Multinational Corporations

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Abstract

A multinational corporation (MNC) is an organizational vehicle to transfer knowledge from one country to another while preserving cash flow and control rights. The MNC has its origins in the uncertainty of international trade and investment, and its modern form coevolved with the emergence of institutional and political structures that permitted owners to realize and retain profits from the utilization of its organizational knowledge in foreign countries and territories. Since operating overseas incurs costs, the MNC is only viable if its transfer of organizational capabilities permits it to compete effectively against domestic and other foreign competition. With the diffusion of knowledge, local competitors often compete with the MNC in the long run. However, an MNC has the advantage of profiting from arbitraging across markets and leveraging its scale and scope globally. The impact of the revolution in information technologies has consequently an ambiguous effect, both enabling the MNC to operate globally more effectively and enabling markets to contract to more efficiently compete against organizational solutions.

A multinational corporation (MNC) is the organizational form by which the knowledge of *how to coordinate and organize work* is transferred from one national institutional setting to another (Kogut, 1992). It represents, on the one hand, the evolution of organizational mechanisms by which to resolve the historical hazards of long-distance trade and investment. On the other, it is the vehicle for the transfer of organizational knowledge and practices. This transfer initially is from the home country to foreign sites, but eventually can consist of the diffusion of organizational and technological knowledge within a transnational network. In this dual role of providing a private ordering of exchange and as a vehicle for the diffusion of organizational practices, it challenges the power of the state and the resident national institutions and frequently is the intended or unwitting agent of social, economic, and political change in the world economy.

Contrary to the emphasis on the transfer of organizing knowledge, the conventional and complementary economic definition stresses the ability of owners and their managerial agents in one country to *control* the operations in foreign countries. There is a frequent confusion that equates the ability to control with the flow of capital across national borders. Since Hymer's thesis (1976), it is recognized widely that capital flow is not the distinguishing characteristic of a MNC (*see* International Business). Capital can flow from one country to another in expectation of higher rates of return. However, this flow may be invested in the form of bonds, or in equity amounts too insignificant to grant control to foreign owners. In this case, this type of investment is treated as a 'portfolio' investment. The central aspect of 'direct investment' is the ownership claim by a party located in one country on the operations of a foreign firm or subsidiary in another. The MNC is, thus, the product of foreign direct investment (FDI), which is defined as the effective control of operations in a country by foreign owners.

The economic definition, however, does not capture the importance of the MNC as the organizational mechanism by which different social and economic systems confront each other. The MNC, because it usually develops in the cultural and social context of one nation, exports its organizational baggage from one institutional setting to another. In this regard, it plays a powerful role as a mechanism by which to transfer organizational knowledge across borders. However, while being foreign implies that it might serve the valuable role of importing new practices, its foreign status also implies that its practices are likely to conflict with existing institutions and cultural norms. Moreover, since MNCs are often large, they pose unusual challenges to national and regional governments who seek to maintain political autonomy and yet are often anxious to seek the investment, technology, and managerial skills of foreign firms.

There are, thus, economic and sociological definitions of the MNC that differ, and yet complement, each other. In the economic definition, the MNC is the control of foreign activities through the auspices of the firm. In the sociological definition, the MNC is the mechanism by which organizational practices are transferred and replicated from one country to another.

Early History

The MNC is defined in some sense arbitrarily by where frontiers are drawn. In ancient Greece, these frontiers were the borders among city-states. In imperial Rome, the new administrative units of an expanding empire and its external boundaries defined the borders. Political borders correspond only approximately to the distribution of cultural and ethnic dispositions. The history of the MNC is tied closely to the origins of trade in and between cultural communities, and these communities remain important in many sectors in the modern economy.

Early trade was often characterized by the difficulty of transacting across borders. Trading has always instigated from the unequal and varied distribution of resources across geographies. The trading of salt was an important factor in most continents and still can be found in rather ancient forms in east

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Africa. Towns, such as Salzburg, owed their origins to their fortuitous access to salt mines.

This unequal distribution incited traders to travel long distances and undergo unusual risks for the hope of gain. The dilemma is quite apparent. How can markets for trade develop between distant cultures? Indeed, there is good evidence that early trading was quite precarious. Brown (1969) notes that Hermes was not only the God of messengers but also the God of theft and trade. He was often worshiped at borders, marking the place of trade. Herodotus describes the practice of 'silent trade' of goods at boundary markings in which one party would deposit its goods at the border and the second party would later deposit a corresponding offer. The original party might accept this bid, take the goods, and leave its initial offer. Clearly, only a strong demand for unusual foreign goods could sustain such a treacherous institution of transaction.

Not surprisingly, Curtin (1984) doubts the accuracy of this account. Instead, he stresses the importance of ethnic groups, such as the Gujarati or overseas Chinese, or the force of imperialism and military power as ways in which 'cross-cultural trading' was permitted to develop. But such solutions remained fragile, with foreign enclaves and ethnic groups subject to local hatred and military rule often confronting competition from other powers.

Yet, trade persisted through the centuries. Indeed, the demand for foreign goods was so strong that incredible profits could be realized by international trade. Since transportation was poor, and technology to hold inventories rudimentary, an agent in the right spot at the right time could earn fortunes. And in this laid the great problem. For in times of great demand, prices could rise astronomically, as Braudel (1973) documents in his history of material life. With such distances between the agent and the principal in the exporting country, an agent could easily, and often did, disappear with the profits.

The early solutions were many and provide insight into one of the great properties of the MNC: its ability to organize transactions within its own organizational boundaries. Great fairs were one solution, where principals met their customers in one place. But fairs were intermittent and often distant from final markets. The further development of Roman commercial law during the medieval and Renaissance periods strengthened the liability of the principal and also the legal recourse in principal–agent conflict. However, the application of law between two parties in different legal jurisdictions has always been a difficult form of dispute resolution. In his study of the Jewish Maghrebi traders of the twelfth century, Greif (1989) emphasizes membership in ethnic 'trading communities.' Since ethnic enclaves in foreign sites could monitor the activities of agents, principals could be informed of malfeasance. Agents could then be excluded from future contracts within the community, thus deterring dishonest behavior. Partnerships were also another way in which agents were also bonded to the firm.

Birth of the MNC

However, another solution was the company, where the archetypical cases were the Dutch West Indies and the British East India Company dating from the 1600s and the 1700s. The stock company form permitted the investing of capital in its ownership by outsiders in promise of future dividends. The capital might be raised for a single voyage or, eventually, could be maintained in the company in the form of stock ownership. These companies were primarily engaged in trading, although increasingly they became involved, economically and politically, in foreign countries.

With the evolution of the limited liability law in the nineteenth century, and the diminished role of the state in restricting the growth of the joint stock company, this organizational form expanded rapidly in many European countries as well as in the United States. Along with the growth of equity markets, the financial resources to invest overseas became more available due to advances in the banking system and also in bond markets. Indeed, the great capital needs of the railway industry created an international market for the sale and purchase of railroad bonds. However, international loans and bonds were risky and it was not uncommon for sovereign governments to default, including state governments within the United States.

The increasing wealth of Western countries, along with constraints on the speed by which national industries could absorb new loans, encouraged massive foreign investments by the end of the nineteenth century and the early twentieth century. This was a period of globalization in terms of the percentages of capital outflows to total capital accumulation. Great Britain is estimated to have exported some 25% of its capital prior to World War I and French capital exports were often greater. This capital went to countries hungry to finance their industrial expansion, including the newly industrializing countries of Russia and especially America.

The British were unusual in directing a considerable amount of their outward capital flows in the form of direct investments. A great deal of this investment went into their colonies. Prior to the mid-1800s, companies operating overseas engaged largely in wholesale operations; they did not run factories, operate mines, or own agriculture. The British direct investments were, thus, different than before, as British came to own and run local operations. Moreover, the British invested in South and North America.

The 'freestanding' company, as labeled by Wilkins (1988), was a peculiar form of investment that was quite prominent in many British colonies but hardly unique; thus the French stock market records indicate that many floated companies had no domestic but only foreign activities (Kogut, 1998). The freestanding firm raised capital in the domestic financial market where its administrative office was located, but it operated no domestic activities. All operations were overseas. These companies were multinational in ownership, but uniquely foreign in operations.

The United States offers an unusual case. A rapidly growing country, it imported more capital than it exported up to World War I. However, whereas it imported largely portfolio investments, its outward flows were dominated by FDIs. In other words, American companies showed an early penchant for expanding overseas (Wilkins, 1970), often competing on their organizing advantages. The Singer Company built within two decades of its founding a large factory employing thousands of workers in Scotland. Oil companies, Kodak, Westinghouse, Ford, and mining and agricultural companies all invested overseas. Companies in oil, mining, and agriculture often invested in poorer markets where there were resources to be found. These early investors were often involved inextricably in the politics of the foreign governments, and the American military itself intervened aggressively numerous times in the Caribbean, Mexico and Central America, and South America. As in the British case, the history of American direct investment occurred in the context of an expanding military presence of the home government. Moreover, since many of these countries were poor, the MNCs responded to the demands of the host nation, especially in the form of concessionary contracts, to provide public services, for example, hospitals, roads, and power (Robinson, 1964). This complicated legacy of the early history of the MNC in Latin America created hostility on the part of the local population that persisted throughout most of the twentieth century.

National Origins and Institutions

It is important to underscore that the MNC usually evolved in the context of specific national institutions, which left an 'imprint' on its organization and capabilities (Westney, 1993). The MNC is a growing firm whose organizational borders have spilled across borders, but whose national imprint still persists. Moreover, since this large firm is usually tied to a larger domestic network of suppliers and customers, its expansion overseas is accompanied by the coinvestments of these other members. This is a pattern seen in American investments in the United Kingdom in the 1950s and repeated by Japanese MNCs investing in the United Kingdom in the 1980s and the 1990s (Dunning, 1993).

Chandler (1990) noted as well that these MNCs reflected the national characteristics of management. In comparing the cases of the largest firms in the United Kingdom, Germany, and the United States, Chandler found that differences in managerial capabilities, reflecting national institutions, explain their success and failure patterns. He particularly criticized the managerial capabilities of British firms, a point not shared by some British historians (Hannah, 1999). But more importantly, Chandler's thesis assumed that size itself constituted the realization of scale and scope of economies instead of the outcome of success and growth. This observation is especially important for understanding the lack of large MNCs in Italy or in Taiwan, both of which have very successful small firm economies but do not have MNCs comparable to other countries of similar levels of economic wealth. Yet, both countries are relatively wealthy and successful, and their many small companies have achieved high rates of exporting. Even in the case of the United States, the evidence implies that American firms, large and small, came to Europe, riding on the back of the national organizing principles of standardization in work methods (Kogut, 1992). Chandler's larger point of the effect of national systems on firm capabilities is largely accepted; his belief that large firms reflect better management because they achieve scale is disputed far more.

Organization of MNCs

The national origins of the MNC influence their subsequent organizational evolution. In the United States, the great post–World War II expansion of MNCs coincided with the diffusion of their adoption of the multidivisional structure. Indeed, the refinement of 'organizational technologies' permitted American firms to manage their rapidly growing operations on a worldwide basis.

The young American MNC began with little knowledge and experience of the foreign market. Initial foreign sales are exports executed within the existing organizational structure. These structures could be functional (e.g., organized by production and sales) or divisional (e.g., organized by geographic area or product division). As foreign sales increased, an international division was created to make the sale and to provide customer support. In consequence, the domestic organizational unit would sell to the international division its products at an internal 'transfer price.' As this price was set by the domestic market, it was unlikely to reflect the competitive conditions in the foreign country. Moreover, the products were often not designed to the tastes of foreign demand. Because of this internal conflict, the American MNC would replace the international division by transferring responsibilities to area divisions (e.g., Europe, Asia, South America) or to product divisions (Stopford and Wells, 1972). While these structures diminished the internal conflict, they ran the hazard that the divisional managers across areas did not cooperate or that managers across product divisions tended to fall back upon focusing on the home market.

European firms grew up in a different environment. Europe was a highly unstable continent during the twentieth century, with significant political and economic conflicts. Borders sometimes changed, and they also marked the necessity to pay commercial duties. The gradual creation of the European Union in the last third of the twentieth century eliminated tariffs and lessened national differences. This history marked their firms. The organizational technologies in most of these countries were quite different from those found in the United States. Holding company structures were common, banks or other financial institutions played powerful roles in ownership and cross-holdings, and firms were tied together in complex financial webs. These structures, often called 'mother–daughter' organizations, reflect the linguistic terms used in northern Europe to describe headquarters and subsidiary. These mother–daughter structures consisted often of a headquarters that held a portfolio consisting of ownership control over dozens of companies, many of them in the same sector but located in different countries. Reporting relationships among these companies and headquarters was less formal than found in American companies, and control was often exercised through the movement of managers who were lifetime employees. These structures were often seen as inefficient, especially compared to the size and organization of American multinationals that were investing rapidly in Europe at this time. European critics called for the restructuring of the European firms and industry along American lines.

The structure of Japanese companies also reflected their historical origins. In Japan, the trading company performed an extraordinary role in the exports during the first two-thirds of the twentieth century. These companies started primarily as wholesalers, but over time developed their own industrial companies located in Japan and eventually overseas. Though the forced imposition of American antitrust law after World

War II disrupted these patterns, trading companies and other affiliated company networks, called *keiretsu*, reconstituted the earlier pattern of constellations of domestic companies competing in home and, through their trading companies, in foreign markets. As in the American and European cases, Japanese firms varied in their internal structures, with functional and even factory-based organization being the predominant structures. Still, a dominant trend emerged over time as the role of trading companies declined, especially for the exportation of industrial and high-technology goods. This trend consisted of the appendage of an international division to the existing structure (Suzuki, 1991).

These different national structures confronted an increasingly more globally integrated environment in the course of the twentieth century. This environment posed the classic organizational problem of balancing integration and differentiation. For the MNC, this problem posed itself as meeting the demands to achieve global scale against the needs of national markets and governments. Given different national principles of organizing the activities of MNCs, there was not a rapid convergence to a global structure. The growth of MNCs, especially in Europe, was stymied by these traditions. Continuing national differences and the failure to develop harmonized European corporate law deterred the emergence of pan-European MNCs. Many of the most important cross-European mergers in the 1970s failed within a decade. Instead, American MNCs, less bound by these separate national traditions, were able to create integrated European strategies.

Nevertheless, it was in Europe where new organizational structures developed to resolve the conflict between integration and differentiation. MNCs from smaller countries offered the laboratory experiments that influenced the evolution of MNCs from larger nations. Because of the small size of many European countries, large firms in Sweden, Switzerland, and the Netherlands quickly became MNCs, and these corporations had far more assets and employees outside their home countries than within. Over the course of the last two decades of the twentieth century, organizational structures developed, labeled as transnational corporations, that distributed global responsibilities to national subsidiaries, created global teams and projects, and encouraged the transfer of ‘best practices’ across borders.

Diffusion of Organizational Knowledge

In its evolution the MNC is not without serious contradictions. Evolving from its national context, the MNC employs large numbers of employees of diverse nationalities and ethnicities. Westney (1993) notes that a subsidiary is, thus, caught between the institutional pressures to conform to the company norms and values and to the cultural and social influences of its local national environment. At the heart of the evolution of the multination corporation, thus, lies the tension between national institutions and the fragile emergence of a global culture.

The international evolution of the organizational structures of American multinationals mirrored, as is noted above, the broader diffusion of organizational technologies in the home market. The initial investments by a firm took place, often, on the basis of opportunity and the extension to familiar countries. Much like the ethnic trading communities dating back to the earliest times, the inexperienced MNC preferred countries that are culturally similar to what their managers know at home (Johanson and Vahlne, 1978). In these countries, they often established foreign enclaves where their expatriate managers could live in the simulated familiarity of their home environments.

The relevance of the second definition of FDI as the transfer of organizational knowledge is critical to understanding the powerful conflicts posed by the MNC. The MNC, competing often on superior technologies and managerial capabilities, serves as a conduit of knowledge across borders. Some kinds of technologies can be purchased on markets and the flow of licensing payments attached to the sale of the right to use a technology constitutes a nontrivial flow in international balance of payments. Technology can also flow by the movement of people. Just as English craftsmen were imported by continental Europe in the early industrial period, there exists an international market for managers and skilled workers.

However, some knowledge is embedded in organizations and can only be transferred as an organization across borders. The issue is more than whether knowledge is tacit or explicit, for this pertains to the knowledge held by individuals too. The central feature of the diffusion of knowledge by the multinational is that it transfers the knowledge of how to organize and how to coordinate people and across divisions. These organizing principles then provide the capabilities for the firm to achieve quality, speed products to the market, or lower costs (Kogut, 1992). For this the MNC is required, which through its own activities or in joint ventures with host companies, transfers the organizational knowledge.

The global market for knowledge also extends to consultants. The large American consulting practices often have their origins in their acquisition of American organizing principles that they then transferred around the world. The international diffusion of the divisional structure, for example, reflects the knowledge acquired in American consulting practices that was then sold abroad. Channon (1973), for example, observes that half of the firms he observed as adopting the divisional structure relied upon the consulting services of the same American firm. Similarly, British and then American banks spread throughout the world on servicing the needs of their expanding home clients, and then on transferring their practices into these countries (Jones, 1993).

It is important to realize that once this transition period passed, the MNC and multinational service firms, such as those engaged in consulting, banking, and advertising, had permanently and historically changed the global economy. No longer was the flow from the United States to Europe or from one ethnic community to another. The network of connections developed by the MNC permitted the flow of ideas and practices among and between countries. Thus, whereas it took half a century for American practices to diffuse to Europe, the introduction of quality circles from Japan happened within a decade or two of their original innovation. In Europe, Japanese innovations were often diffused by American firms, including consulting companies.

However, this image of the free flow of knowledge needs to be strongly conditioned on the continuing importance of national institutions. Nations consist of defined cultures and economic and social institutions, such as unions, financial systems, and religious values. These institutions interact and their complex interactions causally influence behaviors. For example, the German system of centralized bargaining, enterprise clubs, strong banks, and social welfare has, until recent times, composed a national configuration of institutions that influences the capabilities of resident firms to be able to manufacture high-quality goods for export markets (Streeck, 1995; Soskice, 1990). The introduction of Japanese and American teams confronts in Germany the presence of existing work councils. These councils are fairly rigid features of the German environment. Since Japanese methods may not be effective without teams as complementary factors in organization, this institutional refusal can effectively deter the diffusion of these methods. In short, national organizing principles are embedded in the wider social institutions. Inconsistency between these institutions and principles, then, is an empirical question of the bargaining strength of vested powers.

Economics and Politics of MNCs: the Role of CSR

Since the MNC is intrinsic to FDI, theories of FDI must account for why one country invests in another and why this investment is carried out within organizational boundaries of a firm (see Buckley and Casson, 1976; *see* Foreign Investment: Direct). In distinguishing between portfolio and direct investment, Hymer noted that firms operate at a disadvantage in foreign markets and hence they must have an offsetting competitive advantage to compete overseas. These advantages for overseas investments are the same ones that allow a firm to compete and grow in the home market. These observations have important implications. The first is that direct investment is the growth of the firm across borders and hence the firm expands internationally on what it has learned at home. This observation is the basis for the evolutionary theory of the firm. The second observation that Hymer made is that firms that expand overseas, because they have competitive resources, are also likely to be large and to belong to oligopolistic industries.

In these observations, we can understand the ambivalence expressed in popular and policy debates regarding the MNC. Competition among MNCs often is the extension of their home domestic and oligopolistic rivalry that spills across national borders. In many global industries, the same company names dominate each country's list of the largest firms inside their national frontiers. No matter if it is Poland or France, Singapore or Mexico, the same MNCs will be found in the local oligopolistic industries (e.g., consumer goods or automobiles). Because they are large even in their home markets, investments by MNCs can have a large impact on a host country (Caves, 1974).

As a consequence, the MNC has often been the subject of debates concerning national sovereignty and welfare. In recent decades, acquisitions have generally been the primary way by which multinationals invest in wealthy foreign countries, where the vast proportion of direct investment is concentrated. Given the size of a MNC and occasional national importance of the targeted acquisition, even wealthy countries frequently evidence discomfort, if not outright public hostility, to multinational investments. Moreover, MNCs are sometimes the vehicles for foreign policies of their home or host country. The decision, for example, of the United States to embargo technology and investment flows to Cuba, the former Soviet Union, Iran, and other countries periodically has caused conflict with other countries.

MNCs are especially problematic in developing countries. By definition, developing countries are relatively poor, thus both in need of capital and concerned over their loss of independence. As discussed above, the history of MNCs in developing countries is marked by its origins in policies of imperialism and colonialism. Especially in Latin America, where a school of thought labeled *Dependencia* has been influential, the concern over dependence on the United States resulted in efforts to curb the power of the MNCs by restricting the amount of equity ownership a foreign firm could hold in a domestic company or by prohibiting investment in certain sectors. Mexico's constitution forbids foreign investment in the oil industry; Brazil pursued for a long time a policy to restrict foreign participation in the electronics industry.

The other side of the coin is that MNCs bring investment and technology to the foreign country. Vernon (1966) hypothesized that innovations start in wealthy countries. As the market is saturated and as oligopolistic rivalry increases, MNCs are pushed out from their home markets to expand abroad in new markets and to locate less expensive places. Thus, Vernon seized both sides of the debate, not only recognizing the value of the transfer of technology but also emphasizing the oligopolistic nature of multinational investment.

It is, in fact, difficult to draw simple conclusions regarding the relationship of foreign investment and national growth. Countries such as Singapore, Malaysia, and Thailand have encouraged FDI actively. The growth in China's coastal sector is indisputably linked to the massive investments by MNCs. However, historically, Japan and Korea have pursued more cautious policies regarding investments by MNCs. In these countries, the state has often negotiated the terms for entry by MNCs, sometimes requiring licensing to domestic competitors as a price. The efficacy of such policies for these countries is much disputed. However, for many other countries, the intervention of the government in demanding licenses unquestionably leads to internal corruption and to insufficient domestic competition.

MNCs have a natural incentive to collude with corrupt or failed governments or to pursue 'regulatory arbitration' that leads to locating in countries with poor labor and environmental standards. Consequently, the past decades have seen the rise of nongovernmental organizations (NGOs) that seek to pressure MNCs into improving ethical practices into their operations. Pressure tactics consist of publicizing bad practices and thereby damaging the value of brand labels, or lobbying national and international regulatory agencies. Many companies, such as Walmart and Nike in the United States, have claimed to have dramatically improved labor and ethical standards in their own operations and also those in their supply chains. In many cases, NGOs act as partners to MNCs to help them monitor the standards of suppliers or to help them deliver drugs to remote areas in developing country. A particularly interesting partnership is the cooperation between international agencies, such as the World Health Organization, and private companies for the provision of aid through humanitarian supply chains (Van Wassenhove, 2005).

Institutions and MNCs

There are many channels by which a country can absorb foreign technology and managerial techniques. Most of the evidence shows, however, that prohibitions on the inflows of direct investment can be very costly for many countries. With their domestic industries still to be developed, a developing country requires substantial investment. Some countries, primarily in Asia, have been able to achieve very high savings rates to finance their industries without direct investment. Moreover, high savings rates, plus political stability, create growth, and growth attracts foreign portfolio capital. A poor country that prohibits FDI but does not have high rates of saving entirely depends on portfolio capital. The history of debt and currency crises in the 1990s convinced many poor countries that FDI was a preferable means of attracting capital, because it could not be easily pulled out of a country on short notice in response to a financial crisis.

However, MNCs also respond to the volatility in the global market. This volatility derives from changes in exchange rates, politics, and productivity. Having achieved sufficient experience and having established subsidiaries around the world, the MNC might choose to close a plant in one location and open plants in new locations (Kogut and Kulatilaka, 1994). Of course, such actions might provoke a response by labor, but historically, labor has been organized by national, not by international, organizations (Martinelli, 1975). Yet, there is also the possibility that locations lose some kinds of plants but gain more sophisticated investments. Cantwell (1989) proposed that some regions and countries pull multinational investments. Yet, it has long been noticed that FDI among developed countries flows to high-cost locations. Regions such as Silicon Valley, Baden-Wuertemberg, and Singapore attract multinational investments not because wages are low, but because productivity levels are high and workers are well trained.

MNCs are not only drawn to regions with high agglomeration but also contribute to these clusters through technology transfer and diffusion. For example, Blalock and Gertler (2008) estimate that about a third of output growth in a sample of Indonesian firms is due to gains in technology diffusion to local firms. It is an interesting question though whether MNCs agglomerate in traditional domestic firm clusters or in clusters dominated by MNCs. Alfaro and Chen (2009) analyze this question, finding that MNCs are more strongly attracted to MNC clusters in which technology diffusion plays an important role. This is an intriguing result that suggests that MNCs shape the global economic landscape.

A related and persisting literature concerns the competing effects of multinationals on crowding out domestic firms and technology spillovers. Kosova (2010) found that in the short run, foreign entry does crowd out domestic firms, but that after entry, multinational investment increases demand and the survival of domestic competitors; this work thus also confirms, as discussed above, that FDI is a mode of technology and knowledge transfer. Chang and Xu (2008) analyzed a similar question for China, finding that foreign entry crowds out regional but not national domestic firms. On the contrary, foreign entrants face enhanced competition from 'reformed' Chinese firms, which moved from state ownership to greater private control.

This last observation of the enhanced capabilities of domestic firms in China points of course to one of the most important changes in the composition of FDI. Increasingly, developing countries have given rise to their own MNCs acting in the region and sometimes globally, a trend that has boomed since analyzed by Lall (1983). Often, the MNC acts as a training center in the developmental strategies of emerging economies. Similar to the history of firms from early developed countries, the MNCs from emerging markets grow often aggressively through mergers and acquisitions, such as the acquisition of Jaguar and Rover operations in the United Kingdom by Tata, of Volvo by the Chinese firm Greely, or of IBM laptop computer operations by Lenovo also from China. Firms such as the Brazilian Embraer in aircraft, the Korean electronics firm Samsung, and the Chinese white good manufacturer Haier are major competitors in their respective markets, as are some firms from the so-called 'transition economies,' such as the Russian energy company Gazprom. The analysis of the imprinting of the national origins and their competitive advantage of these firms is a major current research area.

Globalization and the Digital Information Economy

The peculiar conflict in the world economy is the growing trend toward economic integration without a concomitant growth in global political and social institutions to regulate and arbitrate this trend. MNCs are rapidly adopting advanced information technologies to increase the efficiency and capabilities of their operations. Valuable information, such as software or financial services, is transmitted digitally. Governments are often unable to tax the value of these services or control their content. Moreover, information technologies, often supported by private telecommunication networks, permit, for example, a unit in Germany to control the manufacturing operations located in Brazil.

Digital technologies permit a high degree of integration and, in the short run, aggravate the gap between countries that are rich and those that are poor and do not have the infrastructural capabilities. However, these technologies are beginning to have profound effects on some regional economies. In parts of China, India, Israel, and elsewhere, advanced satellite transmission transmits digitally encoded work between their sites and other organizational units of MNCs located elsewhere. Earlier the Indian engineer from Bangalore might have tried to migrate to the United States to bring his human capital to a more attractive labor market, whereas the increasing wages and job prospects in India are encouraging many to stay at home and participate digitally in the world economy.

These trends have unclear effects on MNCs. They permit more easily the development of projects that are in continual development, as work passes from one unit to the next as the day advances. They also allow more easily the coupling of less expensive labor in one country with more expensive skilled labor in another.

At the same time, the origins of the MNC laid in its ability to organize labor on a worldwide basis on principles other than ethnic and cultural identities. This organization has never been without cost and risk. The growth of a world digital economy permits alternative ways by which labor can cooperate and be coordinated on a world basis. The intriguing question at this point in history is whether the MNC, though still a vital presence in the world economy, nevertheless, will recede relatively in importance as information technologies reduce the meaning of geographic distance.

See also: Development and the State; Diaspora; Globalization: Geographical Aspects; Globalization: Legal Aspects; International Business; International Law and Treaties; International Trade: Economic Integration.

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