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## INTEGRATING BUSINESS AND LOCATION

### An Overview of Two Theoretical Frameworks on Multinational Firms

Yuko Aoyama

*This article presents an emerging theoretical framework on the locational dynamics of multinational firms in the 1990s. Until recently, theories on multinational firms have developed separately in two fields, one in the business/economics literature, with a focus on the logic of competition, and another in the economic geography literature, with a focus on locational dynamics. The article reviews existing theories in these two traditions and then describes the emerging views of the 1990s, which address competition and location simultaneously. The article argues that the development of an integrated framework is useful for understanding the increasing importance of location in the competition among multinational firms.*

The emergence of multinational enterprises (MNEs) in the 1950s onwards represented a decentralization of manufacturing activities to a degree unknown to the history of industrialization. Thanks to the development of information and communication technologies, expansion of MNEs to all four corners of the world has become an emergent reality rather than a distant possibility. However, by the late 1980s, it was clear that decentralization had not become a pervasive trend in industrial location. In fact, firms continue to agglomerate in certain selected regions. Regional governments, armed with various incentives to attract these supposedly footloose industries, have had mixed results.

Many theories have emerged in the field of industrial geography in an attempt to explain this pervasive agglomeration.<sup>1</sup> However, these theories tend to focus on indigenous industries and domestic capital. An alternative approach, which has emerged in the business and management literature, has focused on the activities of multinational firms. In this approach, the focus has been on the advantages of

multinational activities over those of solely domestic operations, and discussion of the specific location patterns of these firms is secondary if present at all.

These processes of globalization and regionalization, occurring simultaneously, involve complex forces that warrant investigation. This paper aims at developing a cross-disciplinary understanding of the behavior of multinational firms within this context. This will be accomplished by reviewing both: 1) the business and management literature on multinational firms, and 2) the geographic literature, which more specifically addresses spatial questions. Then attempts will be made to develop a conceptual framework that allows us to better understand multinational firm behavior in the context of the 1990s.

### **Multinational Firms from the Business/Management Perspective**

Multinational firms existed centuries ago. Until the postwar period, however, most of them were primarily trading companies, such as the East India Company. Multinational firms operating manufacturing facilities in various countries became a major phenomenon only after World War II. Typically, a formerly domestic firm would make the transformation to a multinational firm through the direct investment of plant and capital onto foreign soil. The business and management literature has primarily dealt with the timing and threshold nature of this transformation, and with explaining the transformation within the firm's economic rationale. In the following sections, this literature will be organized along four main trends of thought: 1) the neoclassical vs. radical economics debate, 2) product cycle thesis, 3) "eclectic" theory, and 4) the economics of internalization.

#### *Neoclassical vs. radical economic perspectives*

Until the 1960s, the economic paradigm on multinationalization was dominated by economists who considered interest-rate differentials, or relative factor prices in a perfectly competitive environment, the primary driving force of foreign direct investment (FDI). Aliber developed a theory in which he argues that foreign investments result from the tradeoff between tariff barriers and economies of scale (Aliber 1970). The underlying assumption is that domestic production

reduces costs by achieving economies of scale, while foreign production reduces costs by avoiding tariff barriers. Therefore, the timing of the shift from domestic to foreign production depends on the cost of production and the level of tariffs applied for that product.<sup>2</sup> Aliber's theory does not consider factors such as skill levels, unionization rates, and technological progress. Furthermore, he operated under the assumptions that products are standardized with no technological barriers and that labor is uniform across borders.

### *Market imperfection as a driving force of multinationalization*

Hymer (1960) was a pioneer in multinational firm theory from a radical perspective because of his departure from such neoclassical views. Hymer argues that multinational firms arise due to market imperfections. He identified four factors that cause the rise of multinational firms: 1) market imperfections in the goods markets (e.g., special marketing skills); 2) market imperfections in factor markets (advantages in raising capital, superiority of management or special patents and general superiority in technology); 3) internal and external economies of scale (the latter linked to vertical integration); and 4) governments' interference with production or trade.

Through his elaboration of these market imperfections, Hymer has been credited with raising the issue of control over overseas markets as an important aspect of multinationalization. The control over overseas markets has clearly been one of the major reasons for foreign direct investment by Japanese firms. The consumer electronics industry, particularly television production, needed a significant level of product adjustment for each market, due to the differences not only in electrical supply but also in broadcasting systems. Hymer's theory in this sense applies well to this Japanese industry, perhaps more than later theories which tend to focus on 'push' factors rather than 'pull' factors. Hymer's theory explains why firms might have a vested interest in shifting outside of their domestic boundary to produce in overseas markets.

Hymer's argument that local firms hold natural advantages over foreign investors has been criticized by contemporary theorists, who argue that it is in fact foreign investors that often have natural advantages over local firms because of their

global access to capital, technology, and management skills (Dicken 1994). Foreign investors also may have better ability to take advantage of the economies of scale (Kindleberger 1969; Taylor and Thrift 1982).

While cost-based theories may explain the shift from export-based production to foreign direct investment, they have become a target of criticism for those who consider innovation the key for economic growth. Also, these theories do not explain sufficiently why certain operations are offshored while others are not. This gap was filled in part by Vernon, who argues in his product cycle theory that technological capacity is a factor of multinationalization.

### *Product-cycle Theory and its Application to Internationalization*

The product cycle theory of multinational firms is perhaps the most directly relevant tradition in the study of industrial location. Hirsch (1965, 1967) was one of the first to assess the product life cycle in relation to technological and labor requirements. Based on a case study of the U.S. electronics industry in the 1960s, Hirsch argued that products in fact become increasingly capital intensive as process technologies mature from initial research and development to mass production and distribution. Hirsch then concluded that the U.S. is the most competitive location in the initial phase of industrial development in the electronics industry, when highly skilled labor is required. As the industry matures, the U.S. loses its competitiveness to other locations offering low-cost, low-wage labor better suited for mass production.

Vernon approached the process of internationalization based on these existing theories. In an attempt to articulate the timing of firms' engagement into multinational activities, Vernon developed his product cycle theory.<sup>4</sup> According to Vernon, firms have an added incentive to expand their markets across national boundaries as a product enters a mature stage.

This occurs due to an increasing concern over production costs and the resulting interest in taking maximum advantage of increasing returns to scale. For these reasons, firms eventually shift their production overseas to take advantage of the low labor cost in the developing countries.

According to Vernon, producers are less concerned with the cost of labor and capital at the initial stage of product

introduction (Vernon 1971). This is because of the high degree of product differentiation and the resulting product monopoly of the early stages. Therefore, at the initial stage, a firm's locational decision will be based primarily on factors that contribute to efficient product development and that facilitate subsequent introduction to the market. Such factors as effective communication networks internal to the firm, and the availability of necessary scientific, technical and managerial skills, are the primary locational concerns. Therefore, even a firm with multinational markets has little incentive to locate production anywhere other than its home country during the early stages. However, as products become more standardized and competition intensifies, there is increasing concern about the cost of labor and capital. The decision to locate facilities overseas is usually triggered by the perception of threat; firms respond by setting up facilities overseas in order to protect the market they have captured through export (Vernon 1971).

Vernon's theory is based on a firm's need for market expansion as its product matures into the mass production stage. However, as mass production (arguably) becomes outdated, and flexible specialization (arguably) becomes the 'coherent' mode of production in the late 20th Century, Vernon's theory needs to be re-examined. Vernon's theory is a departure from Hymer's, as Vernon successfully incorporated various stages of firm operation and sought to explain stages of offshore development that correspond to technological intensity and skill levels.

As Vernon himself admitted, product life cycle theory had somewhat lost its explanatory power already by the late 1970s. Multinational firms have become more truly global than Vernon had anticipated in the late 1960s, establishing extensive networks of global manufacturing operations (Vernon 1979; Taylor and Thrift 1982). Multinational activities are no longer restricted to offshore production by American and European firms taking advantage of low production costs in developing economies. Japanese firms, for instance, have developed overseas production facilities in developed countries, such as the United States and Western Europe. Because of the shrinking income differences in major industrialized economies and the cross-investment by Japanese and European firms in the United States, as well as the increasing reliance of U.S. producers on imported raw materials, the absolute advantage of U.S. firms in their home market itself has declined. Also,

American industries no longer monopolize the market for high income consumers, which, according to Vernon, is the critical stimulus for innovative activities. As a result, product cycle theory has become increasingly inadequate in explaining multinational activities in general.

### *Dunning's 'Eclectic' Theory*

Dunning is considered the first to develop a systematic theory of multinationalization, known as 'eclectic' theory. His approach is an innovative attempt to address the process of multinationalization as two simultaneous processes, international trade (import-export activities) and international production (foreign direct investment). This is a departure from Vernon, who treated international trade and international investment as separate stages of development. Considering both processes within a single analytical framework, Dunning categorized factors and incentives toward multinationalization into three types of advantages; ownership, locational, and internalization advantages (Dunning 1979). The ownership advantages consist of the advantages internal to a firm, primarily a firm's ability to use resources more efficiently than its competitors, through the economies of scale or scope, monopoly, and/or access to resources. The locational advantages, on the other hand, are external to the firm; they are determined by the location's factor endowment. The internalization advantages arise from the firm's incentive to internalize transactions, presumably due to various forms of market imperfections, including varying governmental policies and tariff barriers.

While Dunning's eclectic theory has gained some acceptance as a generic framework to understand multinational firm location, it has also been criticized as systematic taxonomy, rather than theory. While it may serve as the broadest framework, for most types of multinational activities it is difficult to distinguish which are the most important factors.

### *Theories of Internalization*

In order to understand the emergence of multinational firms, scholars have considered the advantage of internal transactions versus external (market) transactions across borders. From a neoclassical economist's paradigm, these theories attempt to

understand what factors make multinational organizational form advantageous over strictly domestic firm organization.

The study of differences between external and internal linkages goes back to Coase, who first illuminated that market mechanisms do not regulate transactions within a firm (see Coase 1937). Instead of market mechanisms, 'entrepreneur coordinators', or managers, are in charge of determining how internal transactions take place.

Since Coase, two major streams of thought on the process of internalization have emerged in the business literature: Chandler (1962), who argues that internalization is a response to strategic motivations, and Williamson (1981), who perceives internalization as an efficiency issue.

According to Chandler, strategies arise from a perception of new opportunities and needs -- prompted by a changing economic environment -- which in turn shapes corporate organizational structure, in order to accommodate growth and maximize its benefits. Through a historical analysis of the growth of American multinationals, Chandler developed a notion of internalization as part of the firm's strategic rationale for growth. His view was based on the observation that successful firms gradually internalize their operations and grow by entering into new areas and markets where few firms exist. Chandler's view is similar to that of Hymer: both argue that it is a firm's motivation to capture new markets that initiates multinationalization.

Williamson's paradigm is markedly different from Chandler's. In part, this reflects changes in the economic environment in which American firms operate. Williamson's view was developed in an environment of intense competition from both domestic and foreign multinational firms. Within a context of intense competition, internalization of already existing firms and networks becomes an issue of 'transaction-cost economizing' (Williamson 1981).

The importance of asset specificity had been emphasized by Caves (1971) before Williamson. Caves distinguished two categories of foreign direct investment, horizontal and vertical integration. According to Caves, special assets, once acquired by firms, can be used for activities other than initially intended, at little or no additional cost. The presence of economies of scope is the primary advantage of multinational firms over domestic firms, which have a greater advantage in normal



circumstances because they operate in a well-known market. Moreover, the most prominent effect of economies of scope is product differentiation: a firm that has successfully differentiated its products from its competitors' through technology, marketing and other strategies, has already gained intangible assets that can be applied when taking over other markets at little extra cost. Horizontal integration across borders results when a firm takes advantage of these intangible assets. Because of this tendency, foreign direct investment is most prominent among sectors with a high level of product differentiation.

Vertical integration, on the other hand, occurs when firms attempt to minimize the cost of market transactions (including the cost of uncertainties) by internalizing activities (Caves 1982). A firm relocates the segments of the production process that are labor intensive and footloose, and whether the firm externalizes or internalizes the operation depends on the cost of transactions. If transaction costs are low, firms may very well be purchasing raw materials or intermediate products from other firms. But when transaction costs are high, firms are more likely to engage in foreign direct investment.

Buckley and Casson (1976) developed a 'long-run theory of the multinational enterprise' which sees internalization as arising from market imperfections. Because market imperfections exist, firms have incentives to internalize transactions in order to bypass market transactions. When internalization occurs across national borders and firms integrate their ownership, multinational firms emerge. According to Buckley and Casson, the process and timing of internalization are influenced by four types of factors, specific to industry, region, nation, and firm. Prior to World War II, multinational firms were mostly vertically integrated firms whose international operations consisted primarily of extraction of raw materials. However, during the postwar period, the major driving force for multinationalization became the incentive to take advantage of economies of scope, particularly of accumulated knowledge (in terms of products, processes and markets) within the firm, as Caves argues.

The theories of internalization have illuminated economies of scope as a primary advantage of multinational firms, while Vernon and others primarily focused on economies of scale. Multinationalization is considered more a consequence of global competition than a driving force of decentralization. They

describe why multinational firms emerge and overtake other indigenous firms, but they do not describe the shift from export-based domestic production to foreign direct investment. Also, they have not helped articulate the specifics of each location, and thus have not contributed much to the theorization of the locational patterns of multinational firms.

### *Summary*

The debate over multinational firm activity began with Hymer and his emphasis on market failure and oligopoly. The product cycle theory advanced by Vernon and others has contributed an understanding of the relationship between location and stages of product life cycles. However, the current conditions for multinationalization are dramatically different from those of 1950s and 1960s. Also, these theories do not adequately explain the locational patterns of firms as a consequence of multinationalization. In the following section, I will review the theories that deal more specifically with the locational consequences of multinationalization.

### **From A Regional to An International Paradigm**

There are two main applications of the regional economic paradigm to multinational industrial location: the core-periphery model, and the new international division of labor, which is associated with the debate on the deindustrialization of advanced economies.

#### *Core-periphery model*

The core-periphery thesis developed at the regional level by Hoover and Vernon (1959)<sup>5</sup> was later extended and incorporated into the analysis of the international economy. Andre Gunder Frank elaborated the multinational aspects of firm activity through his analysis of Latin American economies. Frank (1972) introduced the concept of underdevelopment, and argued that some economies are not simply behind in what had generally been considered the linear stages of economic development. Rather, these economies are progressively and actively underdeveloped, due to their relationships with the developed economies and their participation in the world capitalist system.

According to Frank, the world can be understood by the analogy of regional development as a metropolis-satellite structure. The satellites are limited in growth potential from the start, as long as their strong ties to the metropolis remain. In other words, those economies that enter the world capitalist system as satellites are structured to remain peripheral to the core economies. Frank argued this point by taking Meiji Japan as an example: he argued that Meiji Japan was able to develop rapidly due to its isolation from the world economy through the mid-19th Century. Because of this isolation, the Japanese economy was never structurally transformed into a satellite like the Latin American economies, which otherwise had much greater development potential due to their resource-rich base.<sup>6</sup>

The dependency theorists were therefore some of the first to develop a conceptual framework that effectively linked local and regional economies and their relationship to global economic forces. However, the use of this framework has been largely limited in understanding the economies of the developing world. Although the economic interdependence among national economies has been widely recognized in the developed world, little research has applied a similar framework in the current context, when multinational firms are prevailing.

### *From Deindustrialization to Global Shift*

The study of the geography of enterprises became the mainstream of economic geography in the 1970s. Attention shifted from the role of domestic industries to the role of foreign direct investment in regional growth and decline, as the process of deindustrialization accelerated in United Kingdom and the United States in the 1970s (Walker 1989). During the same period, the number of non-Western multinationals, particularly of the Japanese, rose sharply. The economic conditions that Japanese multinationals faced were drastically different from that for American multinationals during the 1950s and 1960s. The American multinationals during this period had absolute advantage in almost all levels of business operations, from technology to management to distribution systems. However, this was not universally true: for instance, the Japanese multinationals of the 1970s clearly developed along a quite different path.

Taylor and Thrift (1982) acknowledge these differential paths. They argue that the gradual diffusion to the frontier was

no longer an effective strategy for multinational firms from the 1970s onwards. The primary objective of the multinationals, according to Taylor and Thrift, shifted from the "where" question to a "how" question in the late 1970s. Instead of analyzing which areas to expand into next, a multinational firm now needs to determine how to achieve a higher return from an existing market.

The deindustrialization of advanced economies, which was hotly debated in the late 1970s, was at first dealt with simply as a geographical shift of production processes. It was understood as a displacement of manufacturing plants from industrialized countries to developing countries which offer cheaper production costs. The resulting new international division of labor (NIDL) was not immediately recognized as a threat to the advanced economies, until deindustrialization was identified as a cause of increasing income disparity and unemployment.

Unlike the previous theory of the division of labor, the theory of NIDL (Frobel et al. 1980) focused on the manufacturing of a single product within a single firm. According to the new trend identified by Frobel and others, the less developed economies emerged as the location of low-cost, assembly production, the rest of the world produced anything that required sophisticated process as well as product technologies. The theory of NIDL was formulated as an attempt to emphasize the role of labor as an integral aspect of a country's factor endowment.

As part of the critique of the NIDL, Taylor and Thrift (1982) argued that multinational firm location is strongly influenced by other factors, such as the development of transport and communications networks, which provide a powerful enabling force for multinational activities. Taylor and Thrift also argued that multinational firms were becoming increasingly footloose, and firms were now able to "pick and choose" locations suitable for particular production processes (Taylor and Thrift 1982).

The context of the 1990s has revealed other problems with the NIDL theory. Despite a widespread belief that advancement in telecommunication technologies would contribute to the dispersion of economic activities, the amount of foreign direct investment to what is considered 'high-cost' locations continues to grow into the 1990s. Furthermore, deindustrialization is increasingly viewed not as a mere spatial division of labor but as the consequence of a global shift of

economic power, from industrialized economies to newly emerging economic superpowers, particularly Japan and the Newly Industrializing Economies of Asia. Dicken illustrated that this global shift of economic power has had a major impact on industrial organization at the global level. (Dicken 1992, 1994).

Storper illustrated, however, that the global economy is not an economy where all industries are dispersed across the world. In fact, there are only a few sets of "technology districts" where industries with absolute advantages concentrate (Storper 1992). It is within these technology districts that firms reinforce their absolute advantages through technological learning. Thus, globalization has not made locational choices a random process in the 1990s. Due to the accumulative nature of advantages that are largely embodied within an organization in the form of technological learning, firms increasingly prefer to locate within these districts. The global economy is composed of a mosaic of regions, which are clusters of dynamic and specialized industries with innovative capacities.

### *Summary*

The spatial theories on multinational firms have evolved from a simple division of core-periphery to a complex notion of globalization composed of heterogeneous regions. The core of agglomerative forces have also evolved from the most traditional notion of factor endowment to labor skills, and the application of technological districts at the global level. Yet, there is not a dominant spatial model of multinational firm location for the 1990s. What is needed is to integrate the current strategic motivations toward globalization into a new spatial model. In the following section, I will evaluate the locational dynamics of multinational firms based on the emerging theories that incorporate the competitive forces and advantages of the 1990s.

### **Developing a Theoretical Framework for the Multinational Firms of the 1990s**

There are some emerging theoretical frameworks that incorporate both locational dynamics and the strategic motivations of multinational firms in the context of global competition today. In this section I will review some theories

that address both competition and locational motivations of multinationals firms.

What characterizes the locational dynamics of multinational firms in the 1990s is the dual process: the persisting importance of what are generally regarded as 'high-cost' locations, and the continuous relocation to 'low-cost' areas for assembly. Cases where American, European and Japanese companies invest in one another's home markets do not fit the general notion of "offshoring," which typically implies a search for lower costs of production. In order to develop a comprehensive framework for multinationalization in the context of the 1990s, we need to understand, in addition to offshoring, what motivates firms to globalize their operations toward high-cost locations. Combining views from both economic geography and business, we can answer some of the questions regarding the advantages that high-cost locations provide for multinational firms.

Schoenberger (1990) attempts to incorporate competition and locational dynamics by analyzing the importance of market proximity for multinational firms. By using American multinationals in Europe as an example, Schoenberger sought to understand the motives behind the decisions of American firms to move to high-cost locations. She found that access to local markets was their primary motivation. Her interview records reveal one company executive after another commenting on the necessity of locating within the market to serve their clients better. The notion of "better serving one's own clients" is a basket of complex activities serving to fulfill a variety of client needs. They can be broken down as follows:

1. Stabilization of supply.
2. Faster response-time
3. Psychological reassurance for clients about 1) and 2);
4. Better understanding of client needs through continuous and close contacts with clients and consumer market trends; and
5. Better understanding of the market through monitoring the new product development of local competitors.

(Schoenberger 1990).

Schoenberger's work illuminates that the access to local markets is not simply a matter of jumping barriers of international trade. Rather, it involves servicing and responding better to client needs. It also involves a rather intangible,

however important, factor of market familiarity, which includes knowledge of local market trends, consumer preferences, and local business networks. Schoenberger's work highlights the importance of market familiarity when a firm evaluates its proximity to the market it serves.

In a study of foreign firms in the United States, Schoenberger (1984) found that three quarters of the foreign direct investment flowing into the United States in manufacturing in the late 1970s stemmed from the acquisition of existing businesses rather than the establishment of new ones. According to Schoenberger, the acquisition of existing businesses is advantageous for foreign firms which are unfamiliar with operating in the United States.

Market familiarity has arguably become more important, as competition intensifies and price competition reaches the limit. For multinational firms, this means the need for continuous innovation in order to outcompete others (Bartlett and Ghoshal 1989). Bartlett and Ghoshal argue that the size of the firm and international access to resources no longer provide sufficient conditions for multinational firms to compete successfully, since their competitors have gained the equivalent. Instead, what has become critical is the firms' ability to exploit new ideas and respond to creativity, regardless of their country of origin. In sum, current multinational firms require the capability to manage globally, while retaining market sensitivity, innovative capacity and flexibility (Bartlett and Ghoshal 1989).

Product differentiation through breakthrough innovation is costly, and firms have opted for minor product differentiation through product adaptation. In fact, it has been suggested that the globalization of research and development (R&D) facilities is largely the consequence of a rising need for product adaptation. Patel (1995) argues that there are two main factors behind overseas R&D activities: adapting products to satisfy differences in consumer tastes, and developing appropriate production processes to suit the local labor market requirements (Pearce and Singh 1992). Evidence has shown that most overseas R&D facilities mainly conduct product adaptation (Vernon 1974; Michalet 1974; Mansfield et al., 1979; Mair 1994; Chiesa 1995), and a survey conducted by Pearce and Singh (1992) on the R&D facilities of multinational firms in the United Kingdom provided empirical evidence to support this view. Pearce and Singh found that most R&D facilities predominantly focus on applied product development

and adjustment to local market needs, rather than basic research.

The issues raised in current debates on the strategic role of market familiarity in locational dynamics of multinationalization were recognized by Vernon as early as 1979. Vernon illustrated that a firm that functions as a 'global scanner' would have an absolute advantage over those firms without the capacity to access innovation and market information globally. As the cost of communication decreases, "ignorance or uncertainty is no longer a function of distance." (Vernon 1979:261). Thus, global scanners can innovate wherever they are, and can serve any market in which they are aware that demand exists.

According to the global scanner approach, the primary motivation for foreign direct investment is local market penetration, not cost reduction. Therefore, once the trade barrier is crossed, the firm has a tendency to locate in the areas where high-technology industries agglomerate, to take advantage of existing infrastructure, the labor pool of both skilled and semi-skilled workers, and a favorable business climate for multinational firms. The global scanner with a segmented market demand not only has the capacity to scan technological and market information globally, but also to learn from different market trends, which contributes to innovative behavior.

Quite separately from his views on the competitive strengths of multinationals, Vernon also deals with the notion of market familiarity influencing the locational decisions of multinational firms. When US multinationals globalized, their first location of investment was Canada and the United Kingdom. This, according to Vernon, is because these firms tend to move first to places which they know. Then, once these markets have been conquered, they tend to move toward less familiar markets. The initial process of globalization for the Japanese consumer electronics industry fits this pattern.<sup>7</sup> Their initial investments were targeted toward Asian markets familiar to them, while only later did they begin to divert their investment to other areas.

The increasing importance of market demand responsiveness for multinational firms may increase the importance of space as a provider of local market familiarity. As aspects of technological advancement accumulate over time in various production factors (e.g., in capital investment and labor),



locations that capture such advancement have a competitive advantage over other locations. With institutional factors playing an increasing role in economic growth, the determinants of growth are increasingly identified as regionally and spatially embedded (Granovetter 1985). While various institutional factors have been identified (Freeman 1990; Scott 1988a; Saxenian 1994), little is known about access to market knowledge as the determinant of location for multinational firms. Is there a type of local market familiarity that can only be sustained by firms' presence in the region, or can local market familiarity be easily exported? In the period of rapid technological change and shorter product life, has it become more important to maintain close contact with the changing market demand?

The current state of competition is substantially different from that of the late 1960s when Vernon suggested product cycle theory. Today, multinational firms are faced with competition from both local and multinational firms in both domestic and foreign markets. Given the reality of the increasing interpenetration of markets in the developed world, and the continued dominance of foreign direct investment by firms from the developed world, the model of multinational activities today is far more complex than it was thirty years ago. First, multinational activities today involve localization advantages, in other words, localized firms tend to have greater advantages than multinational firms. This is because the nature of competition has shifted from being cost-based to a more technology/knowledge-based competition.<sup>8</sup> Secondly, it has become increasingly clear that a successful technological venture is a nonlinear process that combines the knowledge of both the supply side (technological advances) and the demand side (consumer needs and preferences).

Traditionally, theorists have claimed that the location decisions of multinational firms follow the same logic as those of domestic firms; in other words, that they are primarily driven by production costs. Production costs are comprised of both the traditional Weberian notion of transportation costs (of raw materials to the plant and of finished products to market) along with the costs of capital, labor, and Williamson's notion of transaction costs. These costs have been considered the drivers of industrial location.

However, the emerging global system of economic organization has altered the ways in which firms operate. Today's theories of globalization highlight the importance of information in the production process by noting that in this era of global competition, information gathering and accumulation can no longer be limited to a single domestic location. For firms in the 1990s, globalization has become a necessary part of corporate strategy, not simply to remain price-competitive, but also to remain competitive in product development and adaptation. As a result, global access to technology and market information would have different locational impacts depending on the characteristic of each region.

By combining literature from economic geography and international business, an emerging framework incorporates competitive forces of the 1990s and the locational dynamics of multinational firms. The importance of market familiarity in overseas competition, the need to remain demand responsive through continuous innovation and product adaptation, and the ability to scan globally for new product and market trends all culminate in a higher sensitivity to information. Some such information travels well through space, but some does not, through the currently available information media. As a result, we see more multinational firms in highly competitive sectors concentrate in set locations of the world's 'lead' markets, where advanced technologies, new market trends, and agglomerations of highly sophisticated client/customer bases are found. Thus, the accumulation of multinational activities into well-established industrial agglomerations continues, despite cost pressures. Multinationalization, in other words, can no longer be understood purely as the result of 'offshoring'. Rather, it is the networking of contradictory forces, one decentralizing and another concentrating, which connect production sites and markets at the global level.

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<sup>1</sup> Beginning with Piore and Sabel (1984), there has been a rebirth of Weberian agglomeration with a renewed interest in flexibility in

production. Scott (1988a, 1988b) described in detail the dynamics of regional agglomerations with network analysis. Castells (1989) considered the notion of 'innovative milieu' which described agglomerative forces centered around technological innovation. Granovetter (1985) emphasized the concept of embeddedness in regional growth, and Saxenian (1994) elaborated upon industrial climate with her empirical study of Silicon Valley.

- 2 In addition to these factors, Aliber argues that the different capitalization ratios of currencies also affect investment patterns. The differential capitalization ratios of currencies can be caused by various factors, including currency exchange risk (Dunning 1977; Letto-Gillies 1992). According to this theory, countries with strong currencies tend to be the home countries of multinational firms.
- 3 This tradition set by Hymer brought about subsequent developments in theories of multinationalization. Particularly notable is the emergence of the Reading school (with such scholars as John Dunning, Mark Casson and Robert Pearce).
- 4 Product cycle, according to Vernon, is composed of the following stages; initiation, exponential growth, slowdown and decline. These stages have been defined by Vernon as the process of introduction, spread, maturation, and senescence (Vernon 1971: 70).
- 5 Hoover and Vernon (1959) studied the Metropolitan New York region and considered various locational factors affecting the decentralization of employment from the core of the city to the suburbs. They concluded that firms in search of space, lower rent and a skilled employment base have historically moved away from the city center to the periphery. They argued that firms in "communication-oriented" sectors, which are characterized by "small size and uncertainty of outlook," exhibits agglomerative tendencies at the core. They also distinguished between large and small firms, and argued that small firms often require external economies, which provide support services, buildings and other necessary infrastructure. Therefore, small firms tend to remain within the core, while larger firms with their own internal economies may move to the suburbs, where they can take advantage of lower rent and larger space.
- 6 Frank argued that the underdeveloped countries suffer from *commercial* capitalism (run by monopoly capitalists) instead of industrial capitalism. In considering Latin American economies in the late 1960s, Frank assumed underdevelopment occurs mostly via exploitation of the resources of satellite areas by the metropolis economies. A different interpretation is necessary today, however, particularly with the example of East and Southeast Asian countries. More recent work in development in Asia has focused on the

success of export-led policies and the strong role of government intervention in the economy. See Amsden (1989), Evans (1995) for details of these policies.

<sup>7</sup>For an empirical study of the locational patterns of Japanese electronics industry, see Aoyama (1996).

<sup>8</sup>See for instance, work by Castells (1989); Hepworth (1989).

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