Transnational corporations: where are they coming from, where are they headed?

Raymond Vernon *

Transnational corporations[1] now dominate international flows of goods and services. The identity of the headquarters country once was a significant factor helping to explain the international behaviour of such enterprises; but transnational corporations from different countries are rapidly losing their distinctive national patterns of behaviour. In some product markets, scale and transaction-cost factors help to explain the behaviour of these firms. But in markets with high entry barriers and few participants, the rivalries among the participants are so critical that firm behaviour can best be explained as a struggle to weaken known adversaries or to counter their aggressive moves.

Four decades ago, the transnational corporation (TNC) was widely regarded as a peculiarly United States form of business organization, a manifestation of the existence of a pax Americana. Today, every industrialized country provides a base for a considerable number of TNCs which, collectively, are becoming the dominant form of organization responsible for the international exchange of goods and services. Indeed, by the end of the 1980s, even the larger firms in some of the rapidly industrializing countries of Asia and Latin America had joined the trend (Fujita, 1990; Lall, 1991,

* Clarence Dillon Professor of International Affairs Emeritus at the John F. Kennedy School of Government at Harvard University. This article was prepared with the generous support of the National Bureau of Economic Research and the Center on Business and Government of the Kennedy School at Harvard University. It will also be published, in slightly altered form, in Kenneth Froot, ed., *Foreign Direct Investment Today* (Chicago, University of Chicago Press, 1993). I am indebted to Ernest Chung and Subramanian Rangan for their research support in the preparation of this article, as well as to Richard Caves and Lawrence H. Wortzel for their incisive comments on an earlier draft.

[1] Out of deference to the usage preferred by the editors, the term "transnational corporation" and the acronym "TNC" are used here to denote a network of related enterprises, composed of a parent in one country and subsidiaries or affiliates in other countries.

TCMD, 1992).

For scholars who want to understand the factors affecting international trade in goods and services, these changes are of consummate importance. In the past, whenever the international behaviour of TNCs appeared at odds with a world regulated by comparative advantage and capital market theory, the deviation could be treated as idiosyncratic, the basis for a footnote in passing. But today, with TNCs dominating the international traffic in goods and services, the question of what determines their behaviour takes on considerable significance.

One cannot pretend to be providing a definitive answer to this central question in the pages that follow; that is a labour that will take many minds over an extended period of time. But this article has two goals that contribute to that central task. The first is to persuade the reader that explanations of the behaviour of TNCs which draw on the national origins of the enterprises as a major explanatory variable are rapidly losing their value, to be replaced by an increased emphasis on the characteristics of the product markets in which the enterprises participate. And the second is to plant a few ideas regarding the motivations and responses of TNCs that must figure in any rounded explanation of the behaviour of these enterprises in the various product markets they face.

United States firms ascendant

The sudden growth of United States-based transnational networks after the Second World War was in fact some time in the making. Many decades earlier, the first signs that large enterprises might find themselves pushed to develop a transnational structure were already beginning to appear. Setting the stage for the development of these transnational networks were the dramatic improvements in the technologies of transportation and communication, coupled with the vastly increased opportunities for scale economies in industrial production. Operating with high fixed costs and low variable costs, a new crop of industrial firms felt especially vulnerable to the risks of price competition. And, by the beginning of the twentieth century, these risks were beginning to be realized; the country's industrial leaders, including firms in machinery, metalworking and chemicals, were coming into bruising contact not only with rivals from the United States but also with some from Europe.

Facing what they perceived to be dangerous and destructive competition, the leaders in many United States industries went on the defensive. By the beginning of the century, many of the new industries of the country had organized themselves in restrictive market-sharing arrangements and were reaching out to their European competitors to join agreements that were global in scope.

From the first, however, it was apparent that these restrictive arrangements were fragile responses to the threat of competition, especially for firms based in the United States (Hexner, 1945; Stocking and Watkins, 1946, 1948). The diversity and scope of the United States economy, coupled with a hostile legal environment, made it difficult for United States leaders to stifle the appearance of new firms inside the country; and those same factors put a brake on the leaders from engaging in overt collusion with European rivals. At times, it is true, global market-sharing agreements nevertheless persisted, especially when patents and trade marks provided a fig leaf for the participants; but, by and large, the role of United States firms in these restrictive arrangements was cautious and restrained.

While participating in the international division of markets in a number of products before the Second World War, many large firms also established the first of their foreign affiliates during that period. Commonly, however, large firms used those affiliates to implement their restrictive agreements with other firms, as in the case of the Du Pont-ICI affiliates located in Latin America. Often, too, firms established such affiliates as cautionary moves against the possibility that other firms with which they were in competition might be in a position to cut them off from raw materials in times of shortage, or from markets in times of glut. United States firms that were engaged in extracting and processing raw materials, for instance, typically developed vertically integrated structures that covered the chain from well-head or mine shaft to the final distribution of processed products; and because other leading firms shared the same fear, partnerships among rivals commonly appeared at various points in these vertical chains, in the form of jointly owned oilfields, mines and processing facilities. Meanwhile, other United States firms, such as General Motors, Ford and General Electric, established affiliates in Europe, to serve as bridgeheads in the event of an outbreak of warfare among industry leaders; and such bridgeheads, consistent with their function, were usually allowed to operate with considerable independence and autonomy (Chandler, 1990, pp. 38-45, 205-233; Wilkins and Hill, 1964, pp. 360-379; Jones, forthcoming; Wilkins, 1970, pp. 93-96).

After the Second World War, there was a decade or two in which the defensive responses of United States-based firms to their perceived risks in world markets were a little less in evidence. The reasons were too obvious to require much comment. The proverbial "animal spirits" of United States business were already at an elevated level, as a result of the technological lead and financial advantages that they enjoyed over their European rivals. Dramatic advances in communication and transportation were enlarging the stage on which those spirits could be released. The real cost of those services was rapidly declining; and with the introduction of containerized freight, airborne deliveries and the telex, the range of those services was widening. These improvements expanded the business horizons of United States-based firms, allowing them to incorporate more distant locations in the marketing of their products and the sourcing of their needed inputs.

The first reaction of most United States firms to their expanding product markets was to meet those demands by increasing their exports from the home base. But, as numerous case studies attest, the establishment of local producing affiliates soon followed. Almost all of the first manufacturing affiliates established in foreign countries after the Second World War were dedicated to serving the local markets in which they were located.[2] And as a consequence, during the 1960s, about four fifths of the sales of such affiliates were directed to such markets (Lipsey and Kravis, 1982, p. 3).

The motives of firms for serving local markets through foreign producing affiliates rather than through exports were usually complex. In some cases, for instance, the establishment of a foreign producing affiliate was simply perceived as a more efficient means of serving the foreign market, a consequence of the fact that sales in the market had achieved a level sufficient to exploit the existing economies of scale in production. But other factors were contributing to the scope and timing of these decisions as well. There were indications, for instance, that the decisions taken to establish affiliates abroad, whether for the marketing of products or for the production of required materials and components, were often reactive measures, stimulated by some perceived threat and intended as a hedge against the threat. Once a United States firm lost its unique technological or marketing lead, as seemed inevitable in most products over the course of time, Governments might be tempted to restrict imports in order to encourage domestic production. In that case, the foreign affiliate served to protect existing market access.

[2] Even as late as 1975, about two thirds of the manufacturing subsidiaries of United States-based firms were engaged almost exclusively in serving the local markets in which they were located (Curhan *et al.*, 1977, p. 393).

But even without the threat of action by Governments, United States-based firms frequently faced threats posed by rivals in the product markets in which they operated. And some rich anecdotal evidence strongly suggests that foreign affiliates were often being created as a hedge against such threats. That hypothesis may help to explain why, in the first few decades after the Second World War, United States-based firms were engaged in follow-the-leader behaviour in the establishment of foreign affiliates; once a United States-based firm in an oligopolistically structured industry set up an affiliate in a given country, the propensity of other United States-based firms in the oligopoly to establish affiliates in the same country was visibly heightened (Knickerbocker, 1973, pp. 22-27; Yu and Ito, 1988).

Such a pattern, of course, does not conclusively demonstrate that the follower is responding defensively to the behaviour of the leader. Alternative hypotheses also need to be entertained, such as the possibility that both follower and leader are responding to a common outside stimulus, or that the follower was responding in the belief that the leader had done a rational analysis equally applicable to both their situations. However, various individual cases strongly suggest that such follow-the-leader behaviour can, in many cases, be attributed to the follower's desire to hedge a threat posed by the leader. Although the follower may be unsure whether the leader has properly analysed the costs and benefits of its move in establishing a foreign affiliate, the follower is understandably fearful of allowing a rival to enjoy the benefits of undisturbed exploitation of its foreign opportunities. As long as the number of rival producers in the market is small, therefore, following the leader often seems to entail smaller downside risks than failing to follow. If the leader was right in making its move, failing to follow would give the leader an unrivaled opportunity to increase its competitive strength, whether by increasing its marketing opportunities or by reducing its production costs; and if the leader was wrong, the follower's risks from committing the same error would be limited by the leader's having shared in it.

If the hedging of a threat was sometimes necessary for the growth of United States-based TNCs, however, it was certainly not sufficient for such growth. Still to be explained was why in so many cases United States-based firms chose to establish producing affiliates rather than to exploit their strengths through licensing or other contractual arrangements with local firms. In some cases, the high transaction costs associated with searching out and dealing with local firms may provide an adequate explanation. But here, too, a heavy weight can be put on explanations that see the establishment of a foreign affiliate in part as a hedge against various risks. Whenever licensing agreements are negotiated, both parties face the uncertainties generated by asymmetrical information; the licensee is uncertain of the value of the information he is to receive, while the licensor is uncertain of the use to which the licensee proposes to put the information. Moreover, enforcing the provisions of any licensing agreement carries both parties into areas of major uncertainty, based partly on the difficulties of monitoring the agreement and partly on the difficulties of enforcing its provisions.

In any event, the late 1960s registered a high-water mark in the spread of the transnational networks of United States-based industrial enterprises, as the number of foreign affiliates that were added annually to such networks reached an all-time high (UNCTC, 1978, p. 223). For at least a decade thereafter, the number of foreign affiliates added annually to the transnational networks of United States-based industrial enterprises was much reduced. Without firm-by-firm data of the kind that has been compiled by the Harvard Multinational Enterprise Project for the period up to 1975, it is hard to know more precisely what was going on at the firm level during the succeeding years. But the rate of growth of those networks appeared to pick up again in the latter 1980s.

The high rate of growth since that time, however, appears to be based on somewhat different factors from those that prevailed in earlier decades. From anecdotal evidence, it appears that United States-based firms continue to use their transnational networks to transfer newly generated products and processes from the United States to other countries. But with the United States lead greatly diminished in the generation of new products and processes, it is doubtful that the transmission of new products and processes from United States parents to foreign affiliates plays as important a role in the business of United States-based enterprises as it did some decades ago. Indeed, by the 1990s, the ostensible purpose of some United States-based firms in establishing foreign affiliates in Japan was to acquire new skills for their transnational networks, not to diffuse them, in the hope that their Japanese experience would strengthen their competitive capabilities in markets all over the world.[3] With Japanese and European firms acquiring affiliates in the United States at the same time for the same purpose, it was

[3] "American business starts a counterattack in Japan", *New York Times*, 24 February 1992, p. 1. A survey conducted by MITI in January 1990 reports that 38 per cent of the foreign direct investors in Japan responding to the survey listed "engineering skill is high" as a reason for their investment, while 18 per cent listed "collection of technical information and market information". Reproduced in *Nippon 1991: Business Facts and Figures* (New York, JETRO, 1992, p. 109).

apparent that the distinctive characteristics of United States-based transnational networks were beginning to fade.

Another factor that was beginning to change the behaviour of United States-based enterprises was the increasing familiarity of their managers with the problems of operating in foreign environments. At least until the 1970s, in their decisions when and where to establish affiliates abroad, United States-based firms had been giving a heavy preference to the familiar. Careful analyses of the geographical sequence by which United States-based firms established manufacturing facilities abroad demonstrated that historically there had been a heavy preference for setting up the first foreign production unit in Canada, with the United Kingdom taking second place and Mexico third.[4] By the 1960s, United States-based firms were bypassing Canada for Europe and Latin America as the first point of foreign manufacture; and by the 1970s, although Europe and Latin America continued to provide the principal first-production sites, Asian sites were beginning to turn up with increasing frequency (Vernon and Davidson, 1979, pp. 52, 134-135).[5]

The role played by experience during these early postwar decades could be seen even more directly by trends in the reaction times of United States-based firms in setting up foreign production facilities. Where new products were involved, United States-based firms characteristically set up their first production sites within the United States. But eventually they set up production sites abroad as well; and in measure as these firms gained experience with producing in a given country, the time interval involved in setting up production facilities in the country for new products showed a marked decline. Moreover, to the extent that the number of foreign production sites for any product increased, the time interval in setting up another facility in a foreign country also declined. By the 1970s, therefore, United States-based firms were beginning to show less hesitation in setting up production affiliates abroad for their new products, and were scanning a rapidly widening circle of countries for their production sites.

The pattern towards which United States-owned transnational networks

[4] The generalizations are based on an unpublished study of the manufacturing subsidiaries of 180 United States-based TNCs as of 1964. The 180 firms, whose transnational networks are covered in the computerized files of the Harvard Multinational Enterprise Project, comprised all large United States-based firms with substantial foreign manufacturing facilities (Vaupel, 1971).

[5] The study is based on the same TNCs as those in Vaupel, 1971. Conclusions in the two paragraphs following are based on data in the same study.

seem to be moving, therefore, is one in which the parent firm in the United States is prepared to survey different geographical locations on their respective merits, with a much reduced presumption in favour of a United States location. Instead, when assigning tasks to the various units of their transnational networks, United States business managers are increasingly likely to discount the distinction between home-based and foreign facilities, except as governmental restraints compel them to recognize that factor. This does not mean that the role played by geography is altogether obliterated. United States-based firms, for instance, continue to rely on Latin America more than on Asia to provide their low-cost labour needs, while the reverse is true for Japanese firms.[6] But the sense of uncertainty associated with producing outside the home economy has substantially declined, and the preference for nearby production locations such as those in Latin America over more remote locations such as those is Asia has declined as well.

For enterprises operating in oligopolistic markets, however, a major source of uncertainty remains. Even when such enterprises are fully familiar with the foreign environments in which they are obliged to operate, they are still exposed to the predatory and pre-emptive tactics of their rivals in the oligopoly. The reasoning that led the international oil and minerals firms to develop vertically integrated structures before the Second World War, therefore, can be glimpsed in more recent decades in the behaviour of United States-based firms operating in oligopolistic markets. For instance, United States-based oil companies, having been separated from some of their captive crude oil supplies by the nationalizations of the 1970s, remain unwilling to rely upon the open market for the bulk of such supplies despite the existence of a large public market for the product. Facing the latent threat posed by the vertical integration of the Saudi Arabian and Venezuelan state-owned oil companies, United States-based firms are repairing and strengthening their upstream links.[7]

Such cautionary behaviour, moreover, is not confined to the raw materials industries. Similar behaviour is apparent among United States firms in the electronics industry. Under pressure to reduce the costs of labour-inten-

[6] United Nations data affirm the preference of United States-based and Japan-based firms for direct investment in nearby locations during the years 1971 to 1986, as well as the tendency of these geographical preferences to decline over time (UNCTC, 1988, table A.5, pp. 518-520).

[7] "Why kings of crude want to be pump boys". Provides an account of the downstream movements of the various state-owned oil companies, and new upstream ties forged by Gulf Oil, Sun Oil, Citgo and Texaco (*Business Week*, 21 March 1988, pp. 110-112).

sive components, firms such as IBM and Texas Instruments have chosen to manufacture a considerable part of their needs within their own transnational networks rather than rely upon independent suppliers; and a major factor in that decision, according to many observers, has been the fear that predatory rivals might withhold the most advanced versions of those components from competitors while incorporating them in their own products (United States Congress, Office of Technology Assessment, 1991, pp. 97-100; Schwartz, 1992, especially p. 149; Teece, 1987).

For some United States-based enterprises, it has been only a small step from using their foreign affiliates as feeders for manufacturing facilities in the United States to using those facilities to fill requirements arising anywhere in the network. And by the 1980s, it had become apparent that this process was well advanced (Lipsey, 1987, pp. 39-42). Of course, in practically every transnational network, the parent unit in the United States typically continued to occupy a unique position. Characteristically, the parent firm's United States sales still accounted for the bulk of the network's sales; its United States facilities were responsible for the most important research-and-development work in the network; and its United States offices still coordinated some of the network's functions that might benefit from a centralized approach, such as the finance function. But the direction was clear: although the centralized functions of the network would presumably remain in the United States indefinitely, the historical and institutional forces that resisted the geographical diffusion of other functions to locations outside the United States were growing weaker.

A more novel trend, however, has been the growing propensity of United States-based firms to enter into alliances of one kind or another with transnational networks based in other countries—typically, in other highly industrialized countries. Such alliances, for instance, sometimes take the form of a joint venture established to perform a specified function, or of an exchange of licences in a specified field. At times, the arrangements link suppliers to their customers; but at other times, the parties involved in such limited linkages appear to be direct rivals. A considerable literature is already developing regarding the operation of these alliances (Contractor and Lorange, 1988; Gomes-Casseres, 1989; Lewis, 1990; Lynch, 1989; and Parkhe, 1991). Although the definitions of such alliances are muddy and the data far from complete, they seem to be concentrated in industries in which barriers to entry are high and technological change is rapid and costly.

Part of the motivation for these alliances is apparent: an effort of each of the participating firms to reduce the risks associated with lumpy commitments to new research-and-development projects and to ensure that they are abreast of their competitors in their research resources. The alliances, therefore, are not much different in function from the jointly owned mines and oilfields that rival refiners and marketers shared in decades gone by, such as ARAMCO in Saudi Arabia, Southern Peru Copper in Peru and HALCO in Guinea. Moreover, with common interests linking rivals to their suppliers and to one another in these new alliances, the likelihood that any one of the rivals might steal a technological lead on the others is obviously reduced. Like the partners in the raw material affiliates, therefore, there may well be a sense among some of the partners in the new alliances that their ties with rivals and suppliers could be used to reduce the harshness of future competition among them.

There is one respect, however, in which many of the new alliances differ from those in the raw material industries. In industries with rapidly changing technologies and swiftly changing markets, the interests of the participants in any given alliance are likely to be relatively unstable; such firms will be constantly withdrawing and regrouping in order to satisfy their rapidly shifting strategic needs. Nevertheless, the possibility that these arrangements will serve at times to take the edge off the competition in some product markets remains very real.

Yet, for all the evidence that defensive motivations have been dominating the behaviour of United States-based enterprises, there are various signs that the animal spirits of some United States managers can still be roused. One sign of such spirits has been the global spread of United States-based firms in various service industries, including fast foods, advertising services and management consulting. Some of these service-oriented firms have developed transnational networks simply by following their transnational clients abroad in an effort to maintain an existing relationship. But others, relying on a technological or managerial capability that their foreign rivals had not yet matched, have bravely set out to master new environments without any apparent defensive motivation. Such initiatives, it appears, depend on the extent to which enterprises feel protected by some unique firm capability, such as a technological or managerial lead, or a patent or trade mark.[8] But whether or not such situations are common in the future, defensive responses can be counted on to compel many large firms in the United States to maintain and extend their transnational networks.

[8] The reader will recognize this theme as a major element in John H. Dunning's "eclectic theory". For his view of United States foreign-direct-investment trends in relation to the theory, see Dunning, 1985, pp. 66-70.

Emergence of the Europeans

European industrialists often enjoy a reputation for sophistication and urbanity that equips them specially for the role of global entrepreneurs. But their performance as a group after the Second World War presents a very mixed picture.

In the decades just prior to the Second World War, the principal strategy of the leading European firms had been to protect their home markets from competition, not to seek out new foreign markets. When they established affiliates in foreign countries, their disposition had been to concentrate on countries to which their home Governments had close political ties (Franko, 1976, p. 81). And their typical reaction to the threat of international competition in those decades had been to develop market-sharing arrangements along national lines.

In the immediate postwar period, European firms continued to cling to their home markets. Absorbed in the rebuilding of their home economies and saddled with the need to catch up technologically, they had little slack to devote to the establishment of new foreign facilities. True, enterprises headquartered in some of the smaller countries that possessed a technological edge, such as the pharmaceutical companies of Switzerland and the Netherlands, as well as the machinery firms of Sweden, often felt compelled to set up affiliates outside their home countries in order to exploit their technological lead and to finance their ongoing innovational efforts; and the affiliates they set up in foreign countries typically operated with greater autonomy in foreign locations than some of their United States rivals. Moreover, manufacturing firms headquartered in the larger European countries were not altogether averse to establishing producing affiliates in areas over which their home Governments still exercised strong political or economic influence. Between 1945 and 1965, for instance, firms headquartered in the United Kingdom established about 400 manufacturing affiliates in Australia, Canada and New Zealand (Harvard Multinational Enterprise Project data banks).

The disposition of European firms to identify closely with their home Governments has some of its roots in history. Until recently, many were family-owned enterprises, with a long history of dominance in some given city or region. Some were so-called national champions, accustomed to especially favourable treatment by their Governments in the provision of capital and the purchase of output (Michalet, 1974). The idea of maintaining close ties to their home Governments when operating abroad, therefore, represented an easy extension of their relationships at home.

After 1960, the emergence of a common market on the European continent began to affect the strategies of European firms. At first, however, these developments did little to encourage European firms to set up affiliates in other countries within the area. For one thing, the promise of a duty-free market among members of the European Community actually served to eliminate one of the motivations for creating such affiliates, namely, the threat that frontiers might be closed to foreign goods. And with land distances relatively small and national markets relatively limited in size, the economic reasons for establishing such affiliates often did not appear compelling.

On the other hand, by the 1960s, United States-based companies were beginning to set up their affiliates in Europe in large numbers. Data from the Harvard Multinational Enterprise Project show that, whereas in the 15 years between 1945 and 1959 United States parents had established some 300 manufacturing affiliates in Europe, between 1960 and 1975 United States parents established nearly 2,000 manufacturing affiliates in Europe. Typically, the first landing of the United States invaders was in the United Kingdom, despite that country's delay in entering the European Community; but the United States-based firms were not long in establishing affiliates on the continent as well.

One might have expected the appearance of those affiliates to stimulate moves to renew the restrictive market-sharing agreements of the prewar period; but the environment following the end of the Second World War was much less conducive to such agreements. For one thing, rapidly expanding markets and swiftly changing technologies generated an environment that made agreements difficult. In addition, although the enforcement of the United States antitrust laws had grown lax in the postwar period, the European Community itself had adopted (and was occasionally enforcing) some exemplary measures aimed at preventing enterprises from dividing up the European market (Goyder, 1988, especially pp. 71-133).

Eventually, however, most large European firms were led through the same defensive cycle that some United States-based firms had already experienced. Having re-established export markets for their manufactured goods in many areas, including the Middle East and Latin America, they faced the same kind of threat that had moved their United States counterparts to set up producing affiliates abroad, namely, the fear of losing a market through import restrictions. By 1970, manufacturing firms based in Europe were adding affiliates to their transnational networks in numbers over twice as high as those recorded by their United States-based counterparts (Harvard Multinational Enterprise Project data bank).

Moved largely by defensive considerations, European firms were adding rapidly to their holdings in the United States. There, they showed a strong preference for investing in existing firms rather than launching wholly new undertakings, and a strong disposition to team up with a United States firm in the process.[9] Such entries, some European managers supposed, would give them exposure to the latest industrial technologies and marketing strategies, thus strengthening their ability to resist the onslaught by United States firms in their home markets and in third countries.

By the end of the 1960s, however, the Europeans had begun to have less reason to fear the dominance of United States-based firms. By that time, the differences in technological achievement between United States firms and European firms had obviously shrunk. And access to capital no longer favoured United States firms. Not surprisingly, then, some of the motivations that lay behind the expansion of the European networks grew more akin to those of networks headquartered in the United States, that is, largely defensive moves aimed at protecting a foreign market from import restrictions or copycat responses to the initiatives of rivals in setting up an affiliate abroad (Flowers, 1976).[10] In an apparent response to such stimuli, the number of European-owned affiliates appearing in various parts of the world rapidly increased (Harvard Multinational Enterprise Project data bank).

These new transborder relations, one should note, have not wholly obliterated the distinctive national traits that have characterized European firms. German enterprises, for instance, continue to huddle in the shelter of their big banks, French companies in the protective cover of their national ministries. Moreover, despite the existence of the European Community, European firms continue to owe their existence to their respective national enabling statutes, which reflect wide differences in philosophical values and political balance. The United Kingdom, for instance, cannot agree with its continental partners on such fundamental issues as the responsibilities of the corporation to its labour force; whereas corporate managers in the United Kingdom are typically seen as the agents for their stockholders, continental

[9] In the period from 1960 to 1970, about 80 per cent of the manufacturing affiliates established by European parents in the United States were through acquisition of or mergers with United States firms; the comparable figure for manufacturing affiliates of United States parents in Europe for the same period was 67 per cent (Harvard Multinational Enterprise Project data bank).

[10] The assumption that the spread of European networks is to be attributed in part to follow-the-leader behaviour, at least until the 1970s, is fortified by some unpublished studies undertaken by Fred Knickerbocker (1973), whose analysis of the behaviour of United States-based manufacturing affiliates is cited elsewhere in this article.

Governments generally take the view that labour has a quasi-proprietary stake in the enterprise that employs it, which managers are obliged to recognize. Differences such as these have served to block projects for the creation of a European company under the European Community's aegis.

Nevertheless, cross-border mergers are growing in number in Europe. In 1987, among the large industrial enterprises based in the European Community, only 75 cases were recorded in which a firm based in one country gained control of a firm based in another European Community country; but by 1990 the number had risen to 257 (European Commission, 1991, p. 228). Indeed, in this universe of large industrial firms, the number of such transborder acquisitions in 1990 for the first time exceeded the number of such acquisitions involving firms in a single member country.

In part, the trend towards cross-border mergers is a consequence of the many liberalizing measures that the member countries of the European Community have taken with regard to capital flows. In addition, however, there appears to be a visible weakening of the family conglomerate, a distinctly national form of big business. In Italy, for instance, where that kind of structure has been particularly prominent in the private sector, the country's leading family conglomerates have fallen on especially hard times.[11]

The disposition of many firms to cling to the shreds of their national identity will lead many of them to hesitate over transborder mergers and consolidations in which they are not the surviving entity; or, when they finally succumb to the pressures for merger, to insist on retaining a minority interest in the affiliate that has joined the network of the foreign-based firm. That same disposition suggests why European firms appear to give a heavier preference to consortia and alliances as a way of combining their strengths with a foreign firm than United States-based competitors would do. But, because such arrangements are likely to be fragile over time, transborder mergers may be the preferred vehicle in spite of the obstacles. Such mergers may still generate resistance and hostility in some countries.[12] But a few decades from now, the national differences in Europe's business communities are likely to prove no more important than the differences

[11] See "Leaders that have lost their way", *Financial Times*, 21 January 1992, p. 18, for an account of the troubles of the Agnelli and Pirelli family conglomerates.

[12] For a rich account of such hostilities in France's reactions to the Agnelli family's efforts to acquire control over Perrier, see "Dynastic hopes fall flat in France", *Financial Times*, 25 March 1992, p. 14.

between Texas-based enterprises and Massachusetts-based enterprises in the United States.

In explaining the growth of the networks of firms based in Europe, then, we return to some of the same themes that were stressed in the case of United States-based firms. When summarizing the factors that have pushed United States-based enterprises to develop and expand their transnational networks in the past decades, the stress was on the continuous improvements in the technology of communication and transportation as the powerful exogenous factor; the decisions of the United States-based firms to expand their enterprises were seen in large part as a response aimed at reducing the uncertainties and countering the threats that accompanied such developments. One feels sure that these generalizations will carry the observer a considerable distance in understanding the behaviour of European-based firms as well.[13] Over time, the differences that heretofore have distinguished United States-based from Europe-based transnational networks are likely to diminish, as the conditions of their founding and early growth begin to lose their original importance.

Latecomer Japan

The factors behind the growth of TNCs based in Japan, a phenomenon of the past two or three decades, will bring us back to the same emphasis on defensive motivations, including the need of Japanese enterprises to protect their interests against the hostile acts of foreign Governments and business competitors, and the desire to build up their competitive strengths by exposing themselves to the most challenging technological and marketing environments. Indeed, the defensive motivations that commonly lie behind the creation and spread of TNCs are likely to act even more powerfully on Japanese than on their United States-based and Europe-based competitors. To see why, it helps to review briefly the evolution of Japan's industrial structure (see, for example, Wilkins, 1990).

From the earliest years of the Meiji restoration in the last decades of the nineteenth century, the industrial structure of Japan exhibited some distinctive national characteristics. Half a dozen conglomerate organizations dominated the core of Japan's modern economy, each with its own captive bank, trading company and portfolio of manufacturing and service enterprises. The

[13] A study of European banking confirms the existence of each of the major tendencies identified above; see Campayne (1992).

conglomerate structure, well developed before the Second World War, was only modified a little by Japan's loss of its foreign territories and by the ensuing occupation. Japanese firms lost their investments in those territories; but these investments had largely been controlled by the so-called new *zaibatsu*, companies that depended for their existence on Japan's foreign conquests and that had very little stake in the home economy itself. In Japan proper, the holding companies that sat at the apex of each conglomerate were liquidated during the occupation. But the member firms of each conglomerate maintained their old ties by cross-holdings of stock and by shared memories of past loyalties. And in the 1960s and 1970s, as foreign enterprises began to show some interest in acquiring control over Japanese firms, member firms within each conglomerate systematically built up their cross-holdings even further as a means of repelling foreign companies (Ito, 1992, p. 191).

From the early emergence of these conglomerate organizations, a fierce rivalry existed among them—but a rivalry based much more on comparative rates of growth and market shares than on nominal profits. Within each conglomerate, the financing of the contest was left to the conglomerate's captive bank rather than to public capital markets. But the general scope and direction of the lending by these banks to their affiliates were largely determined by continuous consultation with key government agencies, including especially the Ministry of Finance, the Bank of Japan, and the Ministry of International Trade and Industry.

By the 1980s, however, it was becoming apparent that major changes were taking place in the conglomerate structures. Perhaps the most obvious change was the dramatic shift in the financing practices of the industrial firms. As the rate of growth of the Japanese economy slowed down a little in the 1980s and as the need to finance capacity expansion grew less urgent, Japanese firms found that internally generated cash was going a much longer way towards meeting their capital needs. At the same time, under pressure from foreign sources and from Japan's own financial intermediaries, the Ministry of Finance was gradually relaxing its tight controls over the development of internal capital markets, thereby providing Japanese companies for the first time with a real option for raising their capital needs through the sale of stocks and bonds in public markets. Concurrently, Japanese firms were being granted permission to raise capital in foreign currencies, by selling their securities abroad or borrowing from foreign banks. Japanese banks, trading houses and other service facilities, therefore, were strongly represented in the outflow from Japan of direct investment to major foreign markets.[14] And because Japanese manufacturing firms were always a little uncomfortable when dealing with foreigners as service suppliers, the existence of those service facilities in foreign markets eased the way for the manufacturers to establish their affiliates outside Japan (Gittelman and Dunning, 1992).

In accounting for the changes in the character of the transnational networks based in Japan, however, one must place particular emphasis on the increasing technological capabilities of these enterprises. In the very first stages of the development of transnational networks by Japan-based firms in the 1960s and 1970s, some scholars entertained the hypothesis that these firms would develop a pattern of foreign direct investment quite different from that pioneered by United States-based and Europe-based firms (Kojima, 1978, pp. 85-87). At that stage, Japan's penetration of foreign markets for manufactured goods had been most in evidence in South and South-East Asia, and had been concentrated heavily in relatively simple items such as batteries, radios, noodles and other consumer goods, items in which Japan's comparative advantage was already fading. Given the unsophisticated nature of the products and the lack of a need for after-sales services, Japanese producers usually used their affiliated trading companies as their agents in foreign markets. Indeed, in many cases, the Japanese producers were not large enough even to consider marketing their own products abroad, and so had no choice but to rely on trading companies.

In these cases, therefore, when the risk that the Government might impose restrictions became palpable, it was the trading company that typically took the lead in establishing a local production facility, often through a three-way partnership that combined the trading company with a local distributor and with the erstwhile Japanese exporter (Yoshino, 1976, pp. 95-126). From this early pattern, it appeared that the Japan-based TNCs might root themselves much more deeply in its foreign markets than the United States-based and Europe-based companies, with results that might prove more benign from the viewpoint of the host country.

By the 1980s, however, the patterns of foreign direct investment by Japanese firms were converging towards the norms recorded by their United States and European rivals (Encarnation, 1992, pp. 9-35). As with United States-based and Europe-based firms, the object of Japanese firms in estab-

[14] In the 1980s, the relative importance of services in the outflow of foreign direct investment from Japan was substantially higher than that from the United States, the United Kingdom, Germany or France (UNCTC, 1991, p. 16, table 6).

lishing a producing affiliate abroad was commonly to protect a market in a relatively differentiated product that originally had been developed through exports from Japan.

Compared with United States-based or Europe-based firms, however, the stake of Japanese firms in the export markets of other industrialized countries soon grew very large.[15] The spectacular growth of Japanese exports to the markets of such countries exposed Japanese firms once more to threats of restrictive action on a major scale. At this advanced stage, however, the markets to be protected were considerably different in character from those that the first generation of Japan-based TNCs had developed. One difference was in the identity of the markets under siege, now located mainly in the United States and Europe. Another was the nature of the products involved; these were relatively sophisticated products, such as automobiles, video cameras and computer-controlled machine tools. And a third was the channels of distribution involved: sophisticated products such as these were usually marketed through channels under the direct control of the manufacturers rather than through trading companies.

The networks that Japan-based firms created in response to the new threats came closer to emulating those of the United States-based and Europe-based firms with transnational networks. Moreover, like those of their European rivals, many of the foreign acquisitions by Japan-based firms were explained by a desire to acquire advanced technological skills; this motive was especially apparent in the acquisition of various medium-sized high-technology firms in the United States (Kester, 1991; Kogut and Chang, 1991).

Although the transnational networks that Japan-based firms produced in this second generation bore much greater resemblance to the networks of their counterparts from other developed countries, some characteristic differences remained. One such characteristic was the high propensity of Japan-based TNCs to control their producing affiliates tightly from Japan. Symptomatic of that fact was the near-universal use of Japanese personnel to head their foreign affiliates.[16] A striking illustration of the same desire for control was the limited leeway allowed to affiliates in the acquisition of capi-

[15] Data on the identities of the world's leading TNCs in the latter 1980s, with partial statistics on their respective stakes in foreign markets gleaned primarily from annual reports, appear in *UNCTC* (1988).

[16] For instance, a study of the United States affiliates of Japanese electronic firms reports that only 2 per cent of Japanese electronics firms in the United States had United States chief executive officers (United States Congress, Office of Technology Assessment, 1991, p. 99).

tal equipment; Australian affiliates of Japanese firms, for example, possessed far less leeway in the selection of new machinery than did the affiliates of United States-based or Europe-based firms (Kreinin, 1988). Some signs existed in the 1990s that a few Japanese firms were breaking away from their traditional controls and were giving their foreign affiliates greater leeway, but they were still the exception.[17]

The early reluctance of Japan-based firms to develop a transnational network and the tendency of the foreign affiliates of such firms to rely upon their established sources in Japan have been attributed to a number of different factors. They have been variously explained as a consequence of the relative inexperience of Japanese firms with the novel problems of producing abroad, as a result of the heavy reliance on the consensual process in firm decision-making, or as a consequence of the extensive use of just-in-time producing processes, which demand the closest coordination between the firms and their suppliers (Kester, 1991, p. 109). Introducing strangers into the system, according to the argument, entails major modifications in firm practices that cannot be achieved overnight.

Nevertheless, by the end of the 1980s, Japan-based firms were expanding their transnational networks at an unprecedented rate. What is more, their manufacturing affiliates in the United States and Europe were drawing a considerable fraction of their inputs from sources located in the host country (Gittelman and Dunning, 1992). Moreover, it appeared that some of the very factors that had slowed the growth of Japan-based transnational networks in the past could be expected to reinforce the expansion rather than to slow it down. For example, the desire of Japanese firms to rely on Japanese sources means that the foreign affiliates of major Japanese firms are pulling large numbers of satellite suppliers with them into foreign locations; and, while this has not been an unknown phenomenon in the establishment of the networks of firms based in the United States, it appears to be an especially powerful force in the case of Japan-based firms (Wilkins, 1990, pp. 612-616).[18] Moreover, if one pair of authoritative observers is to be believed, Japanese firms already are being drawn into Europe by the conviction that they must assimilate some distinctive regional character if they are to be successful in major industries, such as auto-

[17] "Japan's less-than-invincible computer makers", *The Economist*, 11 January 1992, pp. 59-60.

[18] See also "Benefits beyond the automotive sector", *Financial Times*, 18 February 1992, p. 28, for an account of Nissan's impact in north-east England. A hint of the strong tendency of Japanese firms to buy from enterprises with which they have close links appears also in Gittelman and Dunning (1992).

mobiles and electronic equipment (Gittelman and Dunning, 1992). Finally, given the intense rivalry of Japanese firms, with its stress on market share, it is not unreasonable to expect a pattern of copycat follow-the-leader behaviour even stronger than that observed with respect to firms based in other countries.

Whether the Government of Japan will seek at some point to restrain the overseas movement of its firms through administrative guidance is unclear; but even if it makes such an attempt, there is no certainty that the attempt would prove effective. The growing financial independence of Japanese firms means that the Ministry of Finance and MITI have lost one of their principal sources of coercion. The commitment by Japanese firms of a large proportion of their assets to foreign locations means that they will be exposed to stimuli not strikingly different from those affecting their United States and European rivals. Developments such as these promise to contribute to the convergence of Japan-based transnational corporations towards the norms typical of transnational corporations based in other countries (Lipsey, 1991, p. 87).

Patterns of the future

In the future as in the past, some powerful exogenous factors will influence the spread of transnational corporations, including changes in the technologies of transportation, communication and production. But it is not easy to project the consequences of such changes. For instance, if just-in-time manufacturing takes on added strength, the clustering tendency of related enterprises should grow stronger. But if flexible manufacturing processes gain in strength, smaller and more self-contained plants could dominate, reducing the tendency towards clusters (Auty, 1992; Dunning, 1992, especially pp. 158-162). Despite uncertainties of this sort, however, it can be anticipated that transnational networks and transborder alliances, already a major factor in international economic flows, will grow in importance.

The response of Governments

How Governments will respond to that situation is a little uncertain. Although globalization and convergence may prove to be major trends defining the behaviour of transnational corporations in the future, it is implausible to assume that Governments will stand aside, allowing such behaviour to develop as it may. With jobs, taxes, payment balances and technological achievement seemingly at stake, Governments are bound to act in an effort to defend national interests and respond to national pressures. Their efforts, involving carrots in some cases and sticks in others, will continue to pose threats and offer opportunities to the transnational corporations.

Some of these governmental responses will take the form of restrictions, unilaterally adopted, aimed at holding inbound and outbound foreign direct investment in check. But from all the signs, political leaders in the major developed countries seem aware that national autarky is not an available option, unless a country is prepared to absorb some overwhelming costs. That recognition explains why so many countries now eye the possibility of developing regional blocs—areas large enough to satisfy the modern requirements of scale and scope, and small enough to promise member countries that they will exert some influence in shaping their joint economic policies.

There is a surface plausibility to the idea that such blocs may figure importantly in the future, a plausibility reflected in the pre-eminence of Japanese interests in South and South-East Asia, European interests in Africa, Eastern Europe, and the Middle East, and United States interests in Latin America. But it is easy to misinterpret the significance of those concentrations. It may be, as already suggested, that these concentrations reflect little more than the myopic learning process of business managers, and that increasing experience will push them towards scanning over a wider geographical range.

In any case, when seen through the eyes of the managers of transnational corporations based in the industrialized areas, their principal stake by far lies in other industrialized areas, not in the hinterlands of their respective "regions". That has been the case for decades, and it has shown no signs of changing in recent years. To be sure, such enterprises will not hesitate to use the influence of their respective Governments to promote their interests in these regions. But from the viewpoint of the firms, such efforts will be a sideshow compared to their respective stakes in other industrialized economics.

At the same time, the influence that individual Governments are in a position to exert over their respective transnational corporations appears rapidly on the decline. Although Governments have been known to remain blind to the obvious for remarkably prolonged periods of time, that ineluctable fact should eventually lead them to limit their unilateral efforts at control. Where control of some sort still seems necessary or desirable, the option remaining will be to pursue mutually agreed measures with other countries. In the decades ahead, the United States, Europe and Japan are sure to find themselves addressing the feasibility and desirability of international agreements that define more fully the rights and obligations of transnational corporations. Although most other countries may be slower to address the issue, a few, such as Singapore and Mexico, along with the non-European members of OECD, are likely to be involved as well. Already some of the elements of an international system are in place with respect to a few functional fields, such as the levying of corporate income taxes. It does not stretch the imagination very much to picture international agreements on such subjects as the competition of Governments for foreign direct investment, the threats to market competition posed by restrictive business practices and mergers, the rights and obligations of transnational corporations in national political processes and other issues relating to such enterprises.

The development of theory

In the past, as transnational networks appeared and grew, some researchers concerned with understanding the causes of their behaviour found it useful, even indispensable, to distinguish such enterprises according to their national base. If strong tendencies towards national convergence persist, distinctions based on the national origin of the network are likely to lose their analytic and descriptive value, and distinctions on other dimensions are likely to grow in importance. Even more than in the past, distinctions based on the characteristics of the product market and the production process are likely to prove particularly fruitful.

As observed earlier, many transnational corporations created global networks in response to perceived threats, operating under circumstances in which ignorance and uncertainty were endemic. For the most part, these enterprises operated in product markets with significant barriers to entry, including static and dynamic scale economies, patents and trade marks. With the passage of time, however, a considerable proportion of these enterprises overcame their sense of acute uncertainty in foreign markets, especially as the products and their related technologies grew more stable and standardized.

These tendencies often reduced barriers to entry, increased the number of participants, and elevated the role of price competition. In the production and sale of metals and petroleum, for instance, the number of sellers on world markets inexorably increased and the role of competitive pricing grew. In big-ticket consumer electronics, despite the persistent efforts of sellers to differentiate their products, an intensification of competitive pricing among sellers also has become commonplace. In such cases, there is considerable utility in models that cast the participants as fully informed actors operating in a market in which their choices are known, under conditions in which some scale economies exist (Helpman and Krugman, 1985, pp. 225-259; Grossman and Helpman, 1991, pp. 197-200). There is no reason why models that are based on these assumptions should not generate useful first approximations to the behaviour of transnational corporations in a considerable number of industries.

Other models may also have something to contribute, such as those that view transnational networks as the consequence of decisions by firms to internalize certain types of transactions. The international market for the sale of technology and management skills, for instance, is a grossly inefficient market from the viewpoint of both buyer and seller (Teece, 1986; Galbraith and Kay, 1986). Internalization can be viewed as a response to those inefficiencies, in a setting in which the enterprises are otherwise fully aware of the set of choices they confront and of the facts bearing on those choices (Casson, 1987, pp. 1-49; Williamson, 1971).

Models based on the internalization hypothesis therefore fit comfortably into the structure of the models described earlier, based essentially on a neoclassical framework driven by costs and prices. But they have tended to crowd out the analysis of other motivations that seem at least as important in explaining the behaviour of the managers of such enterprises. For instance, various measures taken by a firm to create a transnational network may be driven by another motive, namely, a desire to avoid being exposed to the predatory behaviour of rivals, including the risk that such rivals might cut off needed supplies or deny access to a distribution system during some future contingency.

That possibility pushes the modeler in a very different direction in attempting to explain the behaviour of TNCs. Such enterprises continue to figure prominently in many product markets that have not yet attained a stable middle age. In such markets, the number of producers is often sharply limited, products and related services are often highly differentiated, technologies are in flux and price differences are not the critical factor in competition. Moreover, externalities of various kinds commonly play a dominant role in locational decisions, as when enterprises try to draw on various national environments to produce the stimuli they think will improve their competitive strengths. Firms engaged in producing microprocessors, aircraft engines and wonder drugs, for instance, are strongly influenced by one or another of these factors.

Needless to say, where the number of rivals in a market is low, that fact fundamentally conditions the strategies of the participants. Some of them may long for the security of a market-sharing arrangement, and may even take some tentative steps in that direction, such as entering into partnerships with some of their rivals. But developing an effective market-sharing arrangement is usually difficult and dangerous.

In any event, when a limited number of participants are involved in a product market, theorists must entertain the possibility that the firms engaged in such markets see any given transaction as only one move in a campaign stretching across time. In each transaction, the principal objective of the firm is to strengthen its position in relation to its rivals or to neutralize the efforts of its rivals to steal a march; and with that objective paramount, "share of market" becomes a critical measure of success. In such circumstances, invading a rival's principal market may prove a useful defensive strategy, aimed at reducing the rival's propensity for warfare elsewhere. And, given the imperfect knowledge under which each firm is assumed to operate, a policy of following a rival into new areas of supply and new markets may be seen as a prudent response to the rival's initiatives.[19]

Of course, models built on such behavioural assumptions, by shedding many of the assumptions underlying the neoclassical model, relinquish the support provided by a comprehensive body of well-explored theory. Instead, the analyst is thrown into a world of uncertain outcomes, explored so far largely by game theorists, specialists in signalling theory and others outside the neoclassical mainstream. It is hardly surprising, therefore, that most of the scholars who have sought to model the behaviour of the TNC have avoided the implications of high uncertainty and limited numbers, and have preferred to concentrate on hypotheses that require less radical departures from neoclassical assumptions.

Nevertheless, any serious effort to project the behaviour of TNCs in the future will have to recognize that, in many major product and service markets, the players will see themselves as engaged in a campaign against specific adversaries in a global market, with individual decisions being shaped in light

[19] Bower (1992) omits any reference to such possibilities. See also Graham and Krugman (1989), where such possibilities are not presented in the "theory" section of the report but in an annex entitled "Industrial-Organization Explanations of Foreign Direct Investment".

of that perception. At different times and places, there will be efforts to call a truce, efforts to weaken specific adversaries and efforts to counter the aggressive behaviour of others; and the behaviour that emerges will not be easily explained in terms of models that satisfy neoclassical conditions. Therein lies a major challenge for those who are attempting to cast light on the behaviour of TNCs through the systematic modelling of their behaviour. ■

References

Auty, Richard M. (1992). *Changing Competitiveness of Newly Industrialized Countries in Heavy and Chemical Industry: Effects of the Product Cycle and Technological Change*. Amsterdam: University of Amsterdam.

Bower, Anthony G. (1992). Predicting locational decisions of multinational corporations. N-3440-CUSTR. Santa Monica, California: RAND.

Business Week (1988). Why kings of crude want to be pump boys. (21 March), pp. 110-112.

Campayne, Paul (1992). Cross investment in the EC banking sector. In *Multinational Investment in Modern Europe: Strategic interaction in the integrated community*, J. Cantwell, ed. London: Edward Elgar, pp. 298-328.

Casson, Mark (1987). *The Firm and the Market: Studies on Multinational Enterprise and the Scope of the Firm*. Cambridge, Massachusetts: The MIT Press.

Chandler, Alfred D. (1990). *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge: The Belknap Press.

Contractor, F. J. and Peter Lorange, eds. (1988). *Cooperative Strategies in International Business*. Lexington, Massachusetts: Lexington Books.

Curhan, Joan P., William H. Davidson and Rajan Suri (1977). *Tracing the Multinationals: A Sourcebook on US-based Enterprise*. Cambridge, Massachusetts: Ballinger Publishing.

Dunning, John H., ed. (1985). *Multinational Enterprises, Economic Structure and International Competitiveness*. New York: John Wiley and Sons.

Dunning, John H. (1992). The competitive advantage of countries and the activities of transnational corporations. *Transnational Corporations*, 1, 1 (February), pp. 135-168.

The Economist (1992). Japan's less-than-invincible computer makers. (11 January), pp. 59-60.

Economou, Persephone (1990). Enterprises from Eastern Europe and the USSR. *The CTC Reporter*, 30 (Autumn), pp. 46-47.

Encarnation, Dennis J. (1992). *Rivals Beyond Trade: America versus Japan in Global Competition*. Ithaca, New York: Cornell University Press.

European Commission (1991). *20th Report on Competition Policy*. Brussels, Belgium.

Flowers, E. B. (1976). Oligopolistic reactions in European and Canadian direct investment in the United States. *Journal of International Business Studies*, 7, 2 (Fall-Winter), pp. 43-55.

Franko, Lawrence G. (1976). *The European Multinationals*. New York: Harper and Row.

Fujita, Masataka (1990). TNCs from developing countries. *The CTC Reporter*, 30 (Autumn), pp. 42-45.

Galbraith, Craig S. and Neil M. Kay (1986). Towards a theory of multinational enterprise. *Journal of Economic Behavior and Organization*, 7 (March), pp. 3-19.

Gittelman, Michelle and John H. Dunning (1992). Japanese multinationals in Europe and the United States: some comparisons and contrasts. In *Multinationals in the New Europe and Global Trade*, Michael W. Klein and Paul J. J. Welfens, eds. Berlin: Springer-Verlag, pp. 237-268.

Gomes-Casseres, Benjamin (1989). Joint ventures in the face of global competition. *Sloan Management Review*, 30, 3 (Spring), pp. 17-26.

Goyder, D. G. (1988). *EEC Competition Law*. New York: Clarendon Press.

Graham, Edward M. and Paul R. Krugman (1989). *Foreign Direct Investment in the United States*. Washington, D.C.: Institute for International Economics.

Grossman, Gene and Elhanan Helpman (1991). *Innovation and Growth in the Global Economy*. Cambridge, Massachusetts: The MIT Press.

Helpman, Elhanan and Paul R. Krugman (1985). *Market Structure and Foreign Trade*. Cambridge, Massachusetts: The MIT Press.

Hexner, Ervin P. (1945). *International Cartels*. Chapel Hill, North Carolina: University of North Carolina Press.

Ito, Takatoshi (1992). *The Japanese Economy*. Cambridge, Massachusetts: The MIT Press.

Jones, G., ed. *United Nations Library on Transnational Corporations: A Historical Perspective* (London, Routledge, forthcoming).

Kester, W. C. (1991). *Japanese Takeovers: The Global Quest for Corporate Control*. Boston, Massachusetts: Harvard Business School Press.

Knickerbocker, Frederick T. (1973). *Oligopolistic Reaction and Multinational Enterprise*. Boston, Massachusetts: Division of Research, Graduate School of Business Administration, Harvard University.

Kogut, Bruce and Sea Gin Chang (1991). Technological capabilities and Japanese foreign direct investment in the United States. *The Review of Economics and Statistics*, 73, 3 (August), pp. 401-413.

Kojima, Kiyoshi (1978). *Direct Foreign Investment: A Japanese Model of Multinational Business Operations*. London: Croom Helm.

Kreinin, Mordechai E. (1988). How closed is Japan's market? additional evidence. *The World Economy*, 11, 4 (December), pp. 529-542.

Lall, Sanjaya (1991). Direct investment in South-East Asia by the NIEs: trends and prospects. *Banca Nazionale del Lavore Quarterly Review*, 179 (December), pp. 463-480.

Lewis, Jordan D. (1990). *Partnerships for Profit: Structuring and Managing Strategic Alliances*. New York: The Free Press.

Lipsey, Robert E. and Irving B. Kravis (1982). U.S.-owned affiliates and host-country exports. Working Paper No. 1037. Cambridge, Massachusetts: National Bureau of Economic Research.

Lipsey, Robert E. (1987). Changing patterns of international investment in and by the United States. Working Paper No. 2240. Cambridge, Massachusetts: National Bureau of Economic Research.

__________ (1991). Foreign direct investment in the United States and U.S. trade. *The Annals of the American Academy of Political and Social Science*, 516 (June), pp. 76-90.

Lynch, Robert Porter (1989). *The Practical Guide to Joint Ventures and Corporate Alliances*. New York: Wiley.

Michalet, Charles-Albert (1974). France. In *Big Business and the State*, Raymond Vernon, ed. Cambridge, Massachusetts: Harvard University Press.

Parkhe, Arvinde (1991). Interfirm diversity, organizational learning, and longevity in global strategic alliances. *Journal of International Business Studies*, 22, 4, pp. 579-601.

Schwartz, Jacob T. (1992). America's economic-technological agenda for the 1990s. *Daedalus*, 121, 1 (Winter), pp. 139-165.

Stocking, George W. and Myron W. Watkins (1946). *Cartels in Action: Case Studies in International Business Diplomacy*. New York: 20th Century Fund.

__________ (1948). *Cartels or Competition?* New York: 20th Century Fund.

Teece, David J. (1986). Transaction cost economics and the multinational enterprise. *Journal of Economic Behavior and Organization*, 7, 1 (March), pp. 21-45.

__________ (1987). Capturing value from technological innovation: integration, strategic partnering and licensing decisions. In *Technology and Global Industry: Companies and Nations in the World Economy*, Bruce R. Guile and Harvey Brooks, Washington, D.C.: National Academy Press, pp. 65-95.

Transnational Corporations and Management Division, United Nations Department of Economic and Social Development (1992). *World Investment Report 1992: Transnational Corporations as Engines of Growth*. Sales No. E.92.II.A.19.

United Nations Centre on Transnational Corporations (1978). *Transnational Corporations in World Development: A Re-examination*. Sales No. E.78.II.A.5.

__________ (1988). *Transnational Corporations in World Development: Trends and Prospects*. Sales No. E.88.II.A.7.

__________ (1991). *World Investment Report 1991: The Triad in Foreign Direct Investment*. Sales No. E.91.II.A.12.

United States Congress, Office of Technology Assessment (1991). *Competing Economies: America, Europe and the Pacific Rim*. OTA-ITE-498. Washington, D. C.: Government Printing Office.

Vaupel, James W. (1971). Study of manufacturing subsidiaries of 180 US-based multinational enterprises as of 1964. Paper presented at June conference, Turin, Italy.

Vernon, Raymond and W. H. Davidson. 1979. *Foreign Production of Technology-Intensive Products by U.S.-Based Multinational Enterprises*. Report to the National Science Foundation, No. PB 80 148638.

Yu, C. J. and K. Ito (1988). Oligopolistic reaction and foreign direct investment. *Journal of International Business Studies*, 19, 3 (Fall), pp. 449-460.

Wilkins, Mira and Frank Ernest Hill (1964). *American Business Abroad: Ford on Six Continents*. Detroit, Michigan: Wayne State University Press.

Wilkins, Mira (1970). *The Emergence of Multinational Enterprise*. Cambridge, Massachusetts: Harvard University Press.

__________ (1990). Japanese multinationals in the United States: continuity and change, 1879-1990. *Business History Review*, 64 (Winter), pp. 585-629.

Williamson, Oliver E. (1971). The vertical integration of production: market failure considerations. *American Economic Review*, 61 (May), pp. 112-123.

Yoshino, Michael Y. (1976). *Japan's Multinational Enterprises*. Cambridge, Massachusetts: Harvard University Press.