partnerships with foreign banks in specific areas. Teaming up with offshore partners to make bids for businesses, for instance, is considered to be of mutual advantage since "both banks earn a fee for packaging the deal, the foreign bank may provide the funding and they get local expertise".[a]

Liberalization of exchange controls in the future is expected to increase competition, change the market structure significantly and give foreign banks a competitive edge since it will open the way for many more products. "There are strong signs that they (foreign banks) are biding their time until exchange controls are removed when they will be able to exploit their specific areas of competitive advantage in full".[b]

Source: UNCTAD.

[a] Sharon Wood, *"In the wings", Finance Week*, April 18-24 1996, Johannesburg, p. 34.
[b] Ibid., p. 31.

In developed host countries, empirical studies suggest that these various factors work, on balance, to reduce concentration or leave it unchanged. According to studies for Australia (Brash, 1966), Canada (Safarian, 1969), France (Fishwick, 1982), the United Kingdom (Steuer *et al.*, 1973), and the United States (Knickerbocker, 1976), no positive association between inward FDI and industrial or market concentration was found and, in fact, the relationship was in some cases negative, i.e., inward FDI was associated with a decrease in concentration.[11] In the smaller advanced countries, however, industrial concentration increased in industries in which the participation of foreign firms was most prominent (Newfarmer, 1985). According to a recent study for the United Kingdom, the upsurge of inward FDI into that country between 1986 and 1992 was accompanied by a general tendency for slightly falling concentration, with the share of the top five firms falling in the average

industry (table IV.3). This was because the increase in the joint market shares of leading TNCs (defined as foreign firms within the top five producers in a given industry) was more than offset by a corresponding decline in the share of leading domestic firms. However, the advance made by leading TNCs was less pronounced in industries producing non-differentiated products than for differentiated industries, so that, in the former group of products, concentration fell more significantly. Overall, increasing TNC activity was accompanied by decreasing concentration, but increased TNC activity dampened the general trend towards de-concentration.

Judging from data for the United Kingdom, individual TNCs seem more likely to secure leading market shares than are other firms: in 1992, for all industries, leading TNCs accounted for a higher proportion of the TNC share of total sales than the proportion of domestic firms' share of total sales that was accounted for by the leading domestic firms (table IV.2). In addition, in differentiated industries that are more concentrated, the proportionate share of leading TNCs rises much more rapidly than concentration, but in homogeneous product industries, it rises at almost the same rate as concentration (table IV.2).[12] Finally, TNCs tend to cluster in leading positions in certain industries (table IV.3); in the United Kingdom, over one-fifth of the 100 industries examined were dominated by TNCs in 1992, with three or more of the five leading positions being occupied by TNCs. All but three of these industries produced differentiated products (table IV.3).

In developing host countries, on the other hand, empirical studies suggest that greater TNC participation leads, on balance, to increased concentration. In studies for several countries -- including, among others, Brazil (Willmore, 1989), Guatemala (Willmore, 1976), Malaysia (Lall, 1979; Kalirajan, 1991), and Mexico (Newfarmer and Mueller, 1975; Connor, 1977; Blömstrom, 1986) -- inward investment has been found to be associated with an increase in industry concentration. Given that few foreign affiliates are fully export-oriented, this can be considered to denote also increased market concentration, except where imports are important. In the case of some products, including services, TNCs and local firms were found to operate in different market segments, with TNCs introducing new products for which there was little or no local competition (UNCTC, 1989; Lipsey and Zimny, 1993), at least in the short to medium-term. Furthermore, judging from advertising / sales ratios, foreign affiliates in developing countries have a relatively higher tendency than domestic firms to compete through product differentiation,[13] and product differentiation tends to heighten concentration in consumer industries serving primarily local markets (Manrique, 1982; Newfarmer and Marsh, 1992; and Willmore, 1989).

* * *

To sum up, the relationship between FDI and market concentration in host countries is by no means as clear-cut as the observed correlation between TNC presence and concentration might suggest. Although TNCs are often able to enter host country industries and, hence, markets which are sometimes effectively barred to domestic (non-TNC) entrants because of cost-related factors, this does not mean that even the immediate, at-entry effect will be a reduction in seller concentration. Post-entry effects depend upon several factors and, on balance, the risks of increasing concentration, at least in the short to medium term, are likely to be greater in developing countries. More generally, as TNCs consolidate and exploit their specific assets by capturing leading market positions, this may have a concentrating effect, which is often accentuated by a clustering of a number of leading TNCs in certain industries. The relationship between TNC activity and concentration tends to be strongest in industries and markets that are concentrated by virtue of product differentiation and innovation. Within such markets, TNCs often enjoy some advantage over domestic firms in host countries.

Perhaps more importantly, the significance of any increase or decrease in concentration depends considerably upon the existing market structure, the optimum structure of a market, the size of the market, and, above all, its openness to competition, including from domestic firms, TNCs and imports from related products. Increased concentration in a market of two or three firms clearly has implications different from those in a market of 20 or 30 firms. In some industries, increased concentration in production could improve production performance because of economies of scale (given host country market size), but if production concentration implies market concentration -- as would be the case in (non-tradable) services and in goods markets protected from imports -- it could also lead to an abuse of market power and lower consumer welfare. Furthermore, as discussed below, foreign affiliates may be more efficient than local firms, accentuating the conflict between production efficiency and allocative efficiency, including dynamic efficiency in terms of enhancing future production capabilities of an economy. This conflict is likely to be more pronounced in developing countries, particularly in the least developed countries, that are characterized by relatively small markets as well as limited domestic capabilities.

Table IV.3. TNCs, concentration and firms in leading and non-leading positions in the United Kingdom, 1986 and 1992
(Percentage)

		TNC share			Domestic share		
Year	C5[a]	Total	Leaders[b]	Non-leaders	Total	Leaders[b]	Non-leaders
			All industries				
1986	42.5	19.2	9.9	9.3	80.8	32.8	48.2
1992	40.9	27.3	14.9	12.4	72.7	25.7	46.9
Change	- 1.6	8.1	5.0	3.1	- 8.1	- 6.9	- 1.3
			Differentiated products				
1986	51.4	26.1	15.7	10.5	73.9	35.7	38.2
1992	50.8	36.3	22.1	14.2	63.7	28.7	35.0
Change	- 0.6	10.2	6.4	4.3	- 10.2	- 7.0	- 3.2
			Homogeneous products				
1986	31.7	10.6	2.8	7.8	89.4	28.9	60.5
1992	28.0	15.9	5.9	10.0	84.1	22.1	62.0
Change	- 3.7	5.3	3.1	2.2	- 5.3	- 6.8	1.5

Source: based on data from the United Kingdom, Central Statistical Office, 1988 and 1995.

[a] Sales-weighted mean 5-firm concentration ratios.
[b] Firms within the top five producers in a given industry.

Note: all figures are percentages of total sales in the United Kingdom (100 individual industries).

Regressions (based on 1992 data):

Differentiated products:	Y = 0.11 + 1.49 X	R=0.490, standard error (b)= 0.41.
Homogeneous products:	Y = 26.8 + 1.01 X	R=0.155, standard error (b)=0.85.

where X=C5 Y=(TNC sales/TNC total)

Clustering of TNCs	1986	1992
Industries in which all five leaders are TNCs	0.0	1
Industries in which four leaders are TNCs	2	5
Industries in which three leaders are TNCs	8	21
Probability that a leader will be a TNC	0.2	0.3

3. Firm behaviour and competition effects

The characteristic features of TNCs that may cause FDI and the activities of foreign affiliates to affect the structure of host-country markets along the lines discussed above can also have consequences for the conduct of competition in a given market and, hence, for the performance of firms and an industry as a whole. These consequences reflect what might be called the "distinctive" features of TNCs (including competitive strengths arising from firm-specific assets, advantages related to internalizing the use of those assets, and an array of locational assets when they operate in a number of countries, and also their transaction cost disadvantages relative to domestic firms), as well as their "circumstantial" features (i.e., those that would hold true, in principle, for any firm with a similar market share in a similar market). This distinction is important because, as noted, TNCs are not distributed across the economic landscape of host countries in the same way as other firms. They tend to congregate in concentrated industries, to have larger-than-average market shares, and to be market leaders. Moreover, they operate, more often than not, in markets for differentiated goods, in which the competitive process operates as much through quality, advertising, R&D and innovation as through price or quantity. Furthermore, high market shares and concentration are more likely to be associated with the possibility and allegations of anticompetitive behaviour; this is especially the case when advertising appears to have an entry-deterring effect. Necessarily, therefore, anticompetitive investigations often concern TNCs (table IV.4) -- but, again, this may not be because of their TNC status *per se*, but rather because of the circumstances.

In the discussion below, the nature of the (pro-) competitive behaviour of TNCs and its effects on the performance of industries / markets and their implications for host countries are considered first, drawing on studies that have tried to assess the impact of TNCs on host-country performance. This is followed by an exploration of the types of competition concerns raised by TNCs.

(a) Competitive behaviour, the efficiency of firms, and impact on performance

The entry and operations of a TNC can inject competition into a host country market, particularly if the market has a limited number of sellers relative to its size prior to the foreign firm's entry. The process of competition could involve lower prices -- especially if the TNC is more cost-efficient than local firms -- or, as is more likely, product differentiation and advertising. It could also involve the introduction of new products based on innovatory activity by the TNC involved. Inward FDI can then be expected to improve the performance of the industry concerned and increase consumer welfare by lowering prices, improving product quality, increasing variety and introducing new products, provided the relevant market continues to function efficiently. If, however, there are no domestic firms operating in a market, or there is a large gap between the competitive strengths of foreign affiliates and domestic firms, and competition from imports or other foreign affiliates is lacking, the foreign affiliate assumes a dominant position in the market. In that case, the market may not function efficiently and the impact on performance may be reflected mainly in higher profits for the TNC concerned (as well as for the host country firms that remain in the market), and benefits in terms of consumer welfare and / or dynamic growth of the industry may be limited.

Transnational corporations, because of their firm-specific assets, access to a wider array of locational assets, and ability to reap, by their marketing capabilities, economies of scale and scope at the firm-level, are often more efficient in production than domestic firms, or at least those that are not themselves also TNCs, in host economies. A number of studies suggest that average productivity levels are higher in foreign affiliates than in their domestic rivals.[14] In Canada, for

example, foreign affiliates within given industries enjoyed higher value added per worker than their Canadian-owned counterparts, primarily because they tended to be capital intensive and large (Globerman et al., 1994, p.154).[15] Foreign affiliates exploited economies of scale more fully than their domestically-owned counterparts -- possibly because they enjoyed better access to foreign markets, for example through intra-firm trade and network economies such that they operated at larger scale, and because they could draw upon home country managerial expertise to help manage the greater complexity of larger scale operations. In the United Kingdom, foreign firms enjoyed a 49 per cent differential in labour productivity compared to their local rivals, according to data for 1991 (Davies and Lyons, 1991). However, roughly a half of the differential was related to the fact that TNCs tended to congregate in industries that are innately of high productivity, and a half with superior performance when "like was compared to like" (within the same industry).

Table IV.4. Involvement of TNCs in United Kingdom competition cases, 1990-1995
(Number)

Year	Total number	Number involving TNCs	Examples
1990			
Monopoly	4	1	Petrol[a] (Esso, Shell, BP etc.)
Merger	20	7	Elder/Grand Met (beer, hotels), British Airways/Sabena; Michelin Tyre/NTS
1991			
Monopoly	5	4	Coffee[d] (Nestlé), Soft drinks[a c] (Coca-Cola)
Merger	13	7	B.Aero/Thomson-CSF, Stora/Gillette
1992			
Monopoly	4	3	Cars and car parts[a b] (Ford, GM, Rover, etc); matches and lighters[d] (Swedish Match)
Merger	7	3	Allied-Lyons/Carlsberg, Sara Lee/Reckitt and Colman
1993			
Monopoly	7	3	Fine fragrances[b] (L'Oréal, Revlon, Unilever, etc.)
Merger	3	1	Gillette/Parker Pen
1994			
Monopoly	7	3	Ice cream[a] (Unilever), Films[b c] (Warner, MGM etc.)
Merger	2	1	Alcatel/STC
1995			
Monopoly	5	2	Video games[b] (Nintendo/Sega)
Merger	10	4	Lyonnaise des Eaux/Northumbrian Water; GEC/VSEL
Total 1990-1995			
Monopoly	32	16	
Merger	55	23	

Source: based on data obtained from the annual reports of the United Kingdom Monopolies and Mergers Commission for the years 1990-1995.

Note: The total number of anti-trust cases considered here comprises all cases considered and reported on by the Monopolies and Mergers Commission with the following minor omissions: mergers in the newspaper publishing industry (which is subject to special attention in the United Kingdom for reasons additional to purely competitive ones); one or two cases brought under the Competition Act; and cases brought under specific acts in specific areas (e.g., broadcasting, privatized industries etc.).

[a] Exclusive purchasing.
[b] Exclusive distribution.
[c] Tied-in sales.
[d] Monopoly pricing.

In developing countries, evidence suggests that foreign affiliates are often more efficient in production than their domestic counterparts. According to studies for Brazil (Willmore, 1986), Singapore (Lecraw, 1985), India (Kumar 1990), labour productivity in foreign affiliates tended to be higher than that in domestic firms in the same industry. This was also observed for Malaysia, Singapore and Thailand (Ramstetter, 1993, 1995 and 1996); however, in these cases, more rigorous examination, including at the industry level showed fewer differences and, moreover, significant differences observed in the 1970s disappeared in the 1980s. In the Republic of Korea, no significant differences between the productivity of labour in foreign and domestic firms were found (Koo, 1985). Studies of total factor productivity for a few countries (e.g., Haddad and Harrison, 1994, for Morocco; Okamoto, 1994, for Malaysia) also indicate a tendency for foreign firms to have higher productivity. In some of the cases, the differences diminished when the data were controlled for size of firm, suggesting that the productivity differences observed relate to differences in capital intensity and scale as well as in technology and organizational capabilities. In addition, foreign affiliates typically have better marketing capabilities and networks and higher propensities to export (UNCTAD, 1995a, p. 211; Ramstetter, 1997).

Whatever the source of the greater productivity or sales performance, the entry of a TNC (or any firm) that is more cost-efficient or introduces better quality or new products, or is able to sell better than its competitors, will affect the position of the latter. Either they learn from, and/or imitate it in terms of production performance, or they may be forced to exit the market. The upshot could be an industry of surviving firms that is more efficient in production than it would be without the TNC. This may not, however, be accompanied by market efficiency and optimum social welfare but, rather, higher profits for TNCs, especially if other firms are forced to exit and a foreign affiliate monopolizes the market, unless there is competition from trade and from the entry of more TNCs.

There is some evidence from industry-level studies within developing countries to suggest that TNCs were more profitable than their domestic competitors (Caves, 1974; Donsimoni and Leoz-Arguelles, 1980; Shapiro, 1983). In Brazil, the profits of a foreign affiliate were higher, the more concentrated was an industry and the higher was the share of the foreign affiliate in the industry (Connor, 1977). Similar results for TNCs were found for light manufacturing in South-East Asia (Lecraw, 1983), but no evidence of a significant impact of concentration on profitability was found in the case of India -- where foreign affiliates and domestic firms were found to operate in different strategic groups, with the former protected more by entry barriers than their local counterparts (Kumar, 1990).

There is no systematic evidence on the extent to which the procompetitive effects of TNC participation take the form of lower prices for consumers, although that can happen, particularly in non-differentiated goods and services, as the experience of FDI in Korean retailing suggests (see box IV.2). On the other hand, there is considerable casual evidence to show that competition from TNCs, especially in developing countries, results in the introduction of new products and improvements in the quality or variety of existing products (box IV.4). Non-price competition through product differentiation based on advertising as well as through innovation is an important mode of competition in the industries in which TNCs are concentrated, and TNCs themselves often tend to have higher levels of advertising than domestic firms.[16] When TNCs move into an industry, they may raise the industry level of advertising and compel domestic producers to counter with increases in their own promotional expenditures. In some cases, resorting to advertising may enable domestic firms to retain or enlarge market shares and profits even if foreign affiliates offer products at lower prices. In the case of the Argentinian pharmaceutical industry, for example, Argentinian producers -- who spent considerable parts of their revenues not only on R&D but also on advertising, trying to establish strong brand names -- were able to sell their products at higher prices than the

local affiliates of TNCs, and retain their profits when faced with competition from TNCs (Chudnovsky, 1979).

Box IV.4. FDI and competition in India's markets for soft drinks and white goods

Economic reforms and relaxation of FDI regulations in India since 1989 have increased competition through new entrants, including TNCs, in markets for consumer goods. This has led to changing market shares for firms, as well as increased supplies, a greater variety of products and the introduction of new products for consumers. These changes are illustrated below with reference to recent developments in the markets for soft drinks and for white goods.

* * *

In soft drinks, Pepsi (United States) entered the Indian market in 1990, soon after liberalization began. By early 1994, Pepsi had captured about 24 per cent of the Indian soft drinks market. Pepsi started with a 44 per cent share in its Indian joint venture, increased subsequently through the purchase of the 48 per cent share held by its chief partner, Voltas Ltd. The remaining 8 per cent of Pepsi Foods Limited was held by the Indian partner, Punjab Agro Industries.

In 1993, after a 16-year absence, Coca-Cola re-entered the Indian market for soft drinks through a joint venture with Indian-owned Parle Exports, which accounted at that time for 60 per cent of the $400 million Indian soft drinks market. Under the joint venture agreement, Parle would make available to Coca-Cola all of its 60 franchises for production, bottling and distribution. The joint venture, Coca-Cola India, would invest $20 million to upgrade Parle's bottling plants.

Both Coca-Cola and Pepsi launched advertising campaigns to increase their respective market shares. As of the first quarter of 1997, Coke had a 13 per cent market share in the cola segment (or more than 50 per cent of the total Indian market for aerated soft drinks) and Pepsi had a share of 27 per cent.[a] The competition between Coke and Pepsi led to the revitalization of the local cola brand, Thums Up, one of the five local cola brands acquired by Coca-Cola. The popularity of Thums Up was recognized by Coca-Cola India when it found it difficult to replace the local brand's market share by that of Coke. (Thums Up had a share of 17 per cent of India's market for colas as of the first quarter of 1997.[a]) The other major player in India's aerated soft drinks market is the indigenous Indian firm Pure Drinks Ltd, the manufacturer of the Campa range of products.

How well local rivals will manage to compete with Coca-Cola and Pepsi is uncertain. India's tea producers have also expressed concern about facing competition from the entry of foreign cola and soft drink firms, as the domestic growth of tea, the nation's main beverage, could be thwarted.

* * *

In white goods, until recently, the Indian market was characterized by a small number of producers and sellers. Imports were restricted. By the mid-1990s, however, a number of TNCs had penetrated the Indian market, introducing a variety of new products. One recent entrant was Whirlpool Corporation (United States), which acquired a majority share in Whirlpool of India in 1991, a joint venture with a local firm. After initial difficulties and restructuring, it obtained an estimated market share of 15-20 per cent of the market for washing machines, in which the market leader is Videocon, a local firm.

In 1994, Whirlpool acquired a majority stake (51 per cent) in Kelvinator of India, the second largest refrigerator maker at that time in the country. It also acquired the use of the Kelvinator brand name until end-1996; Whirlpool was a virtually unknown brand in India. The challenge for Whirlpool

/ ...

(Box IV.4, cont'd)

was to hold on and increase its market share on the basis of its own brand name. Whirlpool began to introduce new models, beginning with a 310 litre refrigerator. It also began to invest in no-frost refrigerators, a market segment that is dominated presently by local producers. Competition between Whirlpool, other TNCs that have entered India's white goods market and local firms has provided consumers a wider choice as regards refrigerators.

Whirlpool's sales of refrigerators increased from 538,000 in 1995 to 665,000 in 1996 -- a market share of nearly 27 per cent. In the direct cooled segment of the refrigerator market, Whirlpool captured a 32 per cent market share. The market leader remains Godrej-GE, a joint venture between Godrej, a local firm, and General Electric, with 39 per cent of the market for refrigerators overall in 1996-1997, while two other firms have shares of around 15 per cent each. In the no-frost refrigerator market, Godrej-GE has a market share of 40 per cent. It therefore appears that the largest incumbent firm managed to hold on to its market shares, although in the future Whirlpool may be able to gain additional market shares in segments of the refrigerator market.

In terms of the mode of competition, Whirlpool launched an advertising campaign -- a "scratch-a-gift" offer -- for purchasers of its refrigerators. The scheme, offering mostly inexpensive, but also a few valuable gifts (such as a car and an apartment) to buyers, was declared illegal by the Monopolies and Restrictive Trade Practices Commission of India in February 1997, following a complaint by Godrej-GE on the basis that the scheme would tempt people to buy Whirlpool products in the hope of winning a prize.

Sources: "Raising India", *Beverage World*, vol. 113, issue 1560, February 1994, pp. 46-48; "Coke and Pepsi throw cans into the Indian-market mix", *The Asian Wall Street Journal*, 21 June 1996; and "Making an impact", *Business India*, No. 500, 5-18 May 1997, pp. 82-83.

[a] Miriam Jordan, "In India, Coke takes new tack", *International Herald Tribune*, 20 June 1997.

Effects on price and product variety or range reflect the static efficiency benefits of competition in terms of enhancing consumer welfare. Of greater interest, especially as far as developing countries are concerned, are the dynamic effects that result from competition by TNCs, through positive spillovers of efficiency productivity and innovatory capabilities to local firms. Local producers faced with competition from technologically sophisticated foreign affiliates may, in some cases, be forced out of a market. On the other hand, in some countries and industries, local firms may respond competitively, and improve their productivity in their efforts to retain market shares.

The immediate reaction of a local firm to competition from inward FDI may be to enforce stricter or more cost-conscious management and motivate employees to reduce slack or improve X-efficiency. Over time, when foreign firms and local firms are in competition with each other, producing similar products, on the same scale and for the same market, there is often a tendency for local firms to adopt similar production techniques to those of the TNCs, as part of a general survival strategy. When technical capabilities are well-developed, competition by TNCs may induce R&D and innovation by domestic firms. Generalizations in these respects, however, are difficult. Case studies at the firm and industry levels suggest that the spillover effects of competition (combined with those of demonstration, which are difficult to separate) from TNCs vary according to the technological and entrepreneurial capabilities of local firms relative to those of foreign affiliates and the market strategies of TNCs and local firms, as the following examples show:

- For instance, in the Kenyan soap industry, the entry of foreign affiliates led to the introduction of mechanized production of laundry soap and the adoption of mechanized

technology by local firms, as the latter found themselves unable to sell handmade laundry soap in the urban markets (despite its acknowledged quality). Local firms were forced to introduce mechanized techniques and new packaging to stay in business. They also had to produce a wider range of products, and to build up turnover, among others, by subcontracting production from TNCs or producing under international brand names (Langdon, 1981). Similarly, foreign entry into the Kenyan footwear industry led to increased competition and changes in the production techniques of local firms (Jenkins, 1990).

- In the Brazilian textile industry, the establishment of an affiliate by a foreign firm brought synthetic fibres into the market; the consequent stagnation of demand for cotton textiles led to the disappearance of some local firms, while others were forced to seek joint ventures with foreign firms to obtain access to competitive technology (Evans, 1979).

- On the other hand, in the Indian pharmaceutical industry, local firms had built up significant technological capabilities since the 1970s, with the support of weak patent protection enabling imitation of patented products and processes, import controls and licensing restrictions but also strict price controls (especially on large firms) limiting price increases which forced them to be efficient imitators. They are now pursuing an offensive strategy of increasing their investment in R&D to prepare themselves for increased competition due to the entry of foreign firms into the Indian market in response to policies liberalizing FDI and trade (Acharya, forthcoming).

- Even when technical capabilities are well developed, however, domestic firms may find it difficult to compete with foreign affiliates through innovation. In the Brazilian telecommunication-equipment industry, liberalization of FDI and the participation of foreign affiliates resulted in a number of domestic firms having to reduce their R&D activities and enter into alliances or joint ventures for production. As the affiliates of TNCs did not have to rely entirely on their own R&D and could draw upon products developed by their parent firms, the time-span required for the introduction of new product generations accelerated and the mode of competition in the local market changed from "competition based on technical proficiency, product differentiation and an effort to search for exploitable domestic market niches to competition on the basis of being 'first' into the market" (Mytelka, forthcoming, ch. 4, p. 14). Lacking comparable technological and financial backstopping from parent companies, Brazilian firms, particularly the smaller ones, found that the only way to survive competition with foreign affiliates was to cooperate with the TNCs concerned. This led to a reduction in local innovative capacity and, finally, to reduced competition, at least between domestic and foreign firms.

Judging from a number of studies, the possibility of positive spillovers of efficiency or productivity to other firms due to competition introduced by TNCs may be related to the extent of TNC activity in a market; domestic rivals have been found to perform relatively better in terms of productivity the more extensive is their exposure to competition from TNCs -- that is, the larger were foreign affiliates' market shares (Cantwell, 1989a; Haddad and Harrison 1994; Blomström, 1983; Kokko 1992). Moreover, these effects are more likely to occur when local firms have already built up some technological capabilities. For example, the entry of United States firms into European markets during 1955-1975 provided a competitive spur in those industries in which local firms had some traditional technological strength and in which national markets were large enough to allow both kinds of firms to operate at efficient scale (Cantwell, 1989b, p. 86). In Mexico and Uruguay, a positive relationship was observed between the presence of foreign affiliates and the productivity

of local firms when the gap between foreign and local firms' productivity was not too large (Kokko, 1994; Kokko, Tansiniz and Zejan, 1994). This suggests that FDI by small and medium-sized enterprises and developing country TNCs may hold greater possibilities for performance-enhancing spillovers through competition. Since these TNCs usually operate in more labour-intensive or lower technology industries and their competitive advantages are more modest than those of developed country TNCs, the prospects are better for domestic firms to assimilate or acquire them. This is likely, for instance, to have been a factor in the emergence of domestic firms as major competitors to Hong Kong, China firms in textiles and garments that invested in Mauritius several years ago (Wells, 1993, p. 183).

Spillovers from foreign affiliates may include not only those related to technological upgrading and productivity improvements but also to the building up of marketing and especially export capabilities. There is increasing evidence to suggest that export-oriented foreign firms act as catalysts for the development of export capabilities by bringing with them access to buyers from the countries in which their products are sold (Wells, 1993, p.183). In Indonesia, for instance, anecdotal evidence suggests that Indonesian firms are taking advantage of the access to buyers that the establishment of affiliates by TNCs from East Asian countries has brought to Indonesia; for example, Nike, Adidas and Reebok all have offices in Indonesia, to be closer to their suppliers -- the Indonesian affiliates of East Asian supplier-TNCs. Indonesian-owned firms are taking advantage of their presence to build up linkages; exporting directly as well as selling components to foreign affiliates that export (Wells, 1993). To the extent that these products are also sold in local markets, the improvement in performance is also likely to affect host country markets for the goods, and local firms emerge as competitors to TNCs in both export and host country markets.

(b) Anticompetitive business practices

The entry of TNCs and their activities may not only have potentially performance-enhancing effects associated with the competition they inject in host-country markets and industries, but may also, under certain conditions, carry a potential for, anticompetitive business practices that could affect the performance of markets and the industries concerned. Although systematic studies in this regard are lacking, TNCs have featured in some of the most conspicuous cases that have come before competition agencies in developed countries in recent years. For example, a substantial proportion of monopolies and mergers reports in the United Kingdom over the period 1990-1995, in one way or another, have involved foreign-owned firms in the country (table IV.4). The specific examples listed relate to the types of markets in which competition worries are most likely to be pronounced: they are typically highly concentrated markets; many involve advertising-intensive differentiated products with strong brand names; and they are often not subject to import competition.

The discussion below introduces some of the main types of anticompetitive behaviour in which TNCs may engage and that are of interest from the viewpoint of host countries. (For a more extensive listing of restrictive business practices, see box V.3.) They are discussed further in chapter V, in the context of policy approaches taken by countries.

i. Collusion

The possibility of collusive practices, ranging from full-fledged cartels to tacitly collusive behaviour, has always been associated with highly concentrated industries protected by entry barriers. Circumstantially, TNCs often operate in such industries, but it is not clear that they

would be more orless inclined to act in a cooperative way than non-TNCs. On the one hand, at least in the early yearsof its existence in a host country, a TNC might be less inclined to join in with cosy collaborative local arrangements (Caves, 1996, p. 95). On the other hand, there are some essential features of TNCs that might strengthen the prospects of collusion. For example, the sheer muscle of a large TNC may provide it with credible means of punishing smaller firms contemplating deviations from a collusive arrangement. Probably more important, however, is the prospect of collusion amongst competing TNCs. Theoretically, one specific reason why such collusion could take place is that a group of firms coming into contact in a series of separate national markets are more likely to recognize their mutual interdependence, i.e., that the outcome of their individual actions depends on the behaviour of the other(s). In certain circumstances, collusion will prove viable even in some of the markets where it would not have been possible had the firms concerned had no contacts (Bernheim and Whinston, 1990). Another possibility along similar lines is "mutual forbearance": firms share out the market, allowing each member of the group certain regions or countries that will be uncontested by the others.

Although the potential for such collusion involving TNCs that is of specific relevance to host countries exists, there is no systematic evidence, particularly for recent years, pointing to such collusion. Most of the evidence regarding collusion, including cartels involving TNCs pre-dates the second world war (Jones, 1986; Caves 1996). In the past few decades, conspicuous instances have been far less common. The decrease in the occurrence of effective collusion involving TNCs could be due to several factors, including, among others, the adoption and enforcement of competition laws by an increasing number of countries; the shift of United States TNCs -- partly in response to antitrust prosecutions, partly in response to opportunities opened up by the immediate post-war reduction in the competitive strength of European firms -- from cooperative to competitive behaviour; the decrease in seller concentration at the world level in most industries due to restored competition from Europe and Japan; and the shift in the product-mix of industries from homogenous goods to heterogenous or differentiated products (Caves, 1996, pp. 92-93). In fact, successful collusion among TNCs seems to have been replaced by imitative rivalry, including reciprocal transnationality: following entry by firm I from country A into country B, its international rival, firm II, located in B, makes a countermove into country A. "The strategic value arises if a subsidiary on the invader's turf establishes both a means of retaliation and a hostage that can be staked out in any subsequent understanding between the two parents" (Caves, 1996, p. 93). Sometimes, companies may pursue "backdoor" collusion through the formation of joint ventures (see box V.4, chapter V).

ii. Monopolizing mergers and acquisitions

Although M&As that involve at least one TNC quite often transcend the purely national level -- posing consequent problems for national competition authorities -- they do not raise conceptually new issues as compared with those involving only national firms. In the case of horizontal mergers, the main issues relate to the increased concentration of market power; in the case of cross-border mergers involving inward FDI, several typical scenarios creating competition concerns are possible. These include:

- acquisition of a firm in a country by a firm that exports to the country;
- merger of parent firms of two foreign affiliates located in a country;
- joint ventures involving potential competitors, one of which is a TNC;
- acquisition of a major firm in a host country;
- acquisition of a firm in the host country by a TNC that may have an incentive to suppress rather than develop the competitive potential of the firm to be acquired.

Each of these can reduce competition in a host country. As far as vertical mergers are concerned, if there is a competition dimension at all, this usually concerns the increased potential for foreclosure of a rival and increasing the difficulty of new entry.

iii. Exclusionary vertical practices

Vertical relationships, as a group, have generated considerable interest in recent years, and competition law related to them are currently under review in a number of countries and in the European Union. The subject is controversial because most specific examples of vertical restraints, and vertical integration itself, entail claims of efficiency gains (removal of pricing distortions, optimized investment levels and avoidance of transactions costs) that must be offset against alleged anticompetitive consequences (foreclosure of rivals reducing contestability and softening of intra-brand and/or inter-brand competition). Invariably, the products concerned in such examples are differentiated, often with leading brand names. Very often, they are produced by TNCs. Although, as a general rule, vertical restraints involving TNCs (or other firms) do not pose competition worries, if combined with market power at one of the stages in the vertical chain, they have the potential to reduce the contestability of markets. This will often depend on the type of industry in which TNCs operate.

iv. Predatory behaviour

Predatory behaviour in general, and predatory pricing in particular, is the practice whereby one, usually dominant, firm undercuts rivals, often new entrants, with the expressed intention to force them out of the market (box IV.5). This can be a rational strategy, for example, if predators achieve monopoly positions and can thereby reclaim their initial losses (assuming that, in the case of TNCs the host country grants or allows such a position), or to create a reputation for toughness. While predatory pricing can be used by domestic firms as well as foreign firms to force competitors out of the market, transnationality may provide additional advantages in this respect -- for example, if there is scope for manipulating transfer prices for this purpose. Underpricing goods and services sold to foreign affiliates could enable them to price products sold in host country markets at excessively low levels. Detecting such predatory pricing would be more difficult, since information on transfer prices is considered an intra-company matter and is difficult to obtain. There is, however, no systematic evidence on the extent to which such practices take place.

Box IV.5. Predatory pricing: an example

One (contested) example of alleged predatory behaviour in the European context involved the Netherlands-based TNC, AKZO, and its behaviour towards a small United Kingdom competitor, ECS. AKZO had a 50 per cent share of the European Union market for a particular type of chemical additive (Utton, 1995); in the United Kingdom its share was 52 per cent, and it had only one substantive competitor, ECS, a small independent firm. It appears that the alleged predatory behaviour was sparked initially by new entry by ECS into the German market -- and an alleged threat from AKZO that, unless ECS withdrew, it would retaliate in the United Kingdom market by "going below cost if necessary" (European Commission vs AKZO, Decision 374/7). ECS applied for, and was granted, an injunction against AKZO. The case continued, and eventually AKZO was fined.

This case illustrates some of the general issues involved. First, because of its sheer size, the TNC (like any large firm) was well-positioned to sustain any losses it might have incurred in a short-lived price war in the United Kingdom for a product. Second, price cutting in one geographical market for one product might make strategic sense if it signalled AKZO's intention to react aggressively to entry by other firms into other markets (in both geographical and product space).

Source: UNCTAD, based partly on Utton (1995), pp. 113-116.

4. Inducing foreign direct investment by granting market power

Governments are sometimes so anxious to attract FDI, or to obtain the highest possible price for the assets they sell to TNCs as part of privatization programmes, that they agree to offer TNCs various kinds of arrangements that grant market power with legal protection against competition in exchange for investment. Market-power inducements, by definition, restrict competition, typically creating monopoly positions or market structures that provide scope for anticompetitive behaviour. Even though there may be positive dynamic effects associated with such inducements, their immediate effect is typically to reduce efficiency; when this occurs, it may affect efficiency -- and, indeed, FDI flows -- in other parts of the economy. Market-power inducements, granted either at the initiative of a government or at the request of a TNC, are examined in this section.

Although some market-power inducements may be combined with fiscal concessions and financial subsidies -- and, indeed, the latter by themselves may lead to market distortions -- fiscal and financial incentives are not the subject of the discussion in this section.[17] There are, moreover, other arrangements such as allowing a TNC to invest in, or take over, a natural-monopoly-type industry (which competitors are almost certain not to enter), especially with few or generous stipulations as regards pricing, that might be attractive inducements because of the market-power they involve. However, the focus here is exclusively on arrangements that involve granting legally-protected market power to TNCs as an inducement to invest in a country. In these arrangements, the main reward obtained by TNCs is not direct financial payment received up-front in the form of financial assistance by the government, or foregone taxes later on, but rather the higher profits (or potential profits) derived from operating in a less competitive environment. The underlying reason for offering these inducements is that, otherwise, an investment would not (or would not be expected to) be made -- and, hence, the benefits associated would not be obtained.

Market-power inducements are generally given to foreign investors in specific "strategic" or key industries -- just as they have long been given to domestic private investors, or have implicitly been retained by state enterprises in such industries. The definition of what constitutes a "strategic" industry in this context hinges on the subjective interpretation of governments. Sometimes, these are industries in which the benefits of FDI in terms of production efficiency, job creation, promotion of technical progress and the acquisition of management and other skills are considered to outweigh the adverse effects in terms of the reduction in consumer welfare by the lessening or absence of competition. The promotion of investments with backward linkages or high domestic value-added is viewed as yielding externalities through economies of scale and agglomeration, and technology spillovers may also be considered sufficiently important to justify creating an anti-competitive environment in the relevant market. The argument is put forward that such benefits could not reasonably have been achieved without offering protection or exclusive rights in the market to the foreign investors involved.

The frequency of market-power inducements for FDI is difficult to assess, and this discussion does not attempt to evaluate their magnitude. Rather it explores, on the basis of concrete examples, the different measures employed by governments to attract FDI and their rationale. (The policies of governments to reduce the potential negative impact of such measures are discussed in chapter V.) The most common market-power inducements used to attract FDI are:

- *Granting or transferring exclusive establishment (production) rights*. Such exclusive rights of production represent an important market-power inducement in industries (e.g., many services) in which competition could come only from production by local firms (and not from imports). On the other hand, in an industry of tradable goods and in

liberal trade environments, if exclusive rights cover only production, competition may decrease only marginally.

- *Granting or transferring exclusive sales (market) rights*. Exclusive sales rights eliminate competition by local firms as well as imports. For example, in the case of a lubricant company in Sri Lanka, exclusive sales rights granted to one foreign oil company apparently impeded entry into Sri Lanka's market by other foreign competitors (box IV.6).

- *Introducing or continuing prohibitive import tariffs and non-tariff measures*. Trade protection can be an important market-power inducement for tradable goods and services, especially if supplemented by prohibitions on new FDI and local entry.

Box IV.6. Inducing FDI by offering market protection: the case of Lanka Lubricant Ltd.

The sale of a stake of 51 per cent of the Lanka Lubricant Ltd. (LLL), a state-owned enterprise that was the sole supplier of lubricant in Sri Lanka at the time, to a foreign TNC took place in July 1994. Before privatization, LLL had been controlled by Ceylon Petroleum Corporation (CPC), which produced and sold lubricants through its distribution outlets for the domestic market. CPC had been holding exclusive import, export and sale rights for lubricants since 1964. The acquiring TNC had operations in more than 60 countries, including Sri Lanka.

A 51 per cent share of LLL was sold to the foreign TNC on the following conditions[a]:

(a) LLL was granted exclusive rights of importing and distributing lubricants until 1 March 1997. This period was granted to enable the company to restructure and adjust before being exposed to international competition (the exclusive rights did not extend to lubricants supplied to marine vessels and aircraft within domestic harbours).

(b) No other company would be authorized to set up manufacturing/blending operations for lubricants until July 2000 (there are at present no other locally based lubricant manufacturers).

(c) Upon liberalization of imports, the Government agreed to an effective tariff protection of at least 10 per cent for the company. The *ad valorem* duty on base oils and additives (intermediate products for the production of lubricants) imported by LLL would be at least 10 per cent lower than the *ad valorem* duty on lubricants and greases manufactured by the company.

(d) The company, in spite of the lack of relevant legislation, would receive anti-dumping protection.

(e) CPC distribution outlets would sell exclusively lubricants and speciality products produced by LLL for a ten-year period starting 14 July 1994.

(f) LLL would hold exclusive right to store lubricants and greases at CPC warehouses for a period of ten-years starting 14 July 1994.

The TNC put forward a three-year modernization programme involving millions of dollars to upgrade existing blending facilities. The exclusive rights granted to the TNC were given as an incentive to attract the company to invest in the country. This was also expected to have a favourable influence on attracting FDI in general to Sri Lanka.

At present, no other lubricant suppliers play a role in Sri Lanka's national market, although some foreign companies have shown interest in entering Sri Lanka, as the Fair Trading Commission (Sri Lanka's competition authority) discovered after the sale of LLL to the TNC.

/...

(Box IV.6, cont'd)

Although LLL's sole right of importing and distributing lubricants ended on 31 March 1997, its exclusive blending rights stay in place until July 2000 and its exclusive distributional rights through CPC outlets until mid-July 2004. As regards blending, at present, base oil is imported by LLL with a 10 per cent duty, and this oil is mixed with inorganic additives to produce lubricants. While other suppliers of lubricants may now enter into the market, they have to pay a 20 per cent import duty (duty applicable to the finished products). As for distribution, all CPC outlets will sell exclusively the main lubricant product of the LLL, up to the year 2004. If other competitors wish to enter the market they would have to create their own outlets. As noted by Sri Lanka's Fair Trading Commission, no alternative distribution outlets are now available and the establishment of a new distribution channel would be very difficult and lengthy.

Once it was realized that other TNCs were ready to enter the market without requesting exclusive rights, the Government of Sri Lanka considered the possibility of renegotiating the contract. However, such renegotiation was not pursued because of the fear that the TNC might pull out of Sri Lanka, thus giving a negative signal to other foreign investors considering to invest there. The only mechanism in place to minimize the potential abuse of market power in the lubricant market is the monitoring of LLL by the Fair Trading Commission. In fact, the Commission has the power, under section 23 of the Industrial Promotion Act No. 46 of 1990, to investigate any unreasonable price increase arising from abusive exploitation of market power.

Source: based on information obtained from the Fair Trading Commission of Sri Lanka.

[a] The terms of the exclusive rights granted to the TNC were disclosed in the LLL Share Offer Bulletin in June 1996, when 30 per cent of LLL shares were offered to the public.

Quite often, different market-power inducements are combined and reinforce each other. Indeed, trade protection is a type of market-power inducement that often accompanies other measures, as illustrated by the cases of FDI in pineapple products in Kenya (box IV.7) and the privatization of Lanka Lubricant Co. and the Colombo Gas Company (boxes IV.6 and IV.8). Another example is provided by the tobacco industry in the Czech Republic (then the Czech and Slovak Republic) where the previous state monopoly, Tabak, was sold in June 1992 to a TNC in the tobacco industry in its entirety.[18] The inducement in that case was inheriting a legal production monopoly, along with a 65 per cent import tariff, which gave that TNC 80 per cent of the local cigarette market.

Furthermore, especially in privatization programmes, governments in some cases prefer to maximize immediate financial gain and reduce budget deficits by selling monopolies to foreign investors, and pay less attention to long-term effects. An example is the privatization of the Czech tobacco enterprise, mentioned in the paragraph above, in which immediate financial gains were apparently viewed as more important than the long-term impact on consumers.

Finally, sometimes governments may not be fully aware of all the consequences of their decisions on competition and, consequently, on consumer welfare and general economic performance. Asymmetry of information is a major issue for developing countries when facing TNCs with typically more information about international market conditions. Such asymmetry may relate to both the start-up costs involved in an industry and the prospects for alternative sources of FDI.

For their part, TNCs often base their requests for dominant power and / or protection on efficiency arguments. Thus, it is argued that a dominant position, protection and exclusivities compensate for high sunk costs and ensure a minimum scale of profitable operations. When the venture is mainly

Box IV.7. Granting exclusive rights to induce FDI: two examples from Kenya

In Kenya, a large TNC had obtained (at independence and during the country's import-substitution phase) exclusive rights for the production and processing of pineapple products in the country for a 99-year period. The firm also enjoys substantial protection from imports: a 50 per cent tariff on imported canned pineapples. Imports are further restricted by the requirement of obtaining prior ministerial approval for imports of fruits preserved in sugar (GATT, 1994). The reasons for the exclusivity and protection seem to lie in the importance of processed fruits and vegetables as sources of export revenues for Kenya, the world's fifth largest exporter of tinned pineapple (GATT, 1994). In terms of sales revenues, the affiliate was among the ten largest industrial affiliates in Kenya (UNCTAD, 1997a).

Another example is Kenya's soda ash market where another large TNC holds an exclusive mining and processing concession at Lake Magadi. In addition to the mining concession, the exclusivity was extended to contiguous markets, such as the Magadi-Konza railway line that may be, in principle, separate and competitive. The rationale for the exclusivity is probably related to the importance the Government ascribes to the development of the soda ash industry and to the related export earnings.[a] Domestically, some limited competition to the TNC-affiliate's position comes from the small salt mines at the Mombasa coast, which, however, are not able to match that affiliate's market power in the foreseeable future. Imports might create a more credible threat to that affiliate's quasi-monopoly position, but they are discouraged by a 31 per cent import tariff. Furthermore, foreign trade in minerals is restricted to persons in possession of a mineral dealer's licence issued by the Commissioner of Mines.

Source: based on information obtained from the Monopolies and Prices Commission, Kenya.

[a] In 1994, GATT estimated that soda ash and fluorspar provided over 2 per cent of Kenya's export revenue (GATT, 1994).

Box IV.8. Inducing FDI by offering market protection: the case of the Colombo Gas Company in Sri Lanka

The privatization of the Colombo Gas Company (CGC), the Sri-Lankan State-owned enterprise, took place in November 1995. A TNC acquired 51 per cent of CGC and was granted an exclusive right to produce and sell gas in Sri Lanka for 5 years and a mandate to increase the price of gas by 10 per cent every year. The major points in the contract were the following:

- The affiliate managed by the TNC would have the exclusive right in Sri Lanka to produce, import, store, and distribute liquid petroleum gas (LPG) and fill cylinders for a five-year period.
- The Government would actively enforce the exclusive rights and prosecute any breach of those rights.
- The company would be allowed to expand in other related activities, or be present in other geographical markets (such as export markets).

Among the factors that apparently influenced the Government's decision to grant the TNC monopoly rights was the fact that the TNC, being a leading company in the petroleum and gas industry, was expected to adopt superior technology and better safety standards than other firms. Furthermore, the company offered to build a new terminal and a pipeline for an estimated investment of $33 million.

/ ...

(Box IV.8, cont'd)

The 10 per cent price increases that were imposed in 1995 and 1996 led to consumer resistance. Given this situation, the Government had another look at the contract. The matter was referred to the Sri Lanka Attorney General's Department to seek an opinion on how to go about renegotiating the terms of the exclusivity.

The Fair Trading Commission (FTC) of Sri Lanka, the country's competition authority, has closely observed these developments. However, it has not been able to play an active role, since Sri Lanka's privatization process has been taking place quite independently from its activities.

Once the exclusivity period is over, the Government envisages permitting and encouraging competition in the concerned market. The terminal facilities will be made accessible on "reasonable" commercial terms to new entrants for import, unloading and distribution of LPG.

Source: based on information from the Fair Trading Commission of Sri Lanka.

export oriented, the dominant position, protection and exclusivities may be justified as being just leverages in building global competitiveness. In the case of public utilities, on the other hand, a request for monopoly position in exchange for investment may be justified in order to ensure universal service requirements: an overall monopoly position is required so that the TNC can provide certain services at below-cost prices to all consumers. These arguments are not unique to TNCs; they are also routinely put forward by domestic producers who seek such privileges. Transnational corporations can, however, make it explicit that, given these considerations, they would invest in other countries should they not receive market-power inducements.

To sum up, granting market-power inducements is generally likely to affect negatively competition as well as consumer welfare in host country markets. While there may be offsetting considerations related to the long-term development contribution of FDI, the need for market-power inducements involving the creation of anticompetitive market structures should be examined carefully, with a view towards minimizing their use and negative effects (see chapter V).

B. Foreign direct investment, market structure and competition in a globalizing world economy

1. The emergence of regional and global markets

As barriers to trade, FDI and the movement of capital between countries have come down and transport and communication costs have decreased, the options available to firms of where to produce and where to sell, and to consumers of from where to buy, have increased. As a result, markets in many industries have shown an increasing tendency to transcend national boundaries, with firms from many countries competing to sell to buyers located in many countries. At the same time, international production has grown rapidly as firms invest abroad, seeking to serve, not merely the national markets of individual host countries, but the larger regional or global markets that are emerging.

Under conditions of liberalization and globalization, TNCs, like other firms, serve markets through international trade whenever they find it possible and profitable to do so, and through FDI and various non-equity arrangements when cross-border trade is not possible or is less profitable

than delivery through the establishment of local production facilities or non-equity arrangements with local firms. The difference between TNCs and other firms in this respect is that TNCs can serve the markets for tradeable products from any production location that suits their strategic objectives, while uninational firms, by definition, cannot or choose not to do so. Increasingly, TNCs organize their international production to combine resources and markets as effectively as possible, locating production activities in different countries according to their overall strategy and integrating them through intra-firm (and/or inter-firm) networks of trade in tradeable goods and services for serving markets through domestic sales in host countries or through trade (UNCTAD, 1995a). The resulting complementarity between FDI and trade is indicated by the more rapid growth of sales by foreign affiliates than arm's length world exports (chapter I), the high share of exports by TNCs in total world exports -- an estimated two thirds (UNCTAD, 1995a) -- and the decreasing share of sales in host countries in total affiliate sales.[19] The decrease in the share of local sales in total sales is most noticeable for United States and Japanese affiliates in the European Union, reflecting the fact that the elimination of national borders to trade and FDI has proceeded further within the European Union than elsewhere.

With trade liberalization, regional or global markets can emerge for most goods, since they are tradeable and can be delivered to buyers by sellers regardless of their respective locations around the world. Such an expansion of the scope of markets has important implications for the contestability of those markets and, depending upon the characteristics of an industry and the strategies of firms as they respond to the opportunities and challenges presented by larger markets, for the structure of, and competition in, these markets and the resulting impact on performance of the different industries concerned. Foreign direct investment, closely intertwined with trade for obtaining inputs to production as well as for serving these markets effectively, can play an important role in influencing the market structures and the processes of competition in such markets and, hence, the performance of the industries concerned.

The emergence of regional or global markets in the narrow sense described above does not apply in the same manner to services, most of which remain non-tradeable (although modern computer-telecommunication systems are making some of them increasingly tradeable). For them, the geographical scope of the market remains national or even local. Since trade is virtually impossible, markets cannot be integrated regionally or globally through trade. Local production by domestic firms and foreign affiliates is the only means of contesting and serving these markets. However, globalization and liberalization are affecting the structure of these markets and their functioning as well (box IV.9). First, convergence in tastes and demand patterns has meant that some non-tradable products can be standardized: Sheraton, for example, delivers more or less the same set of services -- typically a standard core product with local adaptation -- to consumers in host-country markets anywhere in the world through its affiliates, as does McDonalds. This implies that even if these markets may not be linked regionally or globally through trade, they are regional or global in the sense that they are standardized across borders. This standardization or harmonization makes it easier for TNCs to serve markets through the establishment of affiliates or non-equity arrangements. Furthermore, such standardized markets are likely to create regional or global markets for the tradable inputs that form part of the value-added process in the final (non-tradable) products.

(a) Foreign direct investment, efficiency and the structure of regional/global markets

Markets that are regional or global in scope are, in principle, more contestable than markets confined within national borders: other things remaining the same, the number of firms that can serve a consumer in a global or regional market should be greater than if the consumer were served by locally based producers alone. Normally, therefore, one would expect that the actual number of firms

Box IV.9. The globalization of telecommunications and competition

Exchange carriers, the providers of basic telephone services, are becoming increasingly global players, driven by competition and facilitated by deregulation at the national level and technological developments. Although national carriers are still the predominant providers of basic telephone services to their national market, the world telecommunication industry is moving rapidly towards a global structure dominated by a few cross-border firm consortia, alliances, partnerships or distributorships that supply consumers wherever they are located. And in the future these alliances are likely to include not only exchange carriers, but information and entertainment companies as well (Kraemer, 1996). Despite the fact that the configuration of many of these alliances is not yet firmly established, exemplified recently by Telefonica of Spain to pull out of Unisource, a strategic alliance of European-based carriers, and form an alliance with Concert, an alliance that includes British Telecommunications and MCI,[a] competition is moving increasingly from the national to the regional and global levels in terms of defining the relevant markets, and from competition between mostly national firms (such as AT&T and MCI in the United States) to competition between international alliances (such as Concert and WorldPartners).

One example of these trends is Global One, an alliance between the national exchange carriers of France and Germany (France Télécom and Deutsche Telekom, both of which have a monopoly position for the international calls of their respective countries) and Sprint (a United States-based carrier which does not have a monopoly for international calls in the United States). Global One "can deliver a common set of telephone services simultaneously in several countries" (ITU, 1996, p. 23) to TNCs, business customers, other carriers and business travellers. In other words, the place where a call originates and the place where it is completed may well be outside the place where the firms in Global One are located. And Global One competes as a group both with other alliances, as well as with national carriers.

Competition authorities allowed Global One only after safeguards were negotiated for competing carriers. Potentially, alliances such as Global One could yield important benefits to consumers in terms of price, quality of service and range of choice through price discrimination and special concessions to customers as long as simple international resale is allowed (the connection of an international private (leased) line to a public switched network) and nondiscriminatory local access and interconnection terms exist. But they may also result in lesser competition if the supply of telephone services is controlled at both ends of an international line by the firms in an alliance.

Sources: UNCTAD, based on Kraemer, 1996, and ITU, 1996.

[a] Alan Cane, "Everybody is talking", *Financial Times*, 27-28 March 1997.

that serve any consumer, located anywhere, should increase (and competition intensify), when the market for a product becomes regional or global due to trade and FDI liberalization. This would indeed be the case if the number of firms producing in the industry at the regional or global level remains unchanged when national barriers separating markets are removed.

In actual fact, the number of firms in an industry and in the market for its product and their concentration in terms of shares in regional or global markets could well change when markets shift from being primarily national to being regional or global. The nature of the change would depend on the cost structure and the production characteristics of the industry and the response of firms to the expanded geographical scope of markets for goods. Several possibilities exist as regards concentration (at the supranational level) and competition (in markets for products that are tradable and do not involve prohibitive transport costs):

- In industries in which the capital costs of entry are low, products are relatively standardized, and / or technologies relatively simple and economies of scale (at the plant

as well as the firm level) relatively unimportant, increasing numbers of firms located in different countries are likely to enter (the industry and) the market for the product in response to its increased size due to regionalization or globalization. Such entry may often be through exports, since in such industries there may not be strong enough advantages from internalizing transactions based on ownership-specific advantages. Foreign direct investment and, especially, non-equity arrangements between firms located in different countries, may, however, play a role in increasing the number of suppliers and quantities supplied to such markets, through the transfer of technology for export-oriented production, as well as by providing marketing know-how and access to trade networks to locations and firms lacking these capabilities. In such industries (for example, many kinds of apparel), the structure of regional and global markets in the products themselves is likely to be highly competitive, which brings benefits to potential consumers but also requires considerable adjustment among producers as they compete on the basis, essentially, of the combined competitive advantages of particular locations in production and particular firms in international marketing.

- In industries with high set-up costs, large production scale economies at the plant level, and organizational complexity, production is likely to be concentrated in a few locations and goods delivered to regional or global markets through export. Such markets could become highly concentrated as the limited number of firms that existed in the markets prior to globalization respond to the larger size of regional or global markets by increasing their scale further, including through mergers with other firms. (The aerospace industry and the proposed Boeing-McDonnell Douglas merger are possible examples.) In principle, the few firms in such an industry could be located anywhere that they find suitable, and firms based in different countries could combine or form alliances for specific purposes of raising capital, conducting R&D, marketing, or undertaking intermediate activities, involving specific factors of production that could be performed in countries other than those where the main production activity takes place. Competition and its impact on performance will depend mainly on how many firms or groups of firms worldwide have the capacities to invest on the scale required for participating effectively in such markets.

- In industries in which economies of scale at the firm level (due, for example, to R&D, advertising and/or marketing expenditure), economies of scope, and/or plant level economies in intermediate production activities are important, and in which the value chain can be separated into discrete activities, firms respond to the expanded regional or global scope of markets by combining international production (through FDI or non-equity arrangements) and trade efficiently; they organize (or in the case of firms that are already transnational, reorganize) their production activities internationally in an integrated manner to augment their resources, minimize their resource cost, reap economies of scale at various points in the value chain and reach as large a market as possible. In such industries, the number of firms operating in markets that are regional or global could either decrease or increase (in comparison with those prevailing before globalization), depending upon how many firms are able to build up and manage effectively the intra-firm or inter-firm networks necessary to compete successfully. Moreover, regardless of market structure in terms of the number of firms or concentration, as long as entry is open, competition could be quite intense and industry performance could improve, mainly because of the efficiency gains that can ensue from integrated international production, and especially when such integration facilitates innovation.

The interaction between FDI and competition in regional and global markets is likely to be most evident in the third type of industry, in which firms are most able and likely to take advantage of the opportunity to combine trade and FDI efficiently. Firms in such industries are rationalizing their production across borders and pursuing complex integration strategies through intra-firm production rationalization and inter-firm agreements and strategic partnerships (chapter I; see also UNCTAD, 1993b).

Firms are doing this to become more cost-efficient and competitive. This restructuring in production takes place through FDI that is efficiency-seeking / asset-acquiring and through cross-border inter-firm agreements with similar objectives. Through FDI, some firms are strengthening their core competencies and market positions, by establishing new production facilities, shedding unrelated activities and merging with, or acquiring, related firms (witness, for example, the recent wave of cross-border mergers and acquisitions). For TNCs that already have a network of foreign affiliates, the response to the globalization of markets and increased competition is frequently an intra-firm rationalization of production across the corporate network (UNCTAD, 1993b). Firms are also establishing links with their international competitors for well-defined activities at specific stages of the production process through strategic partnerships. In sum, firms in several industries are locating production anywhere in the world from where they can supply products wherever the markets are located, in a constant search for efficiencies in production and marketing.

The process of international restructuring has led to a reduction in the overall number of producers in some industries at the regional or global levels. In the hard disk-drives industry, for example (discussed below) -- an industry characterized by high R&D expenditure, scale economies at the production stage, growing global markets and significant international production -- the number of manufacturers worldwide has decreased from 59 in 1990 to 24 in 1995, with most of the decline taking place after 1993.[20] In pharmaceuticals, another industry characterized by high costs of entry due to high capital and R&D intensity, the top 16 firms worldwide accounted for 35 per cent of the global market in terms of sales in 1989, up from 33 per cent in 1981 (OECD, 1993, p. 140).

The reduction in the number of producers worldwide and the greater concentration at the regional or global level provide greater scope for the emergence of international oligopolistic structures. This is indeed the case in some industries, as illustrated by the market for hard disk drives (see discussion below). However, these new international oligopolistic structures are often qualitatively different from similar structures of earlier times. Like their predecessors, the new oligopolistic structures involve a high degree of concentration; but they tend to be less hierarchical and more network-based, and / or less stable and more loose than their predecessors. One example is the formation of global knowledge-based networked oligopolies in bio-pharmaceuticals (box IV.10) and another, the integrated international production structures in hard disk drives (see below).

Of particular interest are oligopolistic networks that take the form of strategic partnerships involving a single component of the value chain, namely, R&D. Traditional concentration measures defined in terms of shares in product markets do not capture the greater concentration in (the market for) R&D that may be the outcome of such partnerships. Yet, greater concentration in (the market for) R&D can, in turn, affect competition in product markets, for example, by giving the TNCs involved in a partnership the power to reduce innovation competition for the creation of substitute products.

Ease of entry (and exit) is a key determinant of market structure at the regional and global levels. High cost-related barriers to entry (e.g., sunk costs) in industries in which TNCs tend to be found imply that even when markets are regional or global, TNCs are often likely to compete in highly concentrated markets. And to the extent that the integrated production structures of TNCs strengthen entry barriers

Box IV.10. Knowledge-based oligopolistic networks in bio-pharmaceuticals

Within the pharmaceutical industry, there is evidence that a global networked, knowledge-based bio-pharmaceutical oligopoly is emerging. By the end of the 1980s, the top ten pharmaceutical firms in the world, all TNCs, had begun to consolidate their position in biotechnology through a wave of acquisitions of smaller biotechnology firms facing financial difficulties because of sharply rising R&D costs: for example, Genentech was acquired by Hoffmann La Roche, Chiron was acquired by Ciba-Geigy and Affymax was acquired by Glaxo. At the same time, pharmaceutical companies began to weave a net of cross-border R&D or knowledge-based alliances with other firms and research institutions: SmithKline Beecham is reported to have more than 140 such alliances worldwide as of 1995 and Glaxo has more than 60 such alliances, 50 with universities in the United States. But despite the proliferation of cross-border strategic alliances in pharmaceuticals in recent years, most alliances are still undertaken between national firms, within countries.

Recently, however, the formation of cross-border alliances in pharmaceuticals has intensified. Indeed, all of the largest pharmaceutical companies are now involved in R&D or technology partnerships with other pharmaceutical or biotechnology firms. The outcome of this is the reconfiguration of the industry and the emergence of a networked knowledge-based oligopoly. In contrast to the 1980s when the pharmaceutical industry was consolidated primarily through mergers and acquisitions, national R&D alliances and cross-border marketing alliances, in the 1990s the international reconfiguration of that industry is taking place increasingly through cross-border R&D alliances. These alliances create oligopolistic structures not in the market for the final products, where pharmaceutical companies continue to compete vigorously, but in the market for technology and know-how. These structures potentially may become barriers to entry, in which case the international market for pharmaceuticals might become less contestable. This would have negative implications for competition in the market for pharmaceutical products. On the other hand, to the extent that strategic partnerships strengthen innovatory capabilities of the firms involved in the partnerships, they may also strengthen innovatory competition, with potential benefits for the long-term performance of the industry.

The experience with strategic R&D partnerships to date has shown that, although the firms involved cooperate with their international competitors in research and product development, they continue to compete vigorously in the final goods market, as illustrated by the bio-pharmaceuticals industry. However, the dynamic effects of these partnerships may give rise to anticompetitive practices, especially as regards setting industry standards that may act as barriers to future entrants.

Source: UNCTAD, based on Mytelka, forthcoming.

(by, for example, increasing the minimum scale of efficient production, as in the case of hard disk drives, discussed below), the contestability of the market for an industry's product could be reduced and concentration increased.

At the same time, when international production is integrated, the intra-firm specialization and rationalization of production on a regional or global scale enable TNCs to reduce costs and achieve economies of scale and scope at more points along the value chain (UNCTAD, 1993b and 1995a):

- Through an international specialization within TNC systems (each comprising a parent firms and its foreign affiliates) at the stage of intermediate or final goods production, TNCs can increase efficiency by accessing low-cost inputs and/or reaping economies of scale and scope.

- Efficiency gains in marketing and distribution arise from economies of scale associated with a functional division of labour that makes one (or few) affiliates within a TNC system specialize in distribution, taking charge of the regional or global marketing strategy and distribution to a number of locations for the firm's product (e.g., developing an overall theme for advertising that may then be slightly modified in campaigns targeting individual countries).

- By integrating R&D functions performed within their systems at different locations on a regional or global scale, TNCs can access inputs to the innovation process and exploit economies of synergy and time zone differences to speed up development, reduce costs and innovate more effectively.

As already mentioned, TNCs are also integrating specific activities of the value chain by concluding cross-border inter-firm agreements and strategic partnerships with other firms (chapter I; see also UNCTAD, 1993c). The principal motive for concluding such agreements is to improve efficiency by sharing costs, expertise and knowledge or distribution outlets with other firms:

- Research-and-development partnerships can improve efficiency by lowering the costs for each partner, and improve economies of scale through the pooling of financial resources, accessing new sources of finance, or spreading risks over a broader base (chapter I).

- Efficiency gains for TNCs engaged in cross-border agreements at the stage of final goods production come from reducing production costs through component sharing arrangements (e.g., Mazda and Ford sharing auto body platforms and transmissions), "integrated" subcontracting agreements with local suppliers and from synchronizing production cycles.

- Efficiency gains in marketing and distribution arise from economies of scale and from cost-reduction through sharing outlets with other firms through inter-firm agreements. By using each other's distribution network (for e.g., as in the case of alliances in telecommunications or airline reservation systems), TNCs in a strategic alliance can reach more consumers. Marketing costs can be reduced by sharing know-how and information, or through joint advertising campaigns.

However, integrated international production also involves transaction costs related to managing and coordinating functions, activities and flows of information across borders. Although technological innovations in communications have reduced some of these transactions costs, they can be substantial, and the inability of TNCs to manage such structures effectively can lead to inefficiency and misallocation of resources. To the extent, however, that TNCs become more efficient by pursuing complex integration strategies and that such TNCs dominate their industries, production performance of the industry as a whole (as, for example, automobiles and electronics) could improve in terms of cost per unit, quality of products produced and innovation (UNCTAD, 1993c).

(b) Competition effects

If the regional or global markets in which TNCs operate remain contestable (especially through liberal trade and FDI policies in goods and a liberal FDI policy in services, as well as the application of competition law), the scope for non-competitive or anticompetitive behaviour by firms is likely to be limited. In that case, TNC activity is likely to increase competition through cost,

quality or innovation; and improved efficiency due to integrated international production is likely to be procompetitive and benefit industry performance and consumer welfare in static as well as dynamic terms -- that is, through cost reduction or increased range of products within existing technological and resource constraints as well as through innovation and the introduction of new products. The distribution of the gains from this improved industry performance will depend, in the long term, on how productive factors in different countries are linked to an industry and the spillover effects to domestic firms from competition with foreign firms. Productivity spillovers from parent firms or affiliates to domestic firms in particular locations will depend to some extent on factors similar to those discussed in section A. Given, however, that integrated international production for regional or global markets implies a greater degree of specialization in each location, much depends on the particular activity that a country can attract: here, building up the human capital and infrastructure conducive to higher value-added activities and especially R&D becomes crucial for benefiting from spillover effects. In their absence, the scope for TNC activity to contribute to the dynamic comparative advantages of a particular location through contributions to innovatory capacity is limited, both because of the reluctance of TNCs to locate such activity in such a location and because of a lack of indigenous enterprises to compete with TNCs in the relevant market (regional or global as well as national) and benefit from spillovers.

If contestability in regional or global markets is low and competition lacking, however, efficiency improvements due to integrated international production could lead to the emergence of additional barriers to entry and anticompetitive results might emerge, in the form of a monopoly (or tight oligopoly) or scope for restrictive business practices by the firm(s) that remain. The business practices that TNCs might implement in concentrated and/or non-contestable global or regional markets are, in many cases, similar to those that might be practised in host country markets, although they may involve more complex geographic patterns. However, a number of practices can apply specifically to TNCs that are involved in integrated international production through either equity or non-equity (contractual) arrangements. These arise when a TNC has control over more stages of the production process and a wider range of activities than do competing local or foreign firms. Such control can give rise to a number of practices, with procompetitive or anticompetitive effects: for example in the airline industry, to discourage customers from spreading purchases across different sellers, TNCs could offer quantity discounts, fidelity rebates or frequent flyer programmes to their customers and link these across national markets. This could leave local firms at a competitive disadvantage by reducing their ability to sell and could, under certain conditions, be considered as constituting predatory pricing. The scope for predatory pricing may also be increased due to the greater significance of intra-firm trade for TNCs that engage in integrated international production; such TNCs are in a position to utilize transfer pricing, e.g., to engage in anticompetitive cross-subsidization to a greater extent than other firms. Integrated TNCs could also create more formidable obstacles to new entry in a market than could separate firms operating at each stage of production. With separate firms, a new local entrant has the opportunity to enter just one stage of the production process, and sell to downstream firms or buy inputs from upstream firms. Facing an integrated TNC reduces the size of the potential market available to the new entrant (and possibly also its sources of input supply), thus limiting chances of successful entry.

In addition, integrated international production through contractual arrangements and alliances carries some specific practices that may be restrictive and might have anticompetitive effects, while at the same time enhancing the efficiency of the firms involved. One important example relates to innovation which has become a crucial element of competition in a globalizing world economy. Transnational corporations in strategic partnerships can not only influence the speed of innovation for substitute products, but they may also set industry-wide technological specifications and technical standards while new products are still at the innovation stage, and such standard

setting could hinder the development of substitute products and could lead to market dominance in the future. In other words, by cooperating in precisely those areas that form the basis for future competition in product markets, TNCs in partnerships could become exclusionary networks controlling the pace and type of innovation and flow of privileged information to firms that are not members of that partnership.

The above set of competition concerns raises the issue of possible responses of local firms when faced by integrated TNCs. Horizontal market power is normally harmful to consumers, but can be attractive to local firms that benefit from higher market prices. However, the same is not true of vertical integration. The possibilities of foreclosure and predation raise concerns to rival producers, and ultimately also to consumers. Rival producers may also be worried by enhanced efficiencies and the elimination of successive mark-ups by integrated TNCs because these tend to reduce prices -- but these are likely to benefit consumers.

(c) Integrated international production, market structure and competition: the hard disk-drive industry

The hard disk-drive (HDD) industry, an important segment of the electronics industry,[21] which is highly globalized in terms of international production as well as trade, serves to illustrate some aspects of the interaction between FDI, market structure and competition under conditions of globalization and integrated international production. It shows that, under certain circumstances, globalization and the growth of integrated international production can go hand in hand with high and increasing concentration of markets at the global level. Nonetheless, market positions of individual firms can be volatile, and there can be several new market entrants, all leading to a highly unstable global oligopoly and fierce competition in an industry.

i. Industry characteristics and market-entry conditions

Hard disk drives are widely used in computers of all sizes, from the most powerful super-computers to laptop PCs. They are high-precision machines that contain and rotate rigid disks on which data are magnetically recorded, and that control the flow of information to and from those disks. These machines combine the characteristics of mass production with very short product cycles and periodic trajectory-disrupting innovations (Ernst, 1996). Product differentiation is relatively unimportant. Barriers to entry are high, deriving mainly from economies of scale in production (at the assembly stage as well as in the production of the various components and parts that go into a drive), and from demanding engineering requirements. High R&D costs, as firms race to improve technology in order to squeeze ever more memory into diminishing space, are another factor affecting the ability of firms to enter the industry. [22] At the same time, the subassembly activities involved in the production of HDDs are labour-intensive and difficult to automate. All this means that, to enter and remain competitive in the industry, firms must combine technological and financial strengths with organizational efficiency to keep manufacturing costs low and deliver the product rapidly to markets.

ii. Integrated international production in hard-disk drives

The internationalization of HDD production has proceeded rapidly since the early 1980s, when Seagate (United States), only three years after its founding, decided to move a large part of its drive assembly to Singapore. One year later, Seagate established a second affiliate in Bangkok (Thailand). In 1984, Maxtor (United States), another leading HDD manufacturer, established an

affiliate in Singapore. Since then, all leading HDD manufacturers have shifted most of their final assembly to Asia. The outcome has been a degree of reliance on international production well beyond that in other product areas of the electronics industry, such as semiconductors (Ernst, 1983 and 1992) and consumer electronics (Bloom, 1992). In 1995, less than 5 per cent of the final assembly of HDDs remained in the United States, while 64 per cent was conducted in South-East Asia.[23]

Manufacturers in the industry have progressively integrated their operations into increasingly complex international production networks. They have broken down the value chain into discrete functions and have located each function wherever it can be carried out most effectively or wherever the penetration of important growth markets is facilitated. Reduction of transaction costs and improvements in efficiency are important motivations behind this. Of equal importance, however, are access to low cost and skilled labour, clusters of specialized capabilities and contestable rapidly growing markets, and the need to speed up response time to technological change and to changing market requirements. A typical network includes not only a parent firm and its affiliates, but also its suppliers and subcontractors, its distribution channels and value-added resellers, as well as its R&D alliances and a variety of cooperative agreements (such as standards consortia). The parent firm derives its strength from its control over critical resources and capabilities, and from its capacity to coordinate transactions between the different network nodes. One such source of strength is the intellectual property and knowledge associated with setting, maintaining and continuously upgrading a *de facto* market standard. This requires constant improvements in product features, functionality, performance, cost and quality. The lead firm outsources not only manufacturing, but also a variety of high-end support services, such as engineering and R&D.

The current industry leader, Seagate, operates 22 plants worldwide, 14 of them in Asia.[24] Asia has absorbed most of the company's high-volume labour-intensive assembly activities and the production of low- and mid-range components. High-end, knowledge-intensive stages of the value chain, such as precision component manufacturing and R&D, remain in the United States, in a few highly specialized regions in Minnesota and California. Furthermore, Seagate's production network in Asia has evolved to include a regional division of labour to take advantage of the differing labour-cost advantages of countries in the region. Bottom-end work is done in Indonesia and China. Malaysian and Thai plants make components and specialize in partial assembly, with the latter accounting for the largest share of low labour cost manufacturing. Singapore is the centre of gravity of this regional production network: its focus is on higher-end products and some important coordination and support functions. It completes the regional production network by adding testing, which requires precision. Increasingly, the managers and engineers in its Singapore operations are drawn from the international labour market, including developing countries such as China, India and the Philippines.

iii. Market structure and competition in the industry

a. Increasing concentration

The production of HDDs is one of the most highly concentrated segments of the electronics industry despite the highly globalized markets for its products. Concentration at the global level is increasing. Furthermore, in 1995, nine companies went out of business, and only three companies entered the industry, all of them in niche markets. During the same year, Seagate, the current market leader, acquired Conner Peripherals, the company that was the world market leader in 1992. Two big companies, Hewlett Packard and DEC, left the HDD segment of the electronics industry altogether in 1996.

The four largest HDD firms account for over 50 per cent, and the eight largest for 90 per cent of total revenues in the industry. United States' companies are clearly dominant, accounting for the top six HDD producers.[25] (One, Maxtor, has recently been acquired by the Hyundai group (Republic of Korea)). [26] Concentration ratios are also quite high for the two main components of HDDs: heads and media.

b. Factors fostering concentration

Integrated international production has influenced concentration in the industry by enabling the leading firms engaged in such production not only to reap the scale economies characterizing certain aspects of the production process, but also to increase the minimum scale requirements for efficient production and complex capability requirements.

- *Economies of scale.* Scale economies, of critical importance in HDDs, relate largely to costly overhead investments such as the construction of "clean room" environments and expensive test equipment needed in final assembly, and to the production of precision tools, moulds and dies that are needed for producing the various high-precision components and parts that go into HDDs. Driven by growing demand, leading firms have adjusted their scale of operations so that minimum economies of scale in HDDs have grown rapidly over time. In 1989, an annual production capacity of between 900,000 and one million units[27] was regarded as the minimum scale requirement (Ernst and O'Connor, 1992, p. 194). Subsequently, it was estimated, that "...the minimum efficient scale in the disk drive assembly business is about 4 million units (per annum)" (Christensen, 1994, p. 18). Minimum scale requirements have recently increase further. Maxtor, for example, reported a production capacity of 4 million drives *per quarter* in its main plant in Singapore for 1996.[28]

- *Complex capability requirements.* The industry is characterized by rapid technological change: areal density (the amount of information that can be stored on a given area of magnetic disk surface) is increasing by about 60 per cent annually.[29] The speed of access to data is also important. To cope with both requirements, HDD producers must be able to tap into scientific knowledge across a wide technological front. Success in the HDD industry also depends crucially on developing innovative architectural designs that can provide cost-effective solutions to trade-off between size, storage capacity and access time of drives. Leading-edge software capabilities are another important prerequisite.

  Hard disk-drives require a variety of high-precision engineering capabilities, mastery of complex process technologies, and skills for implementing leading-edge automation techniques for final assembly. Transnational corporations with integrated international production networks that have access to engineers and skilled technicians at reasonable cost and are, moreover, able to combine them effectively with other activities located elsewhere, are likely to have a competitive edge in this respect.

iv. Globalization and volatility of market positions: the dynamics of competition in hard disk-drives

a. Volatility of market positions

Despite its tight and concentrated oligopolistic structure, the market for HDDs is characterized by continuous price wars, very short product cycles and highly volatile market positions. No firm,

even the market leader, is safe from a sudden reversal of fortunes. Market leadership positions change very frequently.

This means that the development of technology, products and markets in HDDs is not dominated by a small group of (United States) firms. In other words, concentration in this industry does not indicate a low degree of market contestability and competition. While concentration is fostered by the large investment outlays and cost economies necessary to reap economies of scale and scope in the industry, firms' positions cannot be taken for granted. Only companies able to get the right product at the right time to the highest volume segment of the market can survive. Entering a new market on time can provide substantial profits. Being late can be a disaster that can force a company out of business. Probably of greater importance, however, is the increasing uncertainty that results from periodic trajectory-disrupting innovations.

b. Forces conducive to market disruption

Disruptions of market positions in the HDD industry can be traced to three main sources:

- *Very short product cycles.* In HDDs, on average, a new product is generated every 9 to 12 months, in some cases in as little as 6 months.[30] This leads to rapid depreciation of plants, equipment and R&D. It also leads to spurts of capacity expansion for rapidly bringing new products to the market.[31] The result is a built-in tendency for an overshooting of investment in relation to the growth of demand. This has a paradoxical consequence: as mismatches between demand and supply occur periodically, the capacity to exit rapidly becomes as important as the capacity for rapid expansion of production.

- *Complex supply chains.* Procurement of the wide range of high-precision components and sub-assemblies that HDDs require involves a variety of sources spread over different time zones and continents. Such global supply chains are prone to frequent disruptions. Suppliers can cause disruptions through late deliveries or through the delivery of defective materials. Of equal importance are periodic supply shortages for key components, such as heads, media, integrated circuits and precision motors. Geographical distance often magnifies the impact of such disruptions.

- *Volatile demand patterns.* The main market for HDDs is the computer industry. Computer companies therefore exert considerable influence on the product mix, the product cycle and the pricing strategies of HDD vendors. But because breakthrough innovations in architectural design and in component technology have periodically caused serious turmoil in HDDs (Christensen, 1993), passive subordination to customer needs may lead to dangerous complacency. Market leaders have often listened too attentively to their established customers and ignored new product architectures whose initial appeal was in seemingly marginal markets (Christensen, 1993, pp. 21-22). To be competitive, firms must combine technological strengths in the development of key components and architectural design with the capacity to identify and develop new markets for new applications.

* * *

The HDD industry illustrates that, in contrast to what might be expected when FDI and trade become freer and expand together, globalization may well increase concentration, and this process may be accentuated by integrated international production. As high-technology industries characterized by significant scale economies and sunk costs become more globalized, and firms seek to take advantage of the larger markets that open up while minimizing costs through integrated production networks, both sunk costs and scale economies increase, giving rise to further increases in concentration. Price wars may cause higher concentration by forcing out marginal producers and by reducing profit margins for potential new entrants. However, a high degree of concentration need not necessarily be equated with the absence of competition or of the competitive discipline of potential entry. Market disruptions -- caused, in the case of HDDs, by short product cycles and volatile demand patterns, as well as interruptions in the complex supply chains of integrated producers -- can give rise to unstable market positions for firms. The experience of the HDD industry suggests that, as competition increasingly transcends national boundaries in a liberalized and globalized world economy, while firms are free to combine FDI and trade in the pursuit of efficiency, there is the need for a fresh look at the determinants of market structure and firm behaviour.

2. International production, supply response and competition

Under conditions of globalization and the liberalization of policies related to FDI and trade, international production may not only affect the structure of, and competition in, supranational markets in some industries, but may also affect the ways in which -- and the speed with which -- firms respond to non-transitory increases in prices in markets. Such price increases sometimes, for example, when they follow a merger or acquisition or are undertaken by a dominant firm, trigger concern on the part of competition authorities and lead to an examination of whether new supplies are likely to enter a given market ("supply response" by potential competitors).

For a supply response to be relevant, it needs to be rather fast: between the time that an opportunity (e.g., a non-transitory price increase) arises and the time servicing a market can begin, not more than, say, one to two years should elapse. If this condition could be met, FDI and non-equity arrangements by TNCs would, indeed, represent an important supply response by potential competitors, a possibility that needs to be taken into account explicitly and fully by competition authorities (alongside that by local producers and imports). Its potential importance arises from the fact that the value of sales of foreign affiliates is higher than that of world imports (of which, in turn, about one-third are intra-firm) and that, for many services, FDI is the only way in which an international supply response can take place.

There are a number of reasons which suggest that FDI and non-equity arrangements for production by TNCs today allow a supply response to market opportunities that increasingly rivals that by local firms and imports. Transnational corporations, of course, also respond, like other firms, through trade and the expansion of supply by local facilities already in place. In the case of trade, TNCs sometimes have greater flexibility to respond as they might rapidly be able to bring to a specific market supplies of a product that they did not previously sell in that market, by rerouting supplies of goods from other affiliates through distribution networks that have already been established in the country in which a supply response is profitable; by concluding marketing agreements with independent firms; or, simply, by using arm's-length trade. The expansion of supply by local facilities already in place may be facilitated because of the financial and technological strengths of TNCs, which may make it easier to acquire firms or enter into mergers or alliances, so that existing capacities could be strengthened in the relevant product market -- for example, by using more fully or efficiently previously unused and underused facilities and assets, and by drawing on the resources available in the TNC system. Transnational corporations may also be able to rely on internationally recognized brand names which could make entry into a market easier.

Most importantly, TNCs may be in a position to provide a supply response by adding production capacity to their existing facilities, by entering into non-equity arrangements or alliances, or by undertaking greenfield investment to establish new production facilities in order to enter a market for the first time. This would be particularly important in services. In today's world economy, such a supply response is facilitated by a number of factors, with many of them being based on the fact that all countries seek to attract FDI, firms have already foreign affiliate networks in place, technological developments make the establishment of new affiliates relatively easy and competitive pressures often make the exploitation of new opportunities irresistible:

- *Scanning for opportunities*. Transnational corporations, and especially large ones, constantly scan markets for business opportunities that would strengthen their competitive position. Because of their worldwide networks of affiliates and flows of information within them, they are often in a better position than other firms to know about changes or developments in markets that create profitable opportunities.

- *Experience*. Experience gained through exporting (which often precedes FDI) and, in the case of TNCs that already have networks of foreign affiliates, experience gained through the establishment of those networks, make it easier for many TNCs to overcome the costs and problems associated with setting up a new production facility in a foreign location relatively quickly.

- *Access to resources within TNC systems*. The ability of TNCs, especially those with large networks of affiliates, to access, within their corporate systems, assets needed for production and marketing such as hard and soft technology and brand names (in which costs have already been incurred in other parts of their transnational corporate networks), as well as finance and other resources, such as managerial expertise, available outside their corporate systems at low cost, wherever these may be located.

- *Access to markets*. The ability of TNCs to access larger geographic markets through FDI and trade, thereby reducing the risks associated with entering any single national market and, therefore, reducing vulnerability to business cycles.

- *Spreading risks*. The ability of TNCs to spread risks over a wider, internationally diversified corporate base.

- *Alliances*. The ability of TNCs to overcome R&D and other barriers related to high entry cost by engaging in strategic alliances.

- *Assistance from affiliates*. The ability of TNCs to draw upon affiliates already established in or near a given location for assistance on specific matters related to a new investment.

All this does not mean that TNCs do not face disadvantages related to transaction costs and other difficulties of operating in a foreign environment. But, overall, the above factors facilitate and, in some cases, give TNCs a competitive advantage in entering a market through new investment; and, presumably, the more TNCs are established internationally, the greater this advantage becomes.

Of course, the actual length of time it takes between identifying a profitable opportunity in a market on the one hand, and creating new capacity and begin selling a product in a host country's market on the other, varies according to a number of factors, including the nature of the product and the industry, the capabilities of the TNCs involved and the characteristics of the market in question. But the considerations mentioned above suggest that the response by TNCs could be quite quick.

In general, moreover, supply response may be faster in services and in manufacturing activities that do not require sizeable new physical capital outlays for production. For example, Citibank got its credit-card operations in Pakistan up and running in under one year. Both, Citibank's experience and the nature of the service are likely to have been important factors in determining the relatively short duration within which supply capabilities were established, despite the fact that the product was new to the country.

In some manufacturing industries as well, duration can be quite short (box IV.11). There are also signs that it is decreasing further: in hard disk drives, for instance, the time taken from the start of production to bringing the product to the market on the basis of full capacity operations has decreased to nine months. Even in such highly capital-intensive manufacturing industries as automobiles, the time needed for establishing a production base and delivering the product to the market is not that long. For example, large scale investments of some $500 million in passenger-car production by BMW (Germany) and Daimler Benz (Germany) in the United States, and by Daimler Benz jointly with Swatch (Switzerland) and SOFIREM (France) in France, took between two and a half and three years after the start of construction of production facilities for the product to be ready for delivery to customers.[32]

All this suggests that the supply response by TNCs which have not yet invested in a country, or are not yet producing the product in which a profitable opportunity arises in the relevant market, should be considered routinely, along with the responses of domestic producers and imports, in assessing competition in a market.

Box IV.11. Supply response through FDI

It took Siemens Semiconducters (Germany) under two years from the time of its decision to locate the production of semiconductors in North Tyneside (United Kingdom), to have its facilities ready for commercial production. Hyundai (Republic of Korea) announced its decision to invest in semiconductors (64mb-drams) in Scotland in October 1996; the facility is expected to begin production in October 1998. Similarly, the announcement of the decision to invest in Scotland was made by Chungwa Picture Tubes (Taiwan Province of China) in November 1995, and production is expected to start in September 1997.

Source: UNCTAD, based on information obtained from Siemens and Neil Hood.

C. Conclusions

As countries liberalize their FDI regimes and rely more on market forces to determine the volume, nature and impact of TNC activities in their economies, the question of ensuring competition and keeping markets functioning efficiently assumes increasing importance. Transnational corporations can inject competition into markets for goods and services and contribute to improving

their efficient functioning. This is especially relevant in the case of markets for the products of industries that have high start-up costs and economies of scale and scope that make entry difficult, because TNCs tend to be particularly active in such industries. However, the same competitive strength that enable firms to expand their international production activities could, under certain conditions, also create opportunities for TNCs to eliminate competitors and assume dominant positions within markets, leading to possible reduction in market efficiency, and to engage in anticompetitive behaviour.

The product markets that are affected by FDI include those that are confined, in terms of geographic space, to individual national economies, as well as product markets that span several countries or the globe. With respect to national product markets, the principal interest centres around markets in host countries, especially developing economies. Past experience suggests that the entry and operations of TNCs may reduce concentration in host developed countries, although the increasing trend towards entry by M&As could mean that this may be changing. In developing host countries, the entry of FDI *per se* usually adds to the number of firms in an industry, with the potential to decrease concentration and increase competition in the market. Foreign affiliates are, however, often larger in size than their local rivals, and have greater technological, marketing and innovatory capabilities; this could lead to increased concentration in the industry due to the crowding out of domestic firms or the exit of some of them due to insufficient capacities to compete successfully. Concentration, by itself, is not a problem if markets remain open to competition, including also from imports in the case of goods and from TNCs in the case of services, and especially if the local firms that remain in an industry are able to withstand competition from foreign affiliates and further build up their own capabilities in response to it. In that case, competition from foreign affiliates not only benefits consumers by improving market efficiency, but affects the production performance of the host industry (and economy) through spillovers of efficiency and productivity from foreign affiliates to local firms. It could also influence dynamic efficiency if competition takes place through innovation.

However, if local firms have not yet built up the capabilities (as is often the case in developing countries and especially the least developed countries) to compete with foreign affiliates, the impact of FDI on competition and market efficiency in host countries depends upon the extent to which foreign affiliates compete among themselves and also with foreign suppliers (in the case of traded goods and services). If a concentrated market structure emerges, competition effects will also depend on the conduct of the dominant firms, including TNCs. Over time, if domestic firms are able to build up the capabilities necessary to re-enter an industry, competition would again increase.

If concentrated markets emerge as a result of TNC entry and participation, there may be scope for firms to indulge in anticompetitive and restrictive business practices in host countries. Some of these practices are related to, or facilitated, by cross-border relationships and contacts that are specific to TNCs. In addition, granting TNCs market-power inducements (in the form of legal restrictions on entry and competition by other firms) in order to attract their investments has, by definition, anti-competitive effects, resulting in welfare losses that may not be necessary.

Moreover, in a liberalizing and globalizing world economy, TNCs operate increasingly in markets that are no longer national but rather increasingly regional or global in scope, with sellers and buyers from several different countries transacting across national borders. In several industries, these TNCs integrate their value-added activities internationally, either within their corporate systems or through inter-firm agreements, achieving efficiencies in production associated with functional specialization and economies of scale and scope. This influences the nature of competition at the regional and global levels in a number of ways.

Firms that achieve gains in production efficiency can lower prices, introduce better quality and introduce new products to capture a greater market share; in this way, integrated TNCs can compete vigorously with other firms -- both single-nation firms and other TNCs. This may lead to increased concentration in the relevant market but could also yield benefits for consumers. The degree of concentration (at the supranational level) in these markets is, nevertheless, a matter of interest from the viewpoint of competition.

Integrating various activities located in different parts of the world through integrated international production within TNC systems and through cross-border strategic partnerships between firms is an increasingly important characteristic of several industries. This may appear to reduce an industry's contestability due to concentration among firms and, hence, to reduce competition as well. However, a reduction in contestability is not due to integrated production or strategic partnerships *per se*, but to the fact that sunk costs (and risks) and scale economies associated with certain activities, such as R&D, innovation and new product development in some industries are high. In fact, R&D partnerships could increase contestability by allowing firms, especially small and medium-sized ones, that would not otherwise have the resources to do so, to enter an industry, or put new products on the market faster than they would have been able to do in the absence of partnerships. Integrating R&D through partnerships need not, therefore, necessarily give rise to anticompetitive effects. In addition, how firms compete in the final goods markets depends, more and more, upon what happens to competition at the stage of innovation. Intra-firm integration of R&D activities within TNCs, as well as strategic cross-border R&D partnerships could play an important role in fostering innovation for dynamic competition but could also, under conditions of high concentration at the R&D level, reduce innovation-competition in a market.

Finally, the existence of networks of TNC affiliates enhances the role of a supply response through FDI in markets. It is, moreover, the only kind of international supply response for most services and other location-bound activities. This suggests that the speed of a supply response through FDI must be considered when defining the relevant market or assessing the implications of certain arrangements for competition in markets.

In sum, in a globalizing and liberalizing world economy, the number of actual or potential entrants into foreign markets increases. This gives rise to a greater potential for competition in markets regardless of their geographical scope. Entry barriers are less the outcome of government policies and more associated with costs and know-how or technological advances. Thus, despite the openness of the world economy to new competitors, entry barriers may lead to increased concentration (followed perhaps by increased market power). On balance, the effects of liberalization and globalization on market structure and competition depend substantially on industry characteristics influencing market contestability. But in certain industries, especially those in which integrated international production holds efficiency gains for firms, TNCs can play an important role in the process.

Notes

1 It should be emphasized that the term "contestability" is used here simply to denote the ease of entry, or openness of markets to competition and not in the narrower (specific or rigorous) sense in which it is used in "contestability" theory (see Introduction to Part Two, box 2).

2 There is some evidence from statistical studies for Canadian and United Kingdom industries to support the idea that TNCs find entry to host country industries / markets easier than do domestic firms (see Goreski, 1976; Shapiro, 1983 and Geroski, 1991).

3 For a discussion of the factors determining the decisions of firms with respect to serving a market

through export or through FDI (i.e., local sales), see UNCTAD, 1996a, chapter III and IV.

4 Concentration can be measured in various ways (see Vanlommel *et al.*, 1977). One common measure is the Herfindahl index (HI) (also known as the Herfindahl-Hirshman index (HHI)), defined as the sum of squared market shares and calculated as:

$$HI=HHI=\sum_{i=1}^{n}(Xi/X)^2=\sum_{i=1}^{n}x_i^2/\left(\sum_{i=1}^{n}x_i\right)^2$$

where x is the output / sales of plant / firm i, X is the output / sales of the industry, and n the total number of firms in the industry / market. Another common measure is an absolute concentration measure showing the share of the largest firms in an industry, e.g., the share of an industry's output or sales accounted for by the four largest firms.

5 The correlation between the degree of transnationalization ("NM" in table IV.1) and concentration for the full sample of 100 industries examined by Davies, Lyons *et al.* was (+0.5). The correlation involved the "common causes" of product differentiation and R&D. Sixteen of the 20 most concentrated industries in the European Union were intensive in advertising and / or R&D, while none of the least concentrated were. Similarly, 15 of the most transnationalized industries were characterized by high advertising and / or R&D expenditures, while only three of the least transnationalized industries were associated with high R&D and none with high advertising; 2 of the 3 exceptions were industries in which public procurement was substantial (see Davies, Lyons *et al.*, 1996, chapter 7).

6 See, among others, Dunning, 1958, and Steuer, 1973, for the United Kingdom; Fishwick, 1981, for France, Germany and the United Kingdom; Parry and Watson, 1978, for Australia; Blomström, 1989, for Mexico; Connor, 1977, for Brazil; and Davies, Lyons *et al.*, 1996 for the United Kingdom.

7 According to a survey conducted by the United Nations, about 32 per cent of developing country affiliates of small and medium-sized TNCs belonged to industries in which a handful of firms controlled the bulk of the market, compared with 35 per cent for affiliates of large industries (UNCTAD, 1993b, p. 78). The affiliates of small and medium-sized TNCs accounted, moreover, for a sizeable share of the markets for their primary products in host developing countries -- an average of 38 per cent, as compared with 32 per cent for affiliates of large TNCs (UNCTAD, 1993b, p. 78). This suggests that the specialized industry niches in which small and medium-sized TNCs operate conform to the oligopolistic pattern associated with TNC activity.

8 Attempts have been made to "correct" production-concentration data for the effects of imports (e.g., Utton, 1982; Clarke, 1985). The typical finding is that this reduces the degree of concentration observed, but that nevertheless the ranking of industries remains broadly similar. Other studies have looked at the relationship between concentration at the aggregate (say, "3 digit") level and concentration in constituent (say, "4 digit") markets. Here, the typical result is that "4 digit" concentration is higher (especially where firms are not diversified across "4 digits"), but that, nevertheless, typically, a "3 digit" concentration measure gives a reasonable indication of average constituent "4 digit" concentration values. (Hart and Clarke, 1980, included a detailed analysis of concentration at different levels of aggregation.)

9 This estimate is based on M&A sales that resulted in business combinations in which the foreign investor acquired at least 50 per cent voting shares.

10 See, e.g., studies for Belgium, Canada, the Netherlands, New Zealand, Norway, and the United Kingdom, and for Brazil, Malaysia, Australia, India, Singapore and Morocco, cited by Dunning, 1993, p. 433.

11 See Dunning (1993), for a brief summary of findings.

12 According to the regression coefficients in the simple regressions shown in table IV.3; for differentiated industries, this is nearly 1.5, while for homogeneous product industries, it is almost exactly 1.

13 See, for example, Willmore (1986) for Brazil; Lall and Streeten (1978) for Malaysia; and Dunning, 1985, for the United Kingdom.

14 Earlier studies, based on rather aggregate data, include Caves, 1974 and Globerman, 1979. For a summary of the findings of several of the studies cited here, see Dunning, 1993, p. 25.

15 A number of previous studies also identified higher average productivity levels of foreign affiliates compared with those of Canadian-owned firms (see, e.g., studies cited in Globerman *et al.*, 1994). However, since they were based on cross-section comparisons of industry level data, it was not clear

whether the higher productivity levels reflected a different mix of activities undertaken by the firms or the efficiency with which resources are used to carry out the activities.

16 A study of Canadian industry found that the share of an industry accounted for by foreign firms was positively related to advertising levels (Caves, 1980). Similar findings were reported from studies for Brazil and Mexico, which showed that the level of foreign ownership was positively associated with levels of industry advertising (Connor and Mueller, 1977). A study for Brazil found that the share of TNCs in a market was a principal determinant of the level of product differentiation in 16 electrical sub-industries in Brazil (Newfarmer and Marsh, 1981). However, studies of advertising conduct of TNCs and domestic firms in Colombia found no differences in the behaviour of the two (Lall and Streeten, 1977); nor did a similar study for India (Kumar, 1990), in which it was argued that the dependence of Indian affiliates of TNCs on their parents' advertising may have been responsible for the observed lack of difference.

17 See UNCTAD, 1996e, for a comprehensive discussion of fiscal and financial incentives.

18 See "Investing in the East offers one advantage: overnight monopolies", *The Wall Street Journal Europe*, 8-9 October 1993, pp. 1-8.

19 During 1957-1990, the share of sales in local host-country markets by United States majority-owned affiliates abroad decreased from three-fourths to two-thirds, while that of Japanese affiliates abroad decreased from three-fourths to three-fifths (Van den Bulcke, 1995) (also see UNCTAD 1996a, table IV.5, for data in this respect or United States foreign affiliates in Europe).

20 DISK / TREND, Inc., *1995 DISK/TREND Report. Rigid Disk Drives*, Mountain View, California, October 1995, p. 4.

21 The world market for HDDs was estimated to be almost $26 billion in 1995. See DISK / TREND, Inc., *1995 DISK/TREND Report. Rigid Disk Drives*, Mountain View, California, October 1995, p. 9.

22 According to one estimate, in the future, disk-drive makers with less than $500 million in sales will find it difficult to afford the steeply rising development costs of new generations of drives. See Ernst and O'Connor, 1992, pp.193-194, from which this information has been summarized, for a fuller account.

23 By the end of 1996, the United States share of HDD final assembly had fallen to 1 per cent. This figure is taken from Gourevitch, Bohn and McKendrick (1997).

24 Another widely quoted figure is that "...80% of Seagate's production..." takes place in five Asian countries: Singapore, Thailand, Malaysia, Indonesia and China (*South China Morning Post*, 16 May 1995 and *Asiaweek*, 17 March 1995). The problem with this type of figure is that it is not clear what it measures exactly.

25 A note of caution is in order here. Most statistics on HDDs are generated by the private consulting company Disk / Trend Inc. which defines the nationality of a manufacturer by the location of the firm's headquarters, regardless of the location of individual manufacturing plants. This creates no problem for Seagate, even though the firm manufactures most of its HDDs abroad. For Quantum, however, this definition becomes problematic, as Matsushita Kotobuki today has moved from the position of a contract manufacturer of low-end drives to the sole source of Quantum disk drives, including its leading-edge products. The definition becomes outright misleading in the case of Maxtor: while the headquarters of that company are located officially in Milpitas, California, Maxtor has been acquired by the Hyundai group. In terms of ownership, Maxtor is no longer a United States' firm.

26 As of 1995, the four leading HDD manufacturers controlled almost 73 per cent of the world market (in terms of revenue shares). The market shares of Seagate and Conner Peripherals have been lumped together because Seagate acquired the latter in September 1995. See, DISK / TREND, Inc., *1995 DISK/TREND Report. Rigid Disk Drives*, Mountain View, California, October 1995.

27 The basic unit for counting HDD shipments are spindles or spindle disk assemblies. A spindle disk assembly consists of the disk drive mechanism required to utilize a single disk of disk stack. Note that Matsushita Kotobuki, already since 1984, has been a contract manufacturer for Quantum Corp., which currently is the third largest vendor of HDDs.

28 This reflects the fact that, with almost $26 billion worldwide in sales revenues, the HDD industry has become a major industry. Capacity requirements in this industry are driven by a rapid growth of demand: unit worldwide shipments increased by 35 per cent in 1994, almost 26 per cent in 1995, and are projected to increase by around 18 per cent in 1996. COMLINE Daily News Service from Korea, 6 March 1996.

29 DISK / TREND, Inc., *1995 DISK/TREND Report. Rigid Disk Drives*, Mountain View, California, October 1995, p. 6.

30 Product cycles for HDDs have been drastically cut. For high-end products such as drives for servers and mainframe computers, they have fallen from 24 months to about 12 months. They are considerably shorter for desktop applications, where new drive generations are introduced about every nine months, and for laptop PCS where the product cycle has been reduced to roughly six months. Product life cycles in the HDD industry thus follow the same hectic rhythm that is now characteristic for the computer industry. For some segments of this industry, like for instance multimedia home computers, product cycles are now almost as short as those for fashion-intensive garments.

31 "If you're early to market there's a reward for that. You get gross margin, you get a lot of customer action. If you're late, you've missed it. There's no recovery from that." William Roach, executive vice president for worldwide sales at Quantum Corp. of Milpitas, California, quoted in *Electronics Business Asia*, January 1995, p. 35.

32 Based on information from BMW, *Annual Report, 1995*, Daimler Benz AG,"press information", 21 May 1997; and Micro Compact Car AG, Smart, "Press information" (Reningen, Germany, 1997). It should be noted that the duration mentioned above does not include search time. However, it should also be noted that TNCs often have plans on the basis of which they can move relatively quickly to establish new production facilities in a foreign location when the time is ripe. Such a move can be triggered, among others, by changes affecting the profitability of markets, for example, a currency appreciation or a price increase.