Guo. de la Dehesa
Winners and losers in globalization
Parte VII

CHAPTER 5

Globalization and the Size of Firms: Multinationals

Multinational companies are the main agency through which globalization is taking place, and globalization is in turn promoting the rapid development of multinational or global companies. In other words they feed off and reinforce each other.

Globalization and the development of multinational companies

The reason for this interrelationship is very clear. A study of companies in the European Union, by Kumar, Rajan, and Zingales (1999), concludes that they are becoming increasingly global; that globalization is a process which promotes the growth of large companies because to be successful and increase their market share they need a presence in the maximum number of countries. There is therefore a high and increasing correlation between the size of the market and the size of companies. According to the recent World Investment Report from the United Nations (UNCTAD, 2004) 61,000 parent multinationals, many of which are medium or occasionally small in size, have established more than 900,000 affiliates in all the counties of the world. Of these 61,000 parent companies, 50,000 are based in developed countries. Their affiliates have sales worth almost eight trillion dollars, i.e. the equivalent of the United States GDP or more than double the value of world exports, and these are growing at a much faster

rate than exports, by between 20 percent and 30 percent. The affiliates of US multinationals alone sell three times as much in the countries where they operate, as total US exports. Despite this, the United States has a huge trade deficit. This paradox raises an interesting question. In a completely globalized world, counting transactions between residents and non-residents, such as imports and exports, in the balance of payments, loses a great deal of its significance. In the integrated European Union, transactions between member countries are classified as sales, rather than imports or exports, because they take place in the same market. Perhaps in the future, when globalization is much more advanced, it will become necessary to count international transactions in the balance of payments, not in terms of where the companies involved are located but in terms of their ownership. If that were the case today, the United States would have a huge surplus instead of its present large deficit, because the sales by its multinationals' affiliates would be included in the calculation.

The fact is that multinationals are currently responsible for two-thirds of world exports of goods and services and almost 10 percent of all domestic sales in the world. This gives some idea of their growing importance.

Multinational companies have a decisive influence on international trade not only because of the volume they generate, but also because they are radically changing its pattern: from one based on traditional inter-industrial trade to one based on intra-industrial or intra-firm trade. In other words, from one (inter-industrial) in which countries specialize in, and export, specific products in which they have an absolute or relative comparative advantage, and import others in which they do not have such an advantage, or that they need for consumption or to add value to their production or exports, to another pattern (intra-industrial or intra-firm) based increasingly on trade between parent companies and their foreign affiliates. In 1997, intra-firm trade represented more than 40 percent of total OECD country trade. Automobile companies, for example, design models in the parent company where they also control marketing, quality control, financing, and insurance, and produce parts in whichever affiliate is the cheapest or most convenient. They then assemble models in different countries according to local tastes, national or regional technical specifications, and the size of the market. This international division of labor creates an increasing amount of trade within each company, between its affiliates located in many different countries. Spain's principal imports and exports originate in the automobile industry and are accounted for, overwhelmingly, by half a dozen multinationals; through the trade between their plants in Spain, their subcontractors and their plants in other countries, as well as the parent companies.

The second way in which multinationals play an enormously important role in globalization is as a conduit for foreign direct investment (FDI). At the end of 1996 the total stock of FDI in production plants, machinery and real estate owned by multinationals outside their countries of origin amounted to more than three trillion dollars, equivalent to Japan's GDP. FDI has increased three times as quickly as domestic investment, though it still only represents the equivalent of 7 percent of the total domestic investment in the OECD countries.

The 100 biggest non-financial multinationals, of which 90 are from the "triad" of the United States, the European Union, and Japan, have an accumulated FDI of 1.8 trillion dollars, almost two-thirds of the total.

The third function of multinationals is the diffusion of technology around the world (Vernon, 1966 and 1974; Magee, 1977). Seventy percent of all the payments for royalties or technology made in the world are between multinationals and their affiliates.

Finally, it should not be forgotten that multinationals pay better wages to their employees and create more stable employment. In Turkey, for example, the wages they pay are 24 percent higher than those paid by local companies, and in the late 1990s they have increased their work force by 11.5 percent, while the local companies only increased theirs by 0.6 percent (*Economist*, 2000).

The most coherent explanation for the growth of multinationals is the existence of economies of scale (Dunning, 1958; Hymer, 1976; Buckley and Casson 1976) both in specialization, technology, and R&D, and in purchasing, advertising and experience, as well as economies of scope to take advantage of synergies among the above. These size-related savings make multinationals more efficient, less vulnerable to losing their independence and more able to absorb smaller competitors. There are exceptions: Boeing and Airbus, which dominate the commercial aviation market, are unusually large but nevertheless are not multinationals because they do not manufacture or subcontract in a large number of countries. Instead they are concentrated in a few plants.

Theory

The economic theory of multinationals (Caves, 1982; Ethier, 1986) sets out to explain why they organize production through affiliates in a large

number of countries, instead of exporting directly from production plants in their home countries, when transport costs are falling rapidly. For example, why do US automobile multinationals produce in neighboring Mexico or Canada, or even Latin America, Europe, and Asia and not export directly from the United States?

The modern theory of multinationals divides this question into two parts (Krugman and Obstfeldt, 1991). The first is: Why produce in various countries and not in just one? This is known as location theory. The second is: Why is production in different countries controlled by the same firm and not by separate ones? This is known as internalization theory. The former explains why Mexico and Canada do not import cars from the United States and the latter why Mexican and Canadian industry is not independently controlled by national capital.

Location theory is easy to understand (Vernon, 1974; Dicken and Lloyd, 1990). The location of production is often determined by natural resources. For example aluminium smelting must be located where bauxite is available and electricity is cheap. Manufacturers of minicomputers or PCs have to locate their design and prototype production where there are science and engineering skills and a highly qualified workforce, such as in Massachusetts or northern California, and locate final assembly, the most labor intensive stage of production, where labor is cheapest, for example, in southeast Asia. Other determining factors are transport costs and trade barriers. The cases of Mexico and Canada are explicable less because of transport costs than because of quotas and other import barriers. When production is located in countries further away from the United States, such as South Africa or Australia, transport costs are a bigger part of the explanation, although these are falling. Location theory, therefore, is based on the same arguments as general trade theory.

Internalization theory is more complex (Coase, 1937; Williamson, 1975). Operations spread across several countries involve high transaction costs and multinationals exist because these costs fall substantially when they are internalized. Production from one affiliate is usually the input for another, and vice versa. Technology developed in one affiliate can be used in the others. It is cheaper to coordinate a large number of affiliates than to managed them separately. This does not mean that all transactions have to take place within companies. Components can be bought from and sold to other companies, and technology can be licensed. But most of these transactions are cheaper if they take place within the same company. There are two fundamental arguments as to why this is the case.

The first emphasizes the advantages of internalization for technology transfer. Although, from the economic point of view, technology is seen as useful knowledge that can be sold, licensed or franchised, there are problems in doing this. The knowledge needed to run a factory cannot be easily written down, packaged and sold because it consists of the knowledge and experience of a group of individuals. On the one hand, it is difficult for the buyer to know the value of the product, since knowledge is an intangible that is difficult to value. If the buyer knew its value, he or she would not have to buy it. Finally, not only intellectual property rights are hard to establish, but also, once a technology has been licensed, it can be easily copied, by other competing companies, when clear legal mechanisms do not exist to safeguard them. All these problems can be overcome if, instead of selling a technology to another company, an affiliate is set up and the technology transferred to it.

The second argument focuses on the benefits of internalization for vertical integration. If an upstream company produces a good that is used as an input by a company further downstream a number of problems may arise. The first is that if both companies have a monopolistic or oligopolistic position there may be a conflict over price: the former will try to maximize it and the latter to minimize it. There may also be problems of coordination if there are uncertainties over demand and supply. Finally, an excessive fluctuation in the price might represent a serious risk for one or other of the companies. It is possible to avoid or reduce the importance of these problems by vertically integrating both processes within the same company.

However, the evidence on internalization is not as clear as that on location, because it has not been as widely studied; since multinationals have only been in existence for a relatively short time, and both the speed of technological change and the environment in which they operate create uncertainty.

One fairly recent development in the operation of some multinational companies is outsourcing and offshoring: that is, the subcontracting of the services or part of production process to companies within, or increasingly outside, the multinational group and relocating them to other companies within the same country (outsourcing) or to other companies, owned by the parent company or through joint ventures with domestic companies in developing, or even other developed, countries (offshoring). New computer and telecommunication technologies allow greater control to be exercised over transaction costs and reduce the advantages of internalization.

Taken to its extreme, this process leads to the "virtual" company, and the disintegration or displacement of the production process analyzed in the previous chapter. This is a company in which the role of parent is reduced to the minimum leaving it with control over design, technology, quality, the brand name, marketing, advertising, finance, and distribution. The rest is subcontracted out in various countries, on long-term contracts for the supply of parts, components, and assembling, as well as external administrative, auditing, systems and services, either with companies owned by the parent or to non-owned foreign companies. Dell computers is one of the companies that most approximates to this model. The development of the Internet and the other information and communications technologies may lead to extremely important changes of this sort, in the near future, in the way multinationals are organized and operate.

One of the problems faced by multinationals is the cost of employing workers in different cultural, legal, educational, and linguistic contexts. Edward Lazear (1999) argues that these costs are offset by the benefits to be gained from employing complementary factors of production that can be found more easily or cheaply in other countries or cultures. The important thing is to instill in them the ideas of best practice and teamwork, which will lead to a reduction in costs. To do this, a single working language is essential even if this means paying higher wages to bilingual workers, hence the widespread use of English worldwide.

Types of multinationals

Modern theory distinguishes between two types of multinational: vertical and horizontal. The former are those that distribute the stages of the production process geographically, according to the intensity of the factors of production used. Skilled labor-intensive activities are located where this is more abundant and therefore cheaper (in the advanced countries), as are lower-skilled labor-intensive activities (in the developing countries) and the same applies to natural resources or to capital. Different theoretical models for vertical multinationals have been constructed by Helpman (1984), Helpman and Krugman (1985), and Lall (1980).

Horizontal multinationals are multiplant enterprises that replicate essentially the same productive activities at a number of locations, taking advantage of economies of scale and reductions in transport costs. Models of this type have been developed by Markusen (1984) and by Lipsey

(1984). There has, recently, been an attempt to integrate the two models of multinationals in a "knowledge–capital" model (Markusen and Maskus, 1999), which is based on the idea that knowledge is geographically mobile and acts as an input for each multiproduction plant. Recent empirical evidence provides more support for the horizontal model (Brainard, 1997), although it also supports the knowledge–capital model. Vertical multinationals operate, to a greater extent, in countries that have different levels of development, with the center of operations situated in the most developed. Horizontal multinationals generally operate in similar countries with the center of operations in the country with the largest national market. The knowledge–capital model can be found in both types of situation: in similar countries and those with different endowments of skilled labor. In the latter case the center of operations is located in the country with the most skilled labor and the main production facilities are located in countries with the biggest market and/or the largest pool of cheap unskilled labor.

A clear distinction has also been made between plants located to produce locally for large national markets, and those located to produce for export, in which case labor costs are the determining factor.

Another important distinction is between multinational companies and global companies (Ohmae, 1990; Porter, 1990), i.e. companies with the majority of their production and work force located outside their home countries. On average, two-thirds of a multinational's production, and two-thirds of its workforce, will be in its home country. However, there are a handful of companies that have over 50 percent of their assets, sales and employees located abroad and can therefore be defined as global. These include Royal Dutch–Shell, Exxon–Mobil, Volkswagen–Audi, IBM, Bayer, ABB, Nissan, Elf Aquitaine, and Nestlé. Nestlé has 87 percent of its assets, 98 percent of its production, and 97 percent of its workforce located outside Switzerland. Clearly these are, in the main, companies whose parent is located in a small country or oil companies that inevitably have to locate most of their exploration, production, and refining plants in producing countries. The same applies to chemical and pharmaceutical companies that have to overcome barriers in the form of local health regulations, and automobile companies that have to avoid quotas and other trade barriers, especially in countries with large local markets. Peter Dicken (1998) strongly opposes Ohmae's idea of "denationalized" global companies. In his opinion all companies "belong" to a specific country and retain a close loyalty to it.

In an increasingly globalized world, those companies, which cross borders and try to serve the world market, are the ones that prosper most. Alternatively, a company will normally disappear when it is bought by a more successful rival. In other words, the growth of multinational companies is an obvious consequence of globalization and prosperity. Globalization means that competition is much fiercer, so only the most competitive companies survive and grow by merging with or buying their competitors. Once they have become large multinationals it is difficult for them to be displaced or bought. This can be seen from the fact that two-thirds of the 100 biggest multinationals today were in the same list ten years ago.

The development of large multinationals also obliges the companies they subcontract to, for parts and components, or even their own affiliates, to become multinationals themselves, because large companies require a homogeneous product near each of their plants. The same has happened to auditing firms, consultants, and commercial and investment banks. These have increasingly located in the same places as their large multinational clients.

Grossman and Helpman (2002) have looked at the main determinants of the choice of outsourcing versus FDI by multinational firms in an industry in which producers need specialized components and potential suppliers need to make a relationship-specific investment in order to serve each prospective customer. They find out that such investments are governed by imperfect contracts. A final-good producer can manufacture components for himself but its per-unit cost is higher than for specialized suppliers. Therefore, there are a number of factors that cause firms to outsource the production of components relative to those that produce their own components in foreign subsidiaries and determine how production in a globalized world is organized.

Starting from a position of industry equilibrium, the first is the difference in productivity between specialized and integrated producers of inputs. An increase in the productivity advantage of firms that specialize in producing components raises the fraction of firms that engage in outsourcing. The second is size. An expansion of the market size also raises the fraction of firms that outsource. An increase in the industry size favors outsourcing as well because it increases the spending on final products relative to prices and costs and generates more demand for specialized manufacturers of components. The third is contracts. The more complete the contracts that can be written to govern the relationship-specific investments, the larger the fraction of firms engaged in outsourcing. The fourth is the relative wage. An increase in the relative wage in the developing country reduces the fraction of firms that outsource. A fall in the relative wage in the developed country tends to reduce world income to the cost of entry by intermediate produces and increases the relative cost of product design, which tends to reduce the production of final goods and, therefore, the profitability and number of component producers.

Another important contribution to this issue is made by Swenson (2004). He looks at the pattern of US overseas assembly activities between 1980 and 2000 and examines how outsourcing decisions are affected by changes in country and competitor costs. A number of interesting regularities emerge. When a country's assembly costs rise, the share of US overseas assembly activities fall in that location. Conversely, a country's share of US overseas assembly activities grows when a competitor country's costs increase. While own and competitor country costs affect overseas assembly in all countries, the magnitude of these effects is larger for developing countries than it is for developed countries. If more developed countries produce goods that are more highly differentiated than those originating from developing countries, cost changes may exert a greater influence on decisions about more homogeneous products assembled in developing countries. Further, higher skill levels in developed countries may also provide better insulation from cost- based production shifts. To the extent that lower-skilled workers are more interchangeable, there may be fewer frictions that prevent the movement of simple assembly operations from a low-wage developing country to the next, such as the search costs that are highlighted in Grossman and Helpman (2004). Therefore, developing countries are more adversely affected by increases on their own costs or declines in competitor costs than are developed countries. It also depends on the industry characteristics. The allocation of outsourcing activities in less capital-intensive industries responds more vigourously to costs changes than outsourcing activities in more capital intensive industries.

Why multinationals are subject to critique?

Their large size and their rapid growth have made multinationals the object of widespread criticism: First, by governments. As they are responsible for the vast majority of foreign direct investment, countries compete to attract them at whatever cost, because they rightly consider them of enormous importance for their growth and development. This means that

governments feel a loss of sovereignty, especially in the case of small countries, when they have to accede to the demands of a private company. The criticism is even stronger when a multinational decides to move to another country because it considers that the labor, environmental, or tax legislation is too restrictive. But that does not happen very often because companies try to negotiate better conditions with the government of the day before they move. On other occasions the complaints are more justifiable, especially when multinationals evade taxes in some countries by moving their profits to offshore tax havens, through transfer pricing, inflated loans or other internal mechanisms. It is understandable that many small countries feel at a disadvantage compared to large multinationals.

In a small country such as Ireland, multinationals represent 50 percent of total employment and 66 percent of production. Most European regions or small countries would want to be in a similar situation because, thanks to this multinational investment, Ireland has increased its productivity and its per capita income more quickly than any other country in the European Union.

A second set of criticisms comes from trade unions, especially in the developed countries, where they put increases in unemployment down to the transfer of production to low-wage countries. However this delocalization only takes place in the production of labor-intensive goods such as clothing, shoes, toys, etc., not in the majority of products. It should not be forgotten that, on average, labor costs represent 10 percent of the cost of production in OECD countries, so this form of delocalization cannot be of very great importance. Another union criticism is that investment abroad replaces exports and therefore reduces employment in a multinational's home country while increasing it abroad.

Despite these criticisms, all developing and many developed countries try to attract as much foreign direct investment as they can and know the way to do so is by attracting investment from multinationals. In recent years about 60 percent of foreign direct investment by multinationals has been in developed countries, especially the United States, but also in Europe, and 40 percent in developing countries, above all in emerging markets with the greatest growth potential: Asia and Latin America. China, Brazil, and Mexico have been the recipients of most FDI, mainly thanks to the size of their domestic markets.

Almost 50 percent of all FDI is accounted for by cross-border mergers and acquisitions, designed to achieve economies of scale, increased market shares and to develop global networks. Most of these mergers and acquisitions take place between companies in developed countries, which are the ones who are really competing for regional or world leadership, with US companies playing an especially important role. Of the 500 largest companies in the world, 222 are from the United States, 130 from the European Union, 71 from Japan, 28 from the rest of Asia, 8 from Latin America, 8 from Africa and 33 from the rest of the world (Canada, 13; Australia, 8; Switzerland 9; and Russia, 3). With a few exceptions – Switzerland, which has 9, Holland with 13, Sweden with 8, and, above all, the United Kingdom with 51 – there is a discernible relationship between the size of a country's GDP at current prices and the number of large companies based there. Spain, which has 2 percent of world GDP, has 6 of the top 500, i.e., 1.2 percent, and so has fewer than could be expected. Germany and France, with 8 percent and 5.5 percent of world GDP, respectively, only have 4.2 percent and 3.8 percent of these companies (*Financial Times*, 2004). The clear bias in favor of Anglo-Saxon countries (United States, United Kingdom, Holland, etc.) is probably due to their more advanced capital markets. This allows their firms to grow and to finance their mergers and acquisitions more easily. Kumar *et al.* (1999) confirm that firms tend to be bigger in countries with more developed financial systems.

Globalization and the size of firms

We can expect that as the globalization process advances, firms will grow in size, and the number and volume of mergers and acquisitions will increase. Global M&As in 1990 were less than $500 billions in value and they have been increasing to 1 trillion in 1995 reaching $3.1 trillion in 2000. After the bursting of the "financial bubble" they came down to $1.6 trillion in 2001, to $1.2 trillion in 2002 and they have started to recover in 2003 with $1.3 trillion. There is a large concentration of M&A activity in the US and in Europe, where they account for 77 percent of the total value (Thomson Financial, 2004). In 2003, hostile M&A activity has increased as well, driven by overcapacity in some key sectors of production, which pushes industry leaders to consider consolidation.

How big can firms grow? Theorists disagree about this. As ever, Adam Smith was the first to suggest that firm size is related to the size of the market. Lucas (1978) uses a neoclassical model to explain size in relation to the amount of management ability available, which increases with per capita income. Rosen (1982) shows that size is limited by management's control and supervision capacity because it shows decreasing returns as the firms grow in size. Kremer (1993) identifies the availability if human capital is the key variable: the more a country has, the bigger its firms will be. Other economists (Grossman and Hart, 1986) suggest that size depends on the number of available physical assets that can be owned. Others (Caves, 1998; Sutton, 1997) suggest that size depends on national anti-monopoly regulations and legislation on barriers to entry. Finally, others relate the size of firms to the development of financial systems and to the factors that contribute to it (Pagano, Panetta, and Zingales, 1998).

Is it possible that the spectacular growth in the size of firms will undermine competition and create global monopolies? This obviously will not happen because national authorities exist in every country to ensure that competition is not infringed. However, in a globalized world, national authorities will not be enough. The European Union has the Directorate General for Competition and a Commissioner to oversee the whole union competition issue. There will, therefore, have to be close collaboration between all national authorities or global regulation of competition. It seems logical that the country where a monopolistic company is based will not be the first to take action because it benefits from the company's position, though this has not been the case with Microsoft in the United States, perhaps because it damages the interests of other domestic firms. Edward Graham and David Richardson (1997) have analyzed this problem in detail. They identify three alternatives: the present situation, which is inefficient because national competition authorities take unilateral action without coordinating this with other institutions; the alternative of unilateral action coordinated bilaterally with other countries, within integrated regions or through international organization and, finally, the alternative of a supranational mechanism.

It is the third of these alternatives that has shown the best results so far, since the European Union has followed this route successfully over a number of years through its Directorate General IV. The problem is that it will be very difficult to apply this model at international level, at least in the next few years. So the second alternative is likely to have more of a future. Graham and Richardson, therefore, suggest two possibilities: the first is that the WTO uses its settlement of disputes procedure and consultation system to coordinate unilateral action of different countries; the second is that an agreement on trade-related anti-monopoly measures (TRAMS), equivalent to those for trade-related investment measures (TRIMS) and trade-related intellectual property rights (TRIPS), is signed by WTO members. This would provide a mechanism for dealing with situations of monopoly, cartelization, discrimination, unfair trade agreements, etc. that go beyond national markets.

Finally, the size and multinational nature of some companies raises the question of their problematic relations with governments. Economists are divided on this issue. For some, such as Vernon (1971), multinationals may be able to dominate governments, both in their home and host countries, but he sees this as beneficial because these countries are more than compensated by the enormous gains in welfare and other benefits to their economies. The opposite position is taken by Barnett and Muller (1974) and Tolchin and Tolchin (1998, 1992), who see these companies as a threat to society against which governments are impotent, that have perverse effects especially on host countries. Others such as Gilpin (1975) think they are the imperialist or mercantilist instruments of their home governments. Finally, others such as Bergsten, Horst, and Moran (1978) believe that they have virtually no effects on their home countries and usually come to mutually beneficial agreements with host governments to maximize profits, taxation, employment, and exports for both sides. It is difficult to say who is right in this debate because there have in fact been examples of behavior by multinationals that support each position. However the latter position seems the most reasonable. Multinationals and governments need each other and usually come to an agreed solution that avoids either side losing out. They agree on a situation in which the company maximizes a reasonable level of profit and the government maximizes its fiscal revenue and the firm's contribution to generating economic activity and employment. Game theory is very useful for finding this sort of solution.

The best solution, however, as Graham (1996) suggests, is for governments to cooperate in finding a constructive way of regulating these companies, through the relevant international organization (WTO, OECD) or through regional integration authorities (European Union, NAFTA, Mercosur, APEC, etc.).

In conclusion we can see that by widening markets and increasing competition, globalization creates huge opportunities for the development of companies and the countries in which they are located, as well as huge challenges of adjustment and transformation, for them to be able cope with a much more competitive world.

Only those companies and countries able to meet these challenges will be the winners in this new situation and will be able to exploit the tremendous opportunities that globalization is offering. This will be the

great challenge to business in the twenty-first century. The internationalization and globalization of firms will help the countries where they originate and those they move to, bringing investment, knowledge, and technology.

In this process there are undoubtedly dangers concerning size, the formation of oligopolies and monopolies, difficulties in controlling the behavior of large multinational companies, and, finally, in safeguarding competition. These problems will have to be resolved through greater coordination and cooperation between governments, and through supranational institutions, to minimize the possibility of abuses of power and the infringement of competition, and ensure that the positive aspects that the internationalization or globalization of firms undoubtedly has for all countries, are enjoyed.

We have to get used to the fact that, thanks to the globalization process, companies rather than states will be the leading actors in the world economy. However, states still have the regulatory power to ensure that this process is a success and minimize its possible adverse effects on competition.