

Small and Medium-sized Transnational Corporations: Salient Features

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ABSTRACT. This second half of a series on small and medium-sized transnational corporations (TNCs) describes their main features in terms of such variables as the markets and industries in which they operate, ownership, forms of investment, performance and competitive advantages. It also deals with strategies that small and medium-sized enterprises (SMEs) tend to take in their foreign operations.

An appreciable share of small and medium-sized TNCs produces highly-specialized or niche products that give them relatively high market power in those market segments. Their principle source of advantages emanate from proprietary technology, flexible management, organization and market ability, reputation and supplier/customer relations. Small and medium-sized TNCs, unlike their larger counterparts, are more likely to enter developing countries through joint ventures and other collaborative arrangements with local firms. SMEs from some developed countries, mainly Europe, are particularly willing to enter joint ventures.

A. General characteristics of small and medium-sized transnational corporations

1. Market power

Typical TNCs possess some degree of market power in their home countries, normally accruing from ownership or firm-specific advantages related to their products. As TNCs grow and diversify at home or abroad, they utilize these intangible assets derived from the possession of, for example, advanced technology, brand names, marketing skills and efficient organizational structures. Small and medium-sized TNCs¹ can also possess such advantages, perhaps by a high level of specialization in certain industry niches (Fujita, 1993). Furthermore, since small and medium-sized TNCs normally produce a restricted range of products that target narrow market segments, they

can exercise a relatively high level of market power.

The United Nations Survey² asked about the market share of products that small and medium-sized TNCs produce and the description of the industry to which they belong in order to assess the degree to which they have market power at home and abroad. In the narrow market defined by their primary product, an average small and medium-sized TNC has a market share of 30 per cent at home and 15 per cent abroad (Table 1). These shares do not differ much by country or by industries, except for high-technology ones. A sizeable share is also observed for affiliates of small and medium-sized TNCs in developing countries, about 38 per cent, compared to 32 per cent for affiliates of large TNCs. Small and medium-sized TNCs thus possess significant market power. The oligopolistic nature of their markets is evidenced by the finding that about 32 per cent of the developing-country affiliates of small and medium-sized TNCs belong to industries in which a handful of firms control a bulk of the market, compared to 35 per cent for affiliates of large TNCs.³ Small and medium-sized TNCs, especially those in oligopolistic industries, are large in terms of the market share of their products. Insofar as the oligopolistic nature of the industry determines transnationalization, SMEs in oligopolistic industries conform to the standard pattern.

Transnational SMEs operate also in competitive industries.⁴ About two thirds of small and medium-sized TNCs believe that they belong to competitive industries (Table 2). This result also does not vary much among countries or industries. However, high-technology industries are exceptional. About four fifths of small and medium-sized TNCs in high-technology industries consider their industries competitive. The relatively low

Final version accepted on July 23, 1994

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TABLE 1
Market share of main products of parent firms and affiliates of small and medium-sized transnational corporations

(Percentage)				
Country/industry	Parent firms		Affiliates of small and medium-sized TNCs in host developing country	Affiliates of large TNCs in host developing country
	Home country	Abroad		
By home country				
Japan	31	13	38	24
United States	22	10	36	42
Europe	32	20	41	32
All countries	30	15	38	32
By industry ^a				
Primary	5	1	18	18
Manufacturing ^b	32	16	40	35
High-technology industries	27	18	27	19
Medium-technology industries	35	15	37	38
Low-technology industries	30	17	49	40
Services	28	13	35	22
All industries	30	15	38	32
Number of companies observed	80	58	85	124

Source: Based on the United Nations Survey.

^a For home country and abroad, by industry of parent firms; and for host developing country, by industry of affiliates.

^b Classified into high-technology, medium-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 4.0 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

market share among small and medium-sized TNCs in high-technology industries is, therefore, an expected result (Table 1). It seems that although high technology creates advantages, these cannot be retrained for long in a competitive environment with similar firms engaged in technology-intensive industries; this itself may be a strong motivator favouring transnationalization or internationalization through arms-length transactions.

Seventy-two per cent of small and medium-size TNCs compete with large firms. However, in certain industries such as rubber, furniture and construction, more than one half of small and medium-sized TNCs do not compete with large firms. Regarding home countries of SMEs, United States small and medium-sized TNCs compete more with large firms than Japanese and European small and medium-sized TNCs (80 per cent, compared to 61 per cent and 75 per cent, respectively).⁵ Japanese small and medium-sized TNCs seem to compete least with large firms. Japanese

SMEs are generally protected more by the Government of Japan and, especially, the subcontractor system. Laws such as the Large-Scale Retail Store Law and Coordinating Sphere of Activities Law protect SMEs from large firms. They even enable the Government to cancel or scale-down business plans of large firms that are considered to affect small businesses adversely, although the former law has become less and less restrictive since 1991 and allows firms to establish large scale retail stores more easily than before. Similar laws do not exist in the United States or Europe. The fact that 56 per cent of Japanese SMEs were subcontractors of large firms in 1987 (Small and Medium Enterprise Agency, 1992, p. 61) creates a business environment in which there is interdependence rather than competition between SMEs and large firms. On the other hand, in the United States large firms do most of sub-assembly work in-house, rather than subcontracting it to SMEs. Where there is out-

TABLE 2
Features of the industry in which small and medium-sized transnational corporations operate

(Percentage)

Country/industry	Competitive ^a	Concentrated ^b	Neither competitive nor concentrated
<i>By home country</i>			
Japan	64	24	12
United States	63	32	5
Europe	60	33	7
All countries	64	27	9
<i>By industry</i>			
Primary	60	20	20
Manufacturing ^c	61	33	8
High-technology industries	81	19	—
Medium-technology industries	50	38	12
Low-technology industries	63	33	3
Services	70	16	14
All industries	64	27	9
Number of companies observed	78	33	11

Source: Based on the United Nations Survey.

^a Numerous firms exist.

^b Only a handful of firms control the bulk of the market.

^c Classified into high-technology, medium-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 4.0 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

sourcing of inputs, it is not necessarily from SMEs. Large firms subcontract each other.

In the United Nations Survey, however, only one fourth of small and medium-sized TNCs are subcontractors to large firms. Small and medium-sized TNCs seem to be more independent than typical SMEs. Although there are no marked differences in the proportion of small and medium-sized TNCs with formal subcontracting agreements between source countries, of those small and medium-sized TNCs that have such agreements, the proportion of total output under subcontracting is higher for Japanese small and medium-sized TNCs: 55 per cent compared to 28 per cent for United States and 34 per cent for European small and medium-sized TNCs.⁶ This underlines the distinctiveness of the subcontracting system in Japan. Nevertheless, most small and medium-sized TNCs are involved with large firms in areas such as customers/suppliers relations, information on technical development, financial services, advisory services and mar-

keting/distribution. These small and medium-sized TNCs benefit from such relationships in their companies' growth and foreign direct investment (FDI), but the proportion of small and medium-sized TNCs that consider their relationship with large firms important depends on the relationship (Table 3). Not unexpectedly, transnational SMEs report their role as customers or suppliers, a significant determinant of both growth and FDI. On the other hand, financial and advisory services are not an important relationship generating growth or FDI for most small and medium-sized TNCs.

With regard to FDI specifically, relationships between small and medium-sized TNCs and large firms do not seem to be a decisive factor: only about 10 per cent of small and medium-sized TNCs think that such relationships are important, about one half of the level of importance attached to the firms' growth (Table 3). Examined by sector, both manufacturing and services sectors show similar results; but within manufacturing, the

TABLE 3

Shares of small and medium-sized transnational corporations that think their relationship with large firms is important in their growth and foreign direct investment, by area of relationship and industry^a

(Percentage)

Industry	Area of relationship with large firms				
	Customers/ suppliers	Information concerning technical development	Financial services	Advisory services	Marketing/ distribution
<i>Firm's growth</i>					
Manufacturing ^b	37	25	5	7	30
High-technology industries	67	40	—	7	40
Medium-technology industries	26	20	3	3	26
Low-technology industries	35	23	10	13	29
Services	39	17	6	11	22
All industries	37	21	6	9	26
<i>Foreign direct investment</i>					
Manufacturing ^b	16	7	6	9	15
High-technology industries	33	13	7	13	27
Medium-technology industries	14	6	3	3	9
Low-technology industries	10	6	10	13	16
Services	8	14	3	6	11
All industries	13	9	5	7	13
<i>Both firm's growth and foreign direct investment^c</i>					
Manufacturing ^b	14	7	2	5	11
High-technology industries	33	13	—	7	27
Medium-technology industries	11	6	—	—	6
Low-technology industries	6	6	6	10	10
Services	8	11	3	6	8
All industries	11	8	2	5	10

Source: Based on the United Nations Survey.

^a Based on 123 small and medium-sized TNCs.

^b Classified into high-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 4.0 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

^c Answer to this is also included in separate responses to firm's growth and FDI.

relationship with large firms in high-technology industries is important for FDI, as well as growth for a larger proportion of firms. It seems that the more technologically advanced in industry, the greater the relationship between large and small firms in all areas. This is an important finding for developing countries seeking to attract transnational SMEs in high-technology industries: the policy framework regarding smaller and larger TNCs must be balanced. Furthermore, the prospects for strong relations between foreign

SMEs and large developing-country firms would seem good.

Unlike typical SMEs, small and medium-sized TNCs tend to be relatively independent from large firms. The relationship with large firms is less important in FDI than in a firm's growth. However, if FDI is a natural result of a firm's growth, the relationship with large firms affects FDI in the long run. The relatively high independence of transnational SMEs may come from their competitive advantages, as discussed later, which

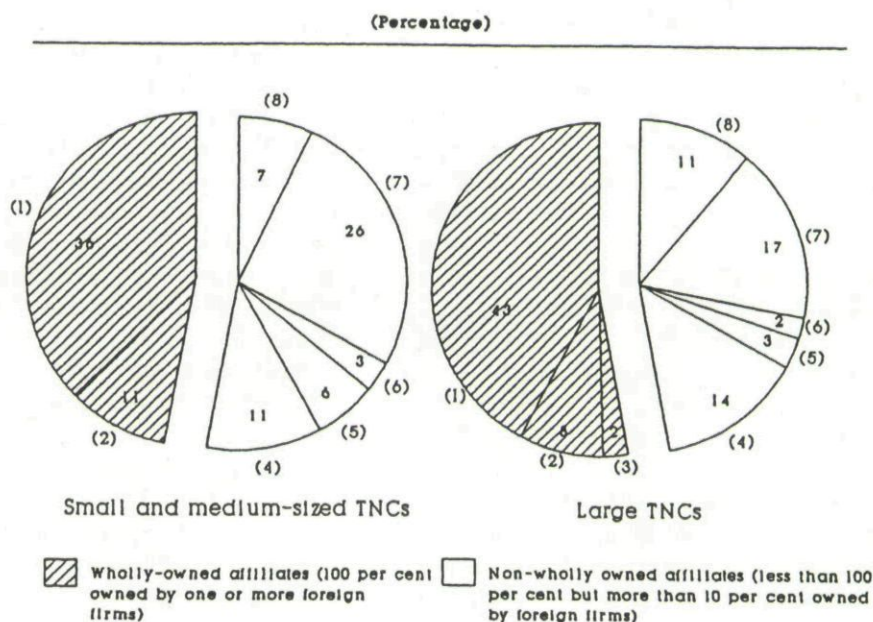
appear sufficient for them to grow and compete alone. If there is any relationship between small and medium-sized TNCs and large firms, it resembles one between equal partners.

2. Mode of entry and ownership

Having limited financial resources, SMEs are more likely to own non-wholly-owned foreign affiliates than large firms. However, those SMEs that have proprietary technologies and advantages also tend to establish wholly-owned affiliates abroad in order to protect and minimize the diffusion of their proprietorship. For SMEs with fewer productive resources such as management skills, human resources or financial resources, joint ventures may be preferred to other forms of

investment. In particular, SMEs that have little information on local markets may wish to own joint ventures with local firms. Thus, although non-wholly-owned foreign affiliates are the prevalent mode of entry for SMEs, some SMEs want to control the whole of their affiliates, depending on the product they make.

The United Nations Survey confirms this (Figure 1). Affiliates of large TNCs operating in developing countries are more wholly owned by foreign companies than those of small and medium-sized TNCs. On the other hand, more than 40 per cent of affiliates of small and medium-sized TNCs are joint ventures with local and/or other foreign firms, compared to one third of those of large TNCs. Among joint ventures, for both SMEs and large firms, new establishment of affil-



Source: Based on the United Nations Survey.

* Based on 91 affiliates of small and medium-sized TNCs and 141 affiliates of large TNCs in developing countries.

Wholly-owned affiliates:

- (1) New establishment by one foreign firm
- (2) New establishment by more than one foreign firm
- (3) Mergers and acquisitions

Non-wholly owned affiliates:

- (4) Sole acquisition
- (5) Joint acquisition with foreign firm(s)
- (6) Joint acquisition with local firm(s)
- (7) New establishment with local firm(s)
- (8) New establishment with local and foreign firm(s)

Fig. 1. Mode of entry of transnational corporations into developing countries in foreign direct investment^a.

iates with local firms is the most popular mode; but for the former it accounts for one fourth of all affiliates of small and medium-sized TNCs in contrast with 17 per cent for the latter. SMEs are sometimes more likely to establish a new company with local firms when they invest in developing countries than large firms, probably because they have a more limited knowledge of local-market conditions and wish to benefit from the knowledge and skills of the local partner.

Small and medium-sized TNCs typically do not enter developing countries through the acquisition of local firms, while there are a few cases for large TNCs. In developing countries, merger-and-acquisition activity is not a popular entry mode, partly because there is a lack of attractive local enterprises and partly because of legal restrictions and partly because mergers and acquisitions are a more complicated mode than other modes – making this a difficult option for SMEs.

Although small and medium-sized TNCs tend to invest with partners of host countries and/or home countries in order to disperse risks and costs associated with FDI and to derive benefits from partners, wholly-owned foreign affiliates are nevertheless the single most popular route of entry, as is the case for large TNCs. The ownership structure of affiliates of TNCs confirms this entry pattern. In general, the average degree of ownership by the prime parent firm is only a little smaller in affiliates of small and medium-sized TNCs (72 per cent) than in those of large TNCs (75 per cent).⁷ In some cases, however, differences emerge. While one half of affiliates of United States small and medium-sized TNCs in developing countries are minority owned (less than 50 per cent in parent ownership), 60 per cent of affiliates of United States large TNCs are wholly owned. In the case of European TNCs, both small and large, 70 per cent of their affiliates in developing countries are non-wholly owned. For Japan, the proportion of non-wholly-owned affiliates is about one half of the total for both small and medium-sized TNCs and large TNCs.

The degree of parent ownership is related in part to firm-specific advantages and in part to host-country factors. For example, most affiliates in Singapore and Hong Kong are wholly owned because of non-restrictions on FDI. In India and the Republic of Korea, the majority of affi-

ates are minority owned due to restrictions on ownership. In sum, the majority of affiliates of small and medium-sized TNCs are established through greenfield investments alone or with local partners.

3. *Non-equity foreign arrangements*

Equity-type foreign investment is not the only way for SMEs to be involved in international production. Non-equity foreign investment is also popular for SMEs. Although it is not certain what proportion of firms that are engaged in international production through equity investment are also using non-equity foreign arrangements, the United Nations Survey reveals that more than one half of foreign affiliates in developing countries established by SMEs have at least one technological agreement with their parent firms (Table 4). This is much lower than for large TNCs, of which 75 per cent of affiliates have such arrangements. It is worth mentioning that few SMEs in the United Nations Survey were simultaneously involved in non-equity arrangements with non-affiliates. That implies a clear division between SMEs that transnationalize through FDI and those that get involved internationally through other routes; SMEs may have to choose one or the other of these two forms of internationalization because of their lack of resources.⁸

If technology agreements are defined to include know-how, licensing agreements and management or marketing agreements, small and medium-sized TNCs are more likely to have know-how agreements (process, product or plant techniques) with their foreign affiliates than patents or trademarks that are the results of licensing or production agreements. On the other hand, large TNCs resort more to these formal agreements than small and medium-sized TNCs as large firms tend to have more brand names than SMEs. In the affiliates of both small and medium-sized and large TNCs, however, home-country pattern influence the types of agreements that TNCs tend to conclude. Trademarks and patent agreements are popular with United States and European small and medium-sized TNCs, but much more so for large TNCs from these countries. Japanese firms are less likely to have non-equity forms of investment than those from other countries.

TABLE 4
Technology agreements between parent firms and affiliates of transnational corporations in developing countries, by type of agreement and by home country

(Percentage)		
Type of agreement/home country	Affiliates of small and medium-sized TNCs in developing countries	Affiliates of large TNCs in developing countries
Affiliates that have technology agreements with parent firms as percentage of all affiliates	57	75
of which:		
Trademarks	9	12
Japan	31	48
United States	19	53
Europe	14	36
All countries		
Patents	6	10
Japan	31	26
United States	10	23
Europe	9	19
All countries		
Know-how	36	51
Japan	62	60
United States	52	63
Europe	40	56
All countries		
Management/marketing	19	12
Japan	8	21
United States	10	15
Europe	14	16
All countries		
Number of affiliates observed	88	135

Source: Based on the United Nations Survey.

Arrangements through trademarks and patents may involve size and research-and-development (R&D) intensity factors, as the productivity of brand names is related in general to such factors. As SMEs are less R&D intensive (at least measured by outlays on R&D) and less patent-intensive than large firms, they tend instead to conclude agreements with their foreign affiliates on specific aspects of technological know-how.

As already mentioned, although small and medium-sized TNCs utilize non-equity foreign arrangements, their use is normally limited only to technology agreements with their own affiliates. SMEs that are engaged in international production through equity are generally not involved in major non-equity forms of international involvement

such as subcontracting. Some SMEs may have chosen the non-equity route to reduce investment costs and risks and might be tempted into such arrangement. For example, Italian SMEs use more frequently non-equity forms than equity forms when they transfer technology to developing countries (Falzoni and Viesti, forthcoming).

4. Performance

Compared to SMEs in general, small and medium-sized TNCs are large (in terms of sales, employment and capital), less labour-intensive, more or less productive and more export-oriented (Table 5). The larger size of small and medium-sized TNCs than SMEs in general suggests that there

TABLE 5

Comparison of some features of small and medium-sized manufacturing transnational corporations with small and medium-sized manufacturing enterprises in general

Features	Small and medium-sized TNCs ^a	SMEs in general
Size		
Average sales world-wide (millions of dollars)	89	3.3 ^b
Average number of employees in home country	286 ^c	30 ^b
Average number of employees world-wide	515 ^c	N.A.
Average capital world-wide (millions of dollars)	42	0.3 ^d
Average value added world-wide (millions of dollars)	28	1.3 ^b
Labour-capital ratio (= number of employees/capital in millions of dollars)	13	58 ^d
Labour productivity (= value added in millions of dollars/number of employees)	0.06	0.04 ^b
Capital productivity (= value added/capital in millions of dollars)	0.5	1.8 ^d
Export ratio (= exports/sales, percentage)	22	15 ^e
Profit ratio ^f (= profits/sales, percentage)	7.9	4.2 ^d

Source: Based on the United Nations Survey: Fujita, forthcoming; and Ministry of Finance, 1990.

^a Based on 62 firms for average sales world-wide, 47 firms for the average number of employees in home country and world-wide, 57 firms for average capital world-wide, 39 firms for average value added world-wide, 55 firms for labour-capital ratio, 39 firms for labour productivity and for capital productivity, 56 firms for export ratio and 47 firms for profit ratio.

^b Based on the data of Australia, Austria, Canada, France, Germany, Ireland, Japan, New Zealand, Norway and United States.

^c There are a few firms with more than 500 employees in home country. These firms, however, employed fewer than 500 employees at the end of the 1980s, the criteria year in the United Nations Survey. These firms' data are included.

^d Only Japanese SMEs.

^e Data of France, Italy, Netherlands and Norway are used.

^f Defined here as income (sales minus costs) before taxes divided by sales.

may be a certain minimize size for SMEs to become transnational, perhaps depending on industry, beyond which size is not a major deterrent to FDI. Small and medium-sized TNCs are more capital-intensive than SMEs in general but may be less so than large firms.⁹ Although labour productivity is higher for small and medium-sized TNCs than SMEs in general because of a large capital base, productivity in terms of capital is lower in small and medium-sized TNCs than in SMEs. They are also relatively competitive in international markets: their exports-to-sales ratio (22 per cent) is higher than that of SMEs in general (15 per cent), but lower than that of large firms (24 per cent).¹⁰

Overall, business performance can be measured by profitability. The profits-to-sales ratio in manufacturing is on average higher in small and

medium-sized TNCs (7.9 per cent) than in SMEs (4.2 per cent), and also higher than in large firms (5.5 per cent).¹¹ In foreign affiliates of TNCs, however, profitability is better in those belonging to large TNCs than those belonging to small and medium-sized TNCs (Table 6). However, affiliates of small and medium-sized TNCs obtain their first profits sooner after their establishment (3.2 years) than large TNCs (3.5 years), though their actual profits are less than their original estimate in more cases than for large TNCs. The affiliates of both small and medium-sized and large TNCs generate profits faster in Asia (2.7 years from establishment) than in Latin America (4.6 years). This suggests why Asia is becoming a more attractive host region for TNCs, as mentioned in the previous article. Interestingly, profits are more slowly obtained in services than in manufacturing,

TABLE 6
Various measures of profitability in affiliates of transnational corporations in host developing countries

Measures	Affiliates of small and medium-sized TNCs in developing countries	Affiliates of large TNCs in developing countries
Profitability ^a (profits/sales, percentage)		
Manufacturing	4.9	7.3
Services	11.9	7.7
All industries	6.6	7.6
Length of years to earn first profits ^b (number of years)	3.2	3.5
By region		
Asia	2.7	2.7
Latin America	4.6	4.6
By sector		
Manufacturing	3.1	3.3
Services	3.6	4.0
By home country		
Japan	2.7	3.6
United States	4.8	3.7
Europe	3.7	3.0
Amounts of profits (percentage distribution of affiliates) ^c		
More than the original estimate	29	36
About the same as the original estimate	34	36
Less than the original estimate	38	28

Source: Based on the United Nations Survey.

^a Based on 50 affiliates of small and medium-sized TNCs and 82 affiliates of large TNCs.

^b Based on 75 affiliates of small and medium-sized TNCs and 112 affiliates of large TNCs.

^c Based on 80 affiliates of small and medium-sized TNCs and 116 affiliates of large TNCs.

but once they reach profits, the profit ratio is generally higher in services than in manufacturing.

More than 80 per cent of foreign affiliates owned by small and medium-sized TNCs evaluated their overall performance as being average or above average.¹² FDI by SMEs has been relatively successful.

In international markets, SMEs in some countries already exhibit a strong presence in terms of exports (Fujita, forthcoming). Although small and medium-sized TNCs are more export-oriented than SMEs in general, the export ratio varies from industry to industry. The same is true for the ratio of FDI to total assets (Table 7). In manufacturing, small and medium-sized TNCs in low-technology industries show the highest export ratio, but are the lowest in the ratio of FDI to total assets. The degree of internationalization of small and

medium-sized TNCs in medium-technology industries is significantly higher both in exports and FDI than for those in high-technology industries.

Small and medium-sized TNCs in low-technology industries may not feel the necessity to be involved in international production as they have succeeded in exporting from the home country, probably by upgrading their products and using better and more efficient technologies. Small and medium-sized TNCs in high-technology industries are niche producers in rapidly evolving, highly competitive fields (as discussed in section A.1) and this tends to keep their attention firmly fixed on their home market or a restrictive set of foreign markets. It is small and medium-sized TNCs in medium-technology industries that are most actively involved in international production. Export activity by these firms is also considerable.

TABLE 7
The degree of internationalization of small and medium-sized transnational corporations

(Percentage)

Industry	Proportion of exports to total sales	Proportion of FDI to total assets
Manufacturing ^a	22	5
High-technology industries	10	5
Medium-technology industries	19	11
Low-technology industries	28	3
Services	14	20
All industries	18	15
Number of companies observed	81	66

Source: Based on the United Nations Survey.

^a Classified into high-technology, medium-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 4.0 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

They are probably free from restraints constraining firms in high or low, standardized technologies.

Compared to manufacturing firms, small and medium-sized services TNCs are more involved in FDI as a ratio of total assets. Two reasons may account for this: the assets base is relatively small in services; and, for certain services products, FDI is the chief means of conducting international transactions.

Intra-firm trade is an important aspect of international trade, as it accounts for a significant share of trade associated with home-country TNCs. In the case of small and medium-sized TNCs, intra-firm trade in manufacturing accounts for 48 per cent of exports and 42 per cent of imports by these companies. These figures are substantial and similar to large TNCs.¹³ For example, in the case of all United States TNCs, 43 per cent of their exports and 48 per cent of their imports were intra-firm trade in 1989 (United States Department of Commerce, 1992, Tables II.Q 1 and II.Q 4, pp. 112 and 115). Small and medium-sized TNCs in high-technology industries resort to intra-firm trade more than those in other industries. That is probably because they need inputs and materials specifically tailored to their final products as they tend to be more involved in specialized production; and of course, it ensures protection of proprietary technology.

B. Competitive advantages of small and medium-sized transnational corporations

1. Sources of competitive advantages

All TNCs, including small and medium-sized ones, normally have specifically ownership advantages to compete with local firms in host countries and with other companies in the global market. However, the competitive edge of small and medium-sized TNCs can be distinguished from that of typical SMEs as well as large TNCs. Typical SMEs mainly serving local markets appear to lack advantages in intangible assets, viz., advanced proprietary technology, established brand names, special marketing or organizational skills. However, small and medium-sized TNCs tend to have some advantage based on such intangible assets. In contrast to large TNCs, their competitive edge can be derived primarily from four possible sources. First, as the productive opportunities of SMEs lie in interstices left open by large firms, they can possess the markets in which diseconomies of scale prevail (niche production). Secondly, small and medium-sized TNCs may possess technologies that have been phased out by large firms (mature technologies). Thirdly, they may have an advantage in downscaling technology to smaller markets, in making production more labour-intensive and in adapting it to local factor

proportions. Fourthly, a cost advantage can be obtained from an organizational structure that is simple and flexible.

The source from which small and medium-sized TNCs obtain their competitive advantages most is flexibility of management (Table 8). Only 4 per cent of small and medium-sized TNCs think that this source of advantage is smaller than that of other companies. Associated with this source of competitive edge are organizational and marketing capabilities and other marketing-related categories (experience in home markets and access to markets). The importance of quality control and after-sales services is also evident (Table 8). Small and medium-sized TNCs that are latecomers in the field of FDI should own such advantages as they have to differentiate their products through quality and services provided.

On the other hand, small and medium-sized TNCs seem to derive few advantages from certain sources of assistance, including government assistance. In keeping with theory, only 1 per cent of transnational SMEs consider this a significant source of competitive advantage. SMEs do not generally lobby as much as large firms. Small and medium-sized TNCs are also weak in lobbying or linking with other institutions. Related to that is the fact that small and medium-sized TNCs do not utilize much available government assistance in furthering their FDI operations (UNCTAD Programme on Transnational Corporations, 1993, chapter VII).

Another weak source of competitive advantage are economies of scale and costs (production, marketing and overall costs). One fourth of small and medium-sized TNCs think that they do not enjoy advantages with economies of scale, as is expected from the theory. This result is also confirmed by the observation that around one fifth of small and medium-sized TNCs face constraints relating to economies of scale in FDI (UNCTAD Programme on Transnational Corporations, 1993, chapter VI). With respect to cost advantages, only 10-15 per cent of small and medium-sized TNCs have a competitive edge. Where small cost advantages exist they may be considered to relate in part to firm size.

Small and medium-sized TNCs have moderate advantages in proprietary technology, niche production and international reputation and prestige

(brand names). This reflects the diversity of composition of small and medium-sized TNCs; some of them are internationally reputable and specialized in production with proprietary technology, and others are an extension of typical SMEs that use relatively mature technology in generic production. Another relatively weak source advantage is previous experience with various technologies (labour-intensive, capital-intensive and technology-intensive) that may reflect again the diversity of small and medium-sized TNCs. Few small and medium-sized TNCs are engaged in production requiring all these technologies, and this is reflected in the figures for each type of technological experience in Table 8.

Issues concerning technology transfer include the adaptability of technology to local conditions, the appropriateness of technology for the host country and the adoptability of technology from other sources. Small and medium-sized TNCs show moderate competitive advantages in these respects.

Analyzing the sources of advantage by home country, European small and medium-sized TNCs seem to have a less competitive edge than Japanese and United States ones. In particular, their competitive advantages are small in relation to experience with labour- and capital-intensive technologies. Cost advantages are also smaller for European small and medium-sized TNCs. However, economies of scale are more commonly a source of competitive advantage. This is probably because small and medium-sized TNCs, as defined in this and previous articles, may be large enough in certain European countries to utilize scale economies. On the other hand, flexibility of management and organizational and marketing capabilities are more frequently sources of advantage than for Japanese and United States counterparts.

United States small and medium-sized TNCs have a relatively high competitive advantage deriving from their previous experience with knowledge-intensive technology and have the least significant competitive advantage in terms of economies of scale. In countries such as the United States where there is a large market and large firms can exhibit their strength, most SMEs have to be specialized in products or pursue niche markets (Gomes-Casseres and Kohn, 1989). One

TABLE 8
Significance of sources of competitive advantages of small and medium-sized transnational corporations, by home country and industry^a

Source	All countries/ industries	By home country			By industry				Services
		Japan	United States	Europe	Manufacturing ^b				
					Total	High-technology industries	Medium-technology industries	Low-technology industries	
Flexibility of management	2.6	2.5	2.6	2.8	2.5	2.5	2.6	2.5	2.6
Organization and marketing capability	2.2	1.8	2.2	2.5	2.2	2.1	2.1	2.3	2.0
Proprietary technology	2.1	2.1	1.9	2.1	2.4	2.1	2.5	2.4	1.8
Adaptability of technology to local conditions	2.1	2.1	2.3	1.9	2.2	2.1	2.2	2.2	1.9
Appropriateness of technology for host country	2.1	2.1	2.3	1.8	2.1	2.3	2.0	2.1	2.1
Adoptability of technology (from other sources)	1.9	2.1	1.8	1.7	1.9	2.1	1.9	1.8	2.0
Experience with labour-intensive technology	1.9	2.0	1.9	1.5	1.9	1.9	1.9	1.9	1.9
Experience with capital-intensive technology	1.8	1.7	1.9	1.5	1.8	1.9	1.6	1.8	1.9
Experience with knowledge-intensive technology	2.1	1.8	2.3	2.2	2.2	2.3	2.3	1.9	2.1
Experience in home markets	2.5	2.5	2.4	2.6	2.6	2.5	2.6	2.6	2.5
Experience in foreign projects	2.0	1.5	2.4	2.1	2.0	2.2	2.2	1.8	1.9
Internatinal reputation and prestige (brand names)	2.1	1.7	2.3	2.4	2.2	2.3	2.3	2.2	1.9
Low production costs	1.9	2.0	1.8	1.7	2.0	2.1	1.7	2.1	1.8
Low marketing costs	1.9	2.0	1.8	1.5	1.9	2.0	1.8	2.0	1.8
Low overall costs	1.9	2.0	2.1	1.5	1.9	2.0	1.8	2.0	1.9
Diversification of products (economies of scope)	2.0	2.0	1.7	1.9	2.0	2.2	2.1	1.9	2.0
Economies of scale	1.8	1.6	1.5	2.1	1.8	1.9	1.7	1.9	2.0
Niche products (specialization of products)	2.1	1.9	2.3	2.3	2.3	2.3	2.5	2.1	1.8
Human, cultural, political links to host country	1.9	1.6	2.2	1.9	1.8	1.9	1.8	1.8	2.0
Access to materials	1.9	1.6	2.1	1.8	1.9	2.0	1.9	1.9	1.9
Access to markets	2.2	2.0	2.3	2.4	2.2	2.4	2.2	2.2	2.2
Access to financial sources	2.0	1.9	1.8	1.8	2.0	2.3	1.9	1.8	2.0
Access to assistance, including by governments	1.5	1.1	1.5	1.5	1.6	1.7	1.6	1.6	1.3
Access to information	2.0	1.9	1.9	1.9	2.0	2.1	1.9	1.9	2.1
Distribution channels	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3
Quality control	2.3	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.3
After-sales services	2.4	2.3	2.4	2.4	2.4	2.4	2.5	2.3	2.3
Number of companies observed	120	67	17	29	79	15	33	31	35

Source: Based on the United Nations Survey.

^a Measured from one to three: one (insignificant), two (moderate/average) and three (significant). Interpretation of significance is as follows: significant (insignificant) if the company's competitive advantage is greater (smaller) than other comparable firms in similar industry.

^b Classified into high-technology, medium-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 40 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

half of United States small and medium-sized TNCs have competitive advantages in niche production, and because of specialized products they enjoy a relatively high international reputation for their products. This trait, however, is also present for European small and medium-sized TNCs. Japanese small and medium-sized TNCs have smaller advantages in these sources than United States and European companies. This suggests that Japanese small and medium-sized TNCs are perhaps producing common products with relatively mature and standard technologies; their chief source of advantage may in fact be their complementary links with large firms, as discussed earlier.

The competitive advantages of small and medium-sized TNCs can also be expected to vary by industry as the level of advantages depends on accumulated managerial, technological and organizational skills. In industries that require simple activities, the necessary skills are low. The uniqueness of skills increases with the complexity involved. However, the differences are smaller by sector or industry than by country, except in a few cases (Table 8).

Proprietary technology is a source in which there is a wide discrepancy in competitive advantages between the manufacturing and services sectors. While nearly one half of small and medium-sized manufacturing TNCs have significant competitive advantages, less than 10 per cent of their services counterparts consider their proprietary technology as competitive. The latter also think that their competitive advantages in international reputation and niche production are small, compared to manufacturing small and medium-sized TNCs. In the manufacturing sector, small and medium-sized TNCs in high-technology industries have a significant advantage in access to financial sources, while those in both low- and medium-technology industries have fewer such advantages. Of course, companies in high-technology industries can generally obtain financial assistance more easily than those in low-technology or traditional industries. For instance, high-technology companies that are not necessarily in high-technology industries can even raise funds from venture capitalists.

Interestingly, it is small and medium-sized TNCs in medium-technology industries that have

the fewest *cost* advantages compared to other industries. This may reflect the difficult situation whereby companies in these industries cannot easily enjoy either economies of scale or the benefits of high-technology, high value-added production in their home markets (Table 8). This may constitute a reason for why firms in these industries have a high propensity to invest abroad, thereby expanding markets and incidentally increasing cost competitiveness by raising economies of scale. Medium-technology industries are composed of various companies using both proprietary technologies and mature technologies. It may not be easy to sub-categorize such companies, making it difficult for governments to formulate an appropriate policy; but, potentially, because of their willingness to internationalize, certain medium-technology SMEs may be valuable in bridging the technology gap between developing and developed countries.

Small and medium-sized TNCs have significant competitive advantages deriving from some sources of advantage, but not from others. Some sources of advantage from which companies obtain a competitive edge are related to firm size and firm capabilities, such as managerial flexibility, an area not easily affected by government policy. However, weak sources of competitiveness, such as access to materials, markets and assistance (including government assistance) and experience with labour-intensive and capital-intensive technologies, can be addressed through appropriate policies or R&D activities. The following section deals with R&D and related activities of small and medium-sized TNCs.

2. Research and development

R&D is an important determinant of FDI. The small amount of R&D expenditures of SMEs may suggest that FDI by SMEs is still low, though both the number and the value of investment by SMEs have been growing at a faster rate than those by large TNCs, as shown in the previous article. Although R&D by SMEs cannot be measured accurately from published data because these companies do not necessarily have an independent R&D department and because owners or managers are often engaged in R&D (Fujita, forthcoming), various measures point to the *decreasing* impor-

tance of SMEs in total R&D development. The scale of SMEs' R&D expenditures has been decreasing over time in Japan and the United States (Okimoto and Saxonhouse, 1987, p. 398). In Japan the proportion of SMEs that conduct R&D in all SMEs declined from 17 per cent in 1979 to 10 per cent in 1987, while the share for large firms has remained constant at 75 per cent (Management and Coordination Agency, Statistics Bureau, various issues).

SMEs that carry out R&D perform better than those that do not. In Japan, the only country for which data are available, the sales and income (profits) of SMEs with R&D are between two and three times as large as those of SMEs without R&D (Small and Medium Enterprise Agency, 1986, p. 214).

Size and innovation may not be related in an obvious way (Fujita, forthcoming). When the share of R&D expenditures in the sales of all firms (including those *without* R&D) is calculated, there is a positive relation between the level of R&D and firm size, as most SMEs do not *formally* undertake R&D. However, if non-researching companies are excluded, there is no relationship between size of firm and scale of R&D activity (or possibly a negative one). For example, based on 1,070 United States manufacturing companies for which data on R&D expenditures are available, SMEs had twice the ratio of R&D expenditures to sales than large firms: 12.1 per cent versus 6.4 per cent in the late 1980s.¹⁴ A higher R&D ratio for SMEs conducting such activity should be considered in conjunction with the fact that, because of large expenditures in R&D in high-technology companies such as biotechnology and pharmaceuticals, SMEs can show a remarkably high R&D ratio, as sales are relatively small, especially in the early stages of the development of products.

In the United Nations Survey, because of presumably large ownership advantages for TNCs, small and medium-sized TNCs seem to be more engaged in R&D activities. As many as 70 per cent of them conduct such activities, and more than 40 per cent of them have a special department for R&D.¹⁵ There are some significant differences by industry and country. As industries are more high-technology oriented, they can be expected to require more R&D expenditures. The manufacturing sector is normally more R&D oriented than

the services sector, as indicated by the data on the respective shares of SMEs in these sectors that undertake R&D – more than 80 per cent of the former are so engaged but only 43 per cent of the latter (Table 9). Among manufacturing firms, three fourths of small and medium-sized TNCs in high-technology and medium-technology industries are involved in R&D. In terms of the ratio of R&D expenditures to sales, small and medium-sized TNCs in high-technology industries show the highest ratio (2.4 per cent), not much different from those in medium-technology industries (2.2 per cent), but twice as high as in those in low-technology industries.

At the country level, European small and medium-sized TNCs (76 per cent) are most involved in R&D, followed by the United States (69 per cent) and Japan (66 per cent). The data on the ratio of R&D expenditures to sales also confirm this ranking (Table 9), but the ratio for Japanese small and medium-sized TNCs is nearly one half of that for European or United States small and medium-sized TNCs. This is a significant point requiring further elaboration. The ratio of total R&D expenditures to GNP among developed countries is generally at 2 to 3 per cent (e.g., 2.9 per cent for Sweden, 2.7 per cent for Japan and 2.6 per cent for Germany in 1989) (United Nations, Transnational Corporations and Management Division, 1992, Table IV.2, p. 136). Furthermore, 18 per cent of Japanese small and medium-sized TNCs in the United Nations Survey are in high-technology industries, higher than United States and European small and medium-sized TNCs (13 per cent and 8 per cent, respectively). These observations would suggest that Japanese small and medium-sized TNCs should show a ratio of R&D expenditures to sales at least comparable to that of other countries; but, instead, a low ratio for Japanese small and medium-sized TNCs prevails in the findings of the United Nations Survey.¹⁶ It is large firms that are responsible for a major part of R&D in Japan.

Most R&D is carried out in home countries, but the internationalization of this activity is growing because of the increasing importance of economies of scope, shorter product cycles and access to better scientific and technical personnel (United Nations, Transnational Corporations and Management Division, 1992, p. 137). Nearly one third of

TABLE 9
Research-and-development activities by small and medium-sized transnational corporations

(Percentage)					
Country/industry	Proportion of small and medium-sized TNCs that carry out R&D	Proportion of small and medium-sized TNCs that have a specialized R&D department	Proportion of small and medium-sized TNCs that have R&D facilities abroad	Ratio of total R&D expenditures to sales	Ratio of R&D expenditures abroad to total R&D expenditures
<i>By home country</i>					
Japan	66	34	7	1.0	4.3
United States	69	56	31	2.0	4.1
Europe	76	52	36	2.3	6.1
All countries	70	43	17	1.5	5.0
<i>By industry</i>					
Manufacturing ^a	81	55	18	2.0	5.0
High-technology industries	86	64	7	2.4	8.7
Medium-technology industries	85	59	24	2.2	3.5
Low-technology industries	74	44	19	1.0	5.2
Services	43	20	10	0.3	7.5
All industries	70	43	17	1.5	5.0
Number of companies observed	109	109	109	56 ^b	46 ^c

Source: Based on the United Nations Survey.

^a Classified into high-technology, medium-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 4.0 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

^b Ten out of 56 small and medium-sized TNCs report zero R&D expenditures.

^c Thirty four out of 46 small and medium-sized TNCs report zero R&D expenditures.

small and medium-sized TNCs based in Europe and the United States have R&D facilities abroad, in contrast to only 7 per cent of Japanese small and medium-sized TNCs (Table 9). With regard to the proportion of R&D expenditures by foreign affiliates, about one tenth of those expenditures of all United States TNCs were spent by them, compared to only 1.4 per cent for Japanese TNCs.¹⁷ In the case of small and medium-sized TNCs, 5 per cent of total R&D expenditures are carried out by their foreign affiliates (Table 9). There are no big differences in this proportion among countries, but there are between industries.

Interestingly, small and medium-sized TNCs in high-technology industries are least involved in R&D activities in their foreign affiliates. However, once they are involved, a larger share of R&D is carried out by foreign affiliates than in other small

and medium-sized TNCs. The scenario emerges that although most high-technology firms concentrate their R&D activities in home countries and minimize the diffusion of such activity to foreign countries, there are some high-technology firms that utilize local resources to a large extent to enhance their R&D operations (perhaps to tailor goods and services to local markets).

The output of R&D may be measured by the number of patents. In fact, 65 per cent of small and medium-sized TNCs have acquired at least one patent, comparable to the 69 per cent of such TNCs that carry out R&D. Firms from European countries are more reluctant to acquire patents than those from the United States and Japan, although they are more involved in R&D (Tables 9 and 10). The number of patents granted in European countries is generally smaller than that in Japan or the United States.¹⁸ Although the

TABLE 10
Number of patents acquired by small and medium-sized transnational corporations

Country/industry	Number of companies surveyed	Proportion of small and medium-sized TNCs with patents acquired	(Percentage)		
			Proportion of small and medium-sized TNCs with patents acquired to all small and medium-sized TNCs by group of number of patents acquired		
			1-9	10-49	More than 50
<i>By home country</i>					
Japan	57	68	26	21	21
United States	14	79	36	14	29
Europe	24	54	29	25	-
All countries	101	65	30	20	16
<i>By industry</i>					
Manufacturing ^a	69	78	33	25	20
High-technology industries	12	83	33	17	33
Medium-technology industries	31	87	26	45	16
Low-technology industries	26	65	42	4	19
Services	29	38	24	10	3
All industries	101	65	30	20	16

Source: Based on the United Nations Survey.

^a Classified into high-technology, medium-technology and low-technology industries according to R&D intensity that is measured by the ratio of R&D expenditures to production. The industries that have the ratio of more than 4.0 are classified as high technology, between 1.0 and 4.0 as medium technology and less than 1.0 as low technology. For further details, see UNCTAD Programme on Transnational Corporations, 1993, Annex A.

number of patents may be related to the amount of R&D expenditures,¹⁹ some companies are strategically less inclined to obtain patents because they are more sensitive to the leaking of trade secrets during patent application procedures, and because lengthy patent procedures in the midst of rapid technological change are resource intensive and unproductive. The number of patents obtained does not necessarily indicate the level of R&D activities.

In contrast to SMEs in general, not only do transnational SMEs conduct more R&D, but they produce more patented products. For example, in Japan the average number of patents granted by small and medium-sized manufacturing TNCs in the United Nations Survey is 53, compared to 12 by typical manufacturing SMEs in 1987. While the share of Japanese small and medium-sized manufacturing TNCs that have acquired patents is nearly 85 per cent, for SMEs in general it is only 3 per cent.²⁰ Comparable data are not available for other countries. Historically, Japanese companies tend to file a large number of patent applications

and acquire more patents than any other country's companies, but there should also be large differences in the acquisitions of patents between small and medium-sized TNCs and SMEs in general for other countries.

C. Strategies of small and medium-sized transnational corporations

As noted elsewhere, various types of firms constitute the universe of SMEs, ranging from "ma and pa" shops to high-technology firms that are at the forefront of technological development. In the context of FDI, however, the fact that the size of all small and medium-sized TNCs is larger than that of SMEs in general indicates that there is a certain minimum size in relation to markets in order for SMEs to become transnational. For those SMEs that undertake international production, their strategies might be different from those of SMEs operating domestically. SMEs are frequently classified into several types to compare their different strategies: niche producers, tradi-

tional producers and subcontractors (of large firms) are typical groupings of SMEs. On the other hand, it is also possible to discuss international strategies according to types of FDI:²¹ for example, market-seeking FDI, export-oriented FDI, resource-seeking FDI, technology-seeking FDI and efficiency-seeking FDI. In this section, internationalization strategies of SMEs are discussed with due attention given to different types of companies and FDI.

An examination of relationship between parent firms and affiliates in terms of the production system reveals how they are linked, vertically or horizontally. Vertical linkages between parent firms and affiliates are normally at a stage of the production process that comes either before or after the main activity of the parent firm. Thus, affiliates, broadly speaking, either turn raw materials into semi-manufactured products or turn semi-manufactured products into final products. Horizontal integration involves use of the same or modified technology to produce more or less the same product.

According to the United Nations Survey, there are no large differences in parent-affiliate production relationships in developing countries

between small and medium-sized TNCs and large TNCs. In about 90 per cent of affiliates of TNCs in both groups, the horizontal relation is the main production strategy; only one third to 40 per cent of affiliates are involved in one stage or another of a vertical relation (Table 11). However, small and medium-sized TNCs tend to use the same technology in developing countries as in the home market more regularly, albeit marginally, than large TNCs; and their affiliates in developing countries are more likely to be engaged in producing final products than those of large TNCs. This may constitute a reason why affiliates of small and medium-sized TNCs are more export-oriented. The destination of semi-manufactured products is normally to the parent company or local markets and its geographical distribution more limited than that of final products.

Most small and medium-sized TNCs in low-technology industries such as textile and rubber and plastics use their affiliates in developing countries to produce the same products as in their home market with the same technology, while half of the horizontally-linked affiliates of small and medium-sized TNCs in high-technology industries produce the same products with different or modified tech-

TABLE 11
Production relationship between foreign affiliates in developing countries and their parent firms^a

(Percentage)		
Kind of production relationship	Affiliates of small and medium-sized TNCs in developing countries	Affiliates of large TNCs in developing countries
<i>Horizontal relationship</i>		
Producing the same products as parent firm with the same technology	66	64
Producing the same products as parent firm with different or modified technology	23	29
<i>Vertical relationship</i>		
Turning raw materials into semi-manufactured products	15	19
Turning semi-manufactured products into final products	28	23
<i>No relationship</i>		
Producing completely different or unrelated products	10	14
Number of companies observed	79	129

Source: Based on the United Nations Survey.

^a As some of the affiliates are engaged in different lines of production, there is more than one production relationship. Therefore, total adds up to more than 100.

nology. For small and medium-sized TNCs in medium-technology industries, two thirds of their affiliates use the same technology. The less sophisticated the technology, the less likely technologies will be modified in host countries.

Small and medium-sized TNCs in the primary sector concentrate their FDI in Canada, Central America and Oceania where there are abundant natural resources, their main motive being one of securing raw material.²² Traditional producers clustered in low- and medium-technology industries are more concerned about their markets in the home country and are more likely to attempt to strengthen their competitiveness through securing resources than small and medium-sized TNCs in high-technology industries, most of which are niche or specialized producers. Market-seeking FDI is frequently used by SMEs operating in traditional industries that are relatively sensitive to scale economies. High-technology small and medium-sized TNCs are more likely to respond than other small and medium-sized TNCs to FDI in the host market by rival firms, of whatever nationality.²³ Moreover, these firms do not just compete more intensely with other firms in the same industry, but also try to maintain special relationships with some firms (typically a client-supplier relationship). This is evidence of the significance of oligopolistic relations, mentioned earlier and probably more significant for some countries and industries than others. A recent study found oligopolistic reaction and maintenance of networks to be more significant for Japanese firms (big and small), as opposed to those from the United States, in terms of FDI in the South-East Asian electronics industry (Wee, 1993). Most of the respondents in the United Nations Survey with such motives were also electronic and precision equipment manufacturers. That also relates to the close relationship between small and large firms in this industry, as discussed earlier. The specifics of small and medium-sized TNCs' production strategies clearly has implications for policy formulation in developing countries; for instance, the greater likelihood that such firms produce finished goods in host developing countries may be beneficial in terms of technology transfer and reduced dependence on an intermediary in a foreign-controlled production cycle – but the fact that this is generally

more common for less sophisticated goods may argue for differing policies by, for example, least developed countries and newly industrializing economies.

Finally, there is no reason to assume a proactive strategy by small and medium-sized TNCs. For example, a recent United Kingdom study found that, out of 12 cases of technology transfer (including FDI, licensing agreements, turnkey contracts and others), 2 were the result of an active market search, 3 were for defensive reasons and a full 7 were the result of an approach by a client, a developing-country firm or a developing-country Government (Buckley and Mirza, forthcoming). This breakdown of reasons is not directly comparable to the motives because most of the cases are related to non-equity technology transfer, which is markedly different from the United Nations Survey; but it does lend support to the view that developing-country firms and Governments *can* play some major part in encouraging entry by small and medium-sized TNCs, even if they have not played a significant role hitherto.

D. Conclusions

This paper has described some of the chief characteristics of small and medium-sized TNCs. It permits a preliminary discussion of the implications of these features for developing-country policies and attitudes towards such enterprises.

An appreciable share of small and medium-sized TNCs is involved in what may be called "deep niche" strategies which effectively gives them a relatively high market power in the product or market segments in which they are specialized. Both these and other small and medium-sized TNCs nevertheless tend to possess elements of competitive advantage which, perhaps unlike large TNCs, emanate from a wide variety of sources. These sources include, not unexpectedly, proprietary technology, and such factors as flexible management, organizational and market ability, quality control, after-sales service, reputation and prestige and customer and supplier relations. These sources of advantage should not be overlooked by developing countries; small and medium-sized TNCs can be a viable conduit for transferring such expertise. The relative independence of SMEs from larger concerns may also facilitate a smooth rela-

tionship with developing-country institutions that are often dwarfed in resources by large TNCs.

Small and medium-sized TNCs (except those possessing proprietary technology) are more likely than large TNCs to enter developing countries through joint ventures with local companies and by establishing greenfield affiliates. This is an attractive package for developing countries since greenfield entry tends to result in a greater inflow of foreign knowledge. Joint ventures, appropriately constructed, are a valuable route for the indigenization of such knowledge. It should also be remarked that there are some differences between originating regions and, in some cases, these differences may play an important role in determining where a developing country may expend more marketing resources. This needs to be considered carefully; but, for instance, Europe may be targeted since 70 per cent of its TNCs (*both* small and large according to the United Nations Survey) are likely to attempt joint ventures in developing countries – a much higher proportion than for Japanese and United States firms.

The United Nations Survey identified only a small number of non-equity operations by small and medium-sized TNCs and these involved only technology agreements with their own affiliates. There are, however, many documented cases of a wide variety of effective non-equity, non-technology agreement forms of involvement by SMEs in developing countries (Campos *et al.*, 1993), although many of these may be preferred to internationalize through a non-FDI route and so have not appeared in the United Nations Survey. Policies need to encourage a wide variety of non-equity forms of technology transfer since it is clear from the United Nations Survey that, even within a parent-subsidiary network, small and medium-sized TNCs are less likely to use technology agreements than large TNCs.

On the other hand, this most likely reflects the tendency of SMEs in high-technology industries *not* to engage in foreign operations and the relative significance of those in medium-technology industries in the United Nations Survey of small and medium-sized TNCs. This is probably a plus for most developing countries since the technology is more likely to be “appropriate”. Moreover, this need not represent the crystallization of an unbridgeable technology gap between industrial-

ized and developing countries. Section A4 shows that although the level of capital intensity of small and medium-sized TNCs is lower than that of their larger brethren, while labour intensity is higher, on these and other measures they are actually intermediate between large TNCs and domestic SMEs. In addition, small and medium-sized TNCs are more flexible and profitable than larger ones; they put considerable effort into R&D, albeit less coherently than large TNCs; and, in certain cases, especially where their origin is Europe or the United States, they appear more willing to conduct it in host developing countries. Finally, it is likely that SMEs are more willing than large firms to enter into non-equity and innovatory involvements in developing countries.

Taking all those characteristics together, it is likely that, in many cases, SMEs can be highly effective partners in the development process. Care must be taken in creating a policy framework for small and medium-sized TNCs since they represent a wide variety of types of firm with many differences determined by, for example, sector, industry and source country. The policy framework for least developed countries, for instance, might be aimed at low-technology companies that rely on effective international distribution; newly industrializing economies, on the other hand, may aim to tempt high-technology companies to enter their markets either through the FDI route or, since many high-technology SMEs do not transnationalize because of competitive pressures at home, by non-equity forms of participation.²⁴ The preceding analysis furthermore suggests that European firms may be more willing to take a non-equity participation route. Medium-technology SMEs need to be categorized by source of advantage, but can be considered in the policy framework of a wide variety of developing countries. The United Nations Survey is certainly a valuable tool for establishing such a framework, especially since it also illustrates the existing patchy relationship between Governments and small and medium-sized TNCs.

Notes

* The author is grateful for advice and comments by Hafiz Mirza. This paper is based on the chapter IV of the UNCTAD Programme on Transnational Corporations, *Small*

and Medium-sized Transnational Corporations: Role, Impact and Policy Implications, New York: United Nations publication, Sales no. E.93.II.A.15, 1993.

¹ As in the first article a small or medium-sized TNC is defined as an enterprise that has a home base (headquarters or parent firm) in a developed country and that operates at least one affiliate in another country and whose employment level in its home country is fewer than 500 people, regardless of the industry. Any deviation from this scale rule is indicated in notes.

² The Survey was conducted by the author in 1991–1992. See the note 8 in the first article. For details of this Survey, see UNCTAD Programme on Transnational Corporations, 1993, Annexes A and B.

³ Based on 95 affiliates of small and medium-sized TNCs and 144 affiliates of large TNCs in developing countries.

⁴ "Competitive" is here defined as an industry with numerous firms and in which a few firms do not dominate.

⁵ Based on 128 small and medium-sized TNCs.

⁶ Based on 26 small and medium-sized TNCs.

⁷ Based on 94 affiliates of small and medium-sized TNCs and 146 affiliates of large TNCs in developing countries.

⁸ Indeed, among 14 small and medium-sized TNCs that supplied detailed information on non-equity foreign arrangements there are no international subcontracting and turnkey contracts involved.

⁹ The labour-capital ratio for large firms in Japan was, for example, 10 (number of employees per million of capital) in 1989. Data from Ministry of Finance, 1990.

¹⁰ The exports-to-sales ratio for SMEs in general and large firms are based on such countries as France, Italy, Netherlands and Norway for which data on exports by firm size are available. See UNCTAD Programme on Transnational Corporations, 1993, Table 1.5, p. 22.

¹¹ The profit ratios of SMEs and large firms are only for Japanese firms due to unavailability of such data in other countries.

¹² Based on 210 foreign affiliates of 94 small and medium-sized TNCs.

¹³ Based on 35 small and medium-sized manufacturing TNCs.

¹⁴ Based on 704 manufacturing SMEs and 366 manufacturing large firms. Most of the companies' data are for 1989.

¹⁵ The differences in these shares are more evident that many SMEs engage in R&D in an unstructured way throughout the organization.

¹⁶ This is also confirmed by a survey on Japanese TNCs by the Ministry of International Trade and Industry (MITI). Small and medium-sized TNCs accounted for only 0.3 per cent of all R&D expenditures by TNCs in fiscal year 1989. The ratio of R&D expenditures to sales was 0.9 per cent, compared to 2.7 per cent for large TNCs. The data are based on 820 large TNCs and 224 small and medium-sized TNCs. MITI, 1991, Tables 1-42 and 1-43, p. 97.

¹⁷ For the United States data, see United States Department of Commerce, 1992, Tables I.I.R 1 and III.I 1, pp. 118 and 264. For Japan, MITI, 1991, Tables 1-42 and 2-69, pp. 97 and 363.

¹⁸ The number of patents granted to local residents in 1990 in the major five countries was as follows: 8,923 for France; 16,625 for Germany; 50,370 for Japan; 4,361 for the United

Kingdom and 47,393 for the United States. Data from World Intellectual Property Organization, 1992, Table 1, pp. 1–8.

¹⁹ R&D expenditures by business enterprises in the major five countries were \$98,400 million for the United States (1988), followed by \$56,000 million for Japan (1988), \$20,300 million for Germany (1977), \$13,000 million for France (1988) and \$17,800 million for the United Kingdom (1988). Data based on OECD, 1991.

²⁰ Data on patents of Japanese SMEs are from Small and Medium Enterprise Agency, 1991, Table 2-1-43, p. 193. The results of the United Nations Survey are based on 39 Japanese manufacturing small and medium-sized TNCs.

²¹ Or indeed, other types of international operation.

²² Some 42 per cent of affiliates of small and medium-sized TNCs in the primary sector were established with this motive.

²³ This motive is the third most important for small and medium-sized TNCs in high-technology industries, after expectation of growth in local markets and access to and growth in third-country markets, among 22 motives. See UNCTAD Programme on Transnational Corporations, 1993, Table II.1, p. 41 for the list of motivations.

²⁴ Some companies may well be persuaded to enter through non-equity international investment because they use fewer resources and the return can be used to bolster their position in the home market.

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