

Foreign Direct Investment and Intra-Firm Trade

10

Perhaps the most prominent European forest and paper products company is the Swedish firm Svenska Cellulosa Anktiebolaget (SCA). SCA was founded in 1929 through a merger of a number of smaller companies, some of them in existence since the seventeenth century. SCA always had a role in the world economy in that it exported the bulk of the wood pulp it produced. The decade of the 1950s saw one significant change for SCA in the form of downstream vertical integration into newsprint and liner production.¹ The 1960s saw a second significant change in the form of international production via foreign direct investment (FDI) in Denmark, France, Spain, and Germany. This international production has continued to expand since the 1960s, and SCA now operates in 40 countries.

In this chapter, you will see how to make sense of both domestic vertical integration and FDI within the common framework of a value chain, using SCA as an example. The value chain analysis will draw upon two other concepts that are important in the field of corporate strategy: firm-specific assets and internalization. You will also see how to generalize the value chain concept to that of a multinational value network. We will use the multinational value network to understand a well-known framework in the theory of the multinational enterprise (MNE) known as the OLI (ownership, location, internalization) framework. We will also use it to understand the phenomenon of intra-firm trade. Recall from Chapter 1 that approximately one-third of world trade takes place within MNEs. In concluding this chapter, you will understand why such trade arises.

One interesting aspect of SCA's globalization strategy is its involvement in the use of recycled fibers. This is significant from an industrial ecology perspective, but it also allows us to appreciate some of the dynamics of what we referred to in Chapter 9 as the resource seeking motivation for international production. You will be introduced to this aspect of SCA's internationalization as well. Keep in mind, though, that market seeking and strategic asset seeking have also been operative as motivations for SCA.

¹ In the forest and paper products industry, the term "liner" or "linerboard" refers to a form of containerboard used to make corrugated containers. "Kraftliner" is the stronger form of liner, and it is made from virgin wood fibers. "Testliner" is the weaker form of liner, and it is made from recycled fibers.

Value Chains, Intangible Assets, and Internalization

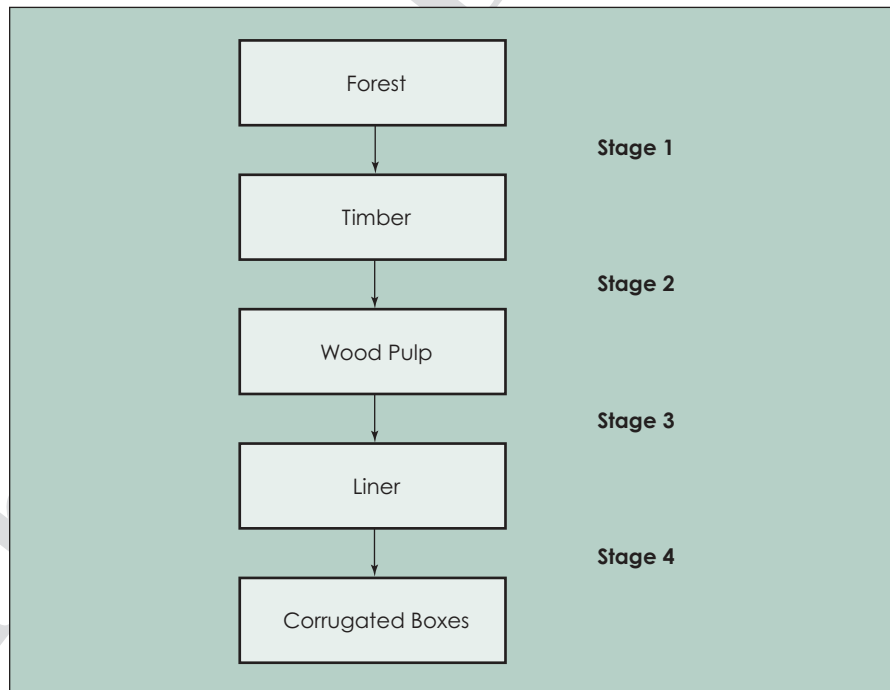
Value chain

A series of value-added processes involved in the production of a good or service.

In his 1990 book, *The Competitive Advantage of Nations*, the corporate strategist Michael Porter formalized a concept known as the **value chain**.² We are going to build on this concept to understand why MNEs choose to engage in foreign direct investment. Our example will be the Swedish forest and paper products firm SCA. A simplified version of SCA's value chain is depicted in Figure 10.1. SCA's final product consists of corrugated boxes, which now composes a very large part of the firm's production. Corrugated boxes are produced in a 4-stage production process. In the first stage, a primary resource, the forest, is transformed into a first intermediate product, timber, via logging. In the second stage, timber is transformed into a second intermediate product, wood pulp, through a milling process. In the third stage, pulp is transformed into liner, and in a final stage, liner is transformed into the final product, corrugated boxes. At each stage of the production process, value is added. Hence the term *value chain*.

To begin your understanding of vertical integration, imagine that SCA is initially specializing in timber and pulp production, selling its pulp to paper producers. This describes SCA before the 1950s. That SCA was a competitive pulp producer was evidenced by its exports. What might have explained this competitive success? Corporate strategists typically point

Figure 10.1 SCA's Value Chain in Sweden



² See Chapter 2 of Porter (1990).

to the role of **firm-specific assets** in generating the competitiveness of firms. These firm-specific assets can either be tangible, such as access to forest resources, or intangible, such as specialized knowledge, patented products or processes, organizational abilities, or brand distinctiveness.³ In the case of SCA, the value of firm-specific assets became apparent in the early 1950s as the firm reduced the number of pulp mills in use while increasing overall output through various types of efficiency gains. This process resulted in SCA becoming Sweden's largest forestry company by the end of the 1960s.

A major change in SCA's strategy and structure occurred in the late 1950s. The firm engaged in a process of forward integration into liner production with the introduction of a new mill to produce this product in Sweden. In making this change, SCA entered into competition with U.S.-based liner producers but, importantly from its point of view, not into competition with any of its pulp consumers. Why did SCA make this move? One answer, typically given by corporate strategists analyzing vertical integration, is that SCA might experience an *efficiency gain* by spreading the costs incurred in acquiring its firm-specific assets (both tangible and intangible) over more value chain stages. These efficiency gains are known as **firm-level economies**.⁴ This explanation appears to be relevant to the SCA case. As Nilsson (1996) suggested, integrated pulp and liner production displays significant "integration economies" over nonintegrated liner production. SCA could therefore use these integration economies to help it compete with U.S.-produced liner in the Swedish and European markets without antagonizing its pulp consumers.

The concept of firm-level economies is very helpful. However, it is not, in general, sufficient to explain the integration process. Why? SCA always had the option (discussed in Chapter 9) of licensing its firm-specific assets to other liner producers. That is, SCA could draw up a contract to rent its assets to a liner firm for a specific period of time in return for which it would receive payment. Therefore, part of the explanation of forward or backward integration must answer the question: Why did SCA choose not to exercise the licensing option? Or, to state it another way: Why did SCA choose not to engage in a market transaction for its assets, but rather chose to internalize this asset market, a process that corporate strategists call **internalization**?

Corporate strategists suggest that a firm's decision to internalize the firm-specific asset market reflects market failure. That is, for a number of reasons, it has difficulty in selling its firm-specific assets. This explanation makes sense, and it is particularly relevant for the case in intangible assets. This market failure can occur for a number of different reasons. In the case of tangible assets, such as specific production techniques, SCA or any other firm might be reluctant to incur the dissemination risk we discussed in Chapter 9. In the case of intangible assets, such as management practices or reputation, it might be the case that the assets are inseparable

Firm-specific assets

Capabilities and resources possessed by a firm that contribute to its sustained competitiveness. They can be tangible or intangible.

Firm-level economies

Economies accruing to a firm from spreading the cost of intangible assets over larger numbers of production facilities, including production facilities in more than one country.

Internalization

The process of taking a transaction along a value chain and bringing it within a firm.

³ Caves (1996) provides a description of the role of intangible assets in MNEs.

⁴ The concept of firm-level economies is discussed by Markusen (1995).

Intangible Assets: Team Toyota in Kentucky

In 1985, Toyota Motor Manufacturing (TMM) announced that it would begin to produce the Toyota Camry at a new plant in North America. The chosen location was Georgetown, Kentucky, and a new subsidiary was formed, Toyota Motor Manufacturing Kentucky (TMMK). Production began in 1988 and, by the end of 2002, the plant had produced 5 million Camry vehicles. Early in the planning process of this FDI project, Toyota identified its key intangible asset: an organizational culture based on team membership. According to TMMK, the Georgetown plant maintains quality by encouraging team members to take an active role in quality control, utilizing team members' ideas and opinions, and practicing *kaizen*, the striving for constant improvement. In TMMK's words: "Toyota team members treat the next person on the production line as their customer and will not pass a defective part to that customer. If a team member finds a problem with a part or the automobile, the team members stops the line and corrects the problem before the vehicle goes any farther down the line."

According to Besser (1996), the team concept at TMMK takes place at three levels: the work team, the company team (TMMK), and the corporate team. The last of these, the corporate team, "includes all members of the Toyota corporation, including, but not limited to, manufactures in the United States and Japan, their suppliers, various other subsidiaries, and the semi-independent marketing and sales corporations affiliated with the corporation" (p. 51).

from the firm's human resources or organization. How do you license reputation? Such market failures are what led SCA to internalize the Stage 3 market in Figure 10.1 via forward integration into liner production. One example of an intangible asset is given in the box.

Now that you understand the concepts of a value chain, firm-specific assets, and internalization, we can turn towards an explanation of FDI, the central issue of this chapter.

Multinational Value Networks and Foreign Direct Investment

It is now time to add the multinational component to our analysis. Consider SCA engaging in Stages 1, 2, and 3, producing timber, wood pulp, and liner in its home country, Sweden. We will introduce the multinational aspect of the problem by considering two value chains: one in Sweden and one in France. These are depicted in Figure 10.2. We will refer to the combination of these two value chains as a **multinational value network**, although in practice, more than two countries are usually involved. Now, along with the options of backward and forward integration along its value chain in Sweden, SCA has a set of additional options in France. The following paragraph encapsulates SCA's thinking in the early 1960s:

With the development of SCA's kraftliner mill in Munksund (Sweden), the company was forced to build up a marketing organization which would be able to work with the box plants in Europe's more densely populated areas.

Multinational value network

A collection of value chains in a number of countries.

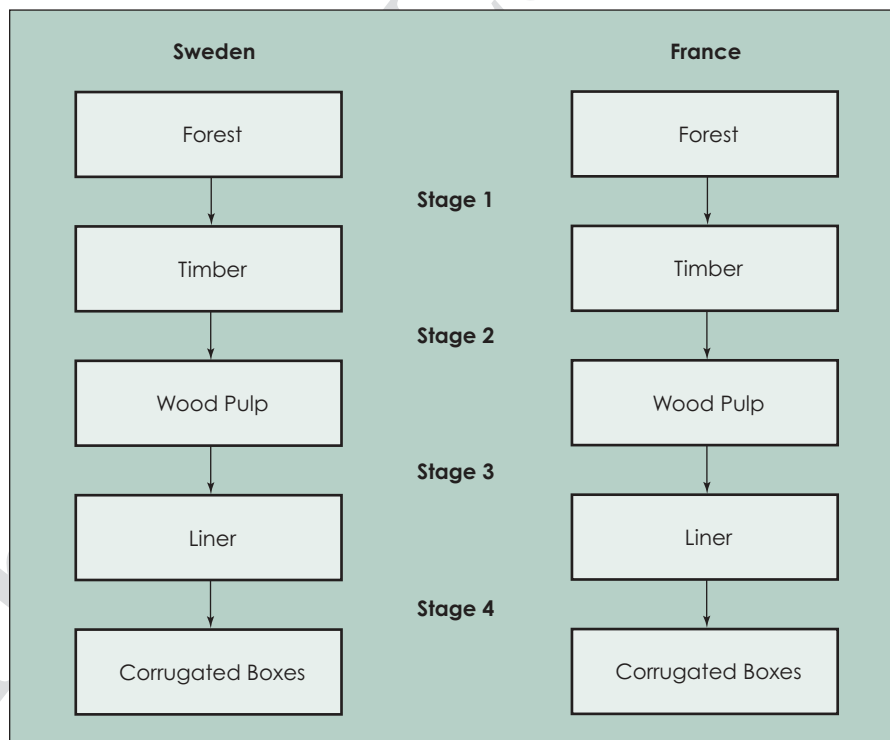
Thorough hiring processes ensure that TMMK employs only those that can be good team members. The company expects total, long-term commitment. In return, the company makes a long-term commitment to team members.

One former team member quoted by Besser (1996) commented: "You'll be expected to kill yourself for Toyota and you'll be paid a decent living wage. If you can take it, you'll be taken care of for the rest of your life. When they say you start at 6:30, they don't mean 6:31. You start at 6:30 and you kill yourself for two hours, take a 10-minute break and kill yourself for two more hours. So if someone wants to do that in exchange for the money and security, go for it" (p. 47). Many local workers have, but a significant number have also left the company, complaining of "slave labor" and "management by stress."

Despite such complaints, TMMK's Georgetown plant has become a manufacturing wonder, acquiring a long series of manufacturing quality awards. It is an example of the most advanced sort of FDI taking place in the world economy that reflects some of the concepts we have discussed in this chapter. TMMK also contributes significantly to the 6 percent of the Kentucky workforce dependent on the automobile sector.

Sources: Besser (1996) and <http://www.toyotageorgetown.com>

Figure 10.2 SCA's Multinational Value Network in Sweden and France

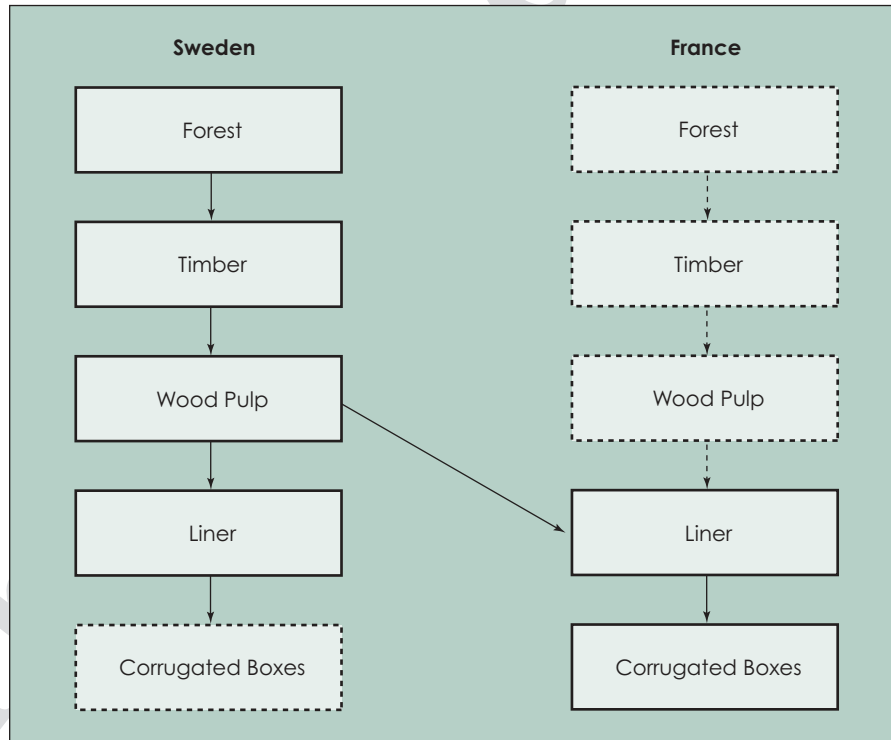


The question of how to secure the markets for kraftliner then arose within the company. A committee within the company arrived at the conclusion that 80% of the box plants were integrated with their liner mills. . . . The conclusion reached by the company was that there existed no option except the purchase of European box plants if it was to secure a market for its products (Nilsson, 1996, pp. 135–136).

This strategic thinking motivated SCA to engage in FDI in France by acquiring three box plants from its largest French pulp customer.⁵ In terms of Figure 10.2, SCA engaged in forward vertical integration into France, internationally internalizing the Stage 3 and Stage 4 markets. The important point that you must understand is that, more generally, any firm faces the strategic decision: Which processes in which country will it take on? Whenever a firm decides to operate processes in more than one country, it becomes an MNE. In making such a decision, the elements of firm-specific assets, firm-level economies, and internalization will all be present, just as we discussed in the previous section.

To make this discussion more clear, we depict SCA's multinational value network once again in Figure 10.3. In this figure, we indicate those activities where SCA was active with solid boxes and those activities

Figure 10.3 SCA's Multinational Value Network After FDI in France



⁵ SCA engaged in similar actions in Denmark and Spain, but the French acquisitions were its most important.

where SCA was not active in dashed boxes. The arrow between wood pulp produced in Sweden and liner produced in France is very significant. This represents SCA's exports of wood pulp to France. It is important to note something about this trade flow. Before SCA's acquisition of its French pulp customer, this was an arm's-length transaction between two firms. The term "arm's-length" refers to a transaction between two otherwise unrelated parties. After SCA's FDI in France, however, the trade flow took place *within SCA itself*. This type of trade is called **intra-firm trade**.⁶

Intra-firm trade
Trade that takes place within a multinational enterprise.

The FDI depicted in Figure 10.3 is known as *forward vertical FDI* because the FDI links wood pulp production in Sweden to the next stage in the value chain, liner production, in France. If, instead, SCA had sourced timber in France for its wood pulp production in Sweden (not likely!), this would be a case of *backward vertical FDI*. Finally, if SCA only engaged in wood pulp production in France, without any intra-firm trade, this would be an example of *horizontal FDI*.

Recall that, in Chapter 4, we made an important distinction between inter-industry trade and intra-industry trade. We now have also distinguished between inter-firm trade and intra-firm trade. Things are becoming a bit complicated! To help you sort all this out, consult Table 10.1. This table characterizes international trade along two dimensions: industry and firm. Along the industry dimension (rows), it distinguishes between inter-industry and intra-industry. Along the firm dimension (columns), it distinguishes between inter-firm and intra-firm. This gives us four cells in the table. Down the inter-firm column of Table 10.1, we have the types of trade considered in Chapters 3 and 4 of Part 1 of this book, that is, inter-firm trade that can be either between or within industries. Down the intra-firm column of the table, we have the types of trade considered in this chapter, that is, intra-firm trade that can take place either between or within industries. Consider Figure 10.3. Given an industry classification of

Table 10.1 Industry and Firm Dimensions of Trade

Industry Dimension	Firm Dimension	
	Inter-firm	Intra-firm
Inter-industry	Trade that takes place between two different industries and two different firms. Described in Chapter 3.	Trade that takes place between two different industries and within a single firm. Described in Chapter 10.
Intra-industry	Type of trade that takes place within a single industry and between two different firms. Described in Chapter 4.	Trade that takes place within a single industry and within a single firm. Described in Chapter 10.

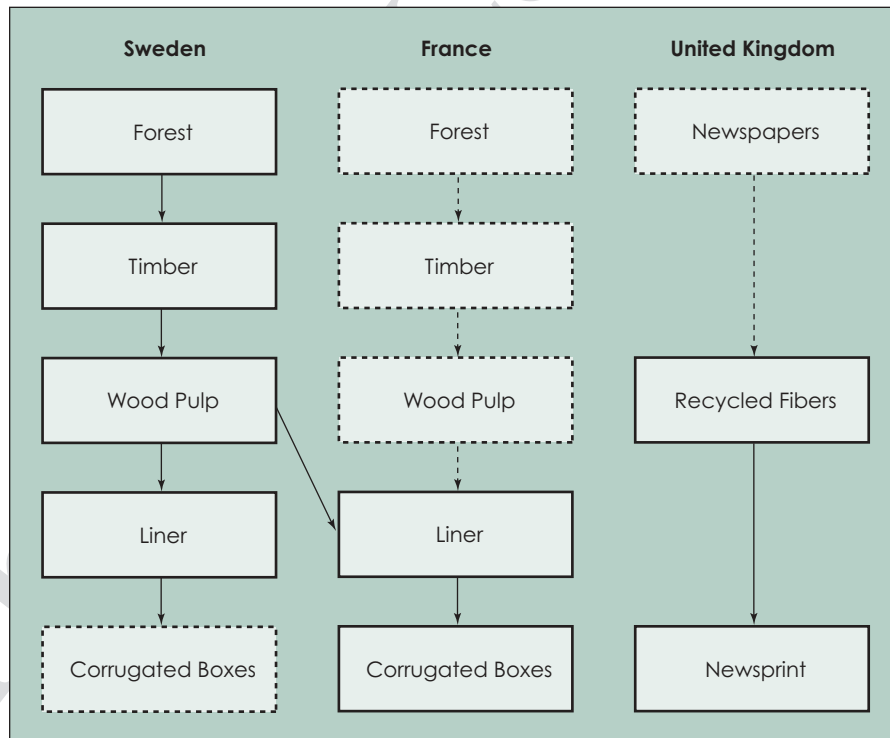
⁶ The role of intra-firm trade in the world economy is explored in some detail in Chapter 4 of Grimwade (1989).

“forest and paper products,” the trade depicted there would be intra-firm and intra-industry. However, if we distinguish between “forest products” and “paper products” as two separate industries, the trade depicted there would be intra-firm and inter-industry. This gives you an appreciation of how the degree of detail in industry classification determines the extent of inter-industry and intra-industry trade.

SCA viewed its French FDI strategy positively, and it became a model for its internationalization throughout Western Europe. By the end of the 1970s, SCA either owned or part-owned liner and box factories in France, Germany, the United Kingdom, Ireland, and Denmark. By the end of the 1980s, it added factories in Belgium, the Netherlands, and Italy. SCA now owns approximately 50 liner and box factories outside of Sweden.⁷

Today, SCA is also Europe’s largest user of recycled paper, and this characteristic is also closely related to its internationalization strategy. The genesis of its involvement in recycling came in 1990 when SCA purchased the U.K.-based firm Reedpack. Reedpack operated a recycled-fiber newsprint mill and, with the purchase of this firm, SCA added a completely different value chain to its already-existing multinational value network. Importantly, this new value chain excluded the forest/pulp components of its historical value chain. This new value chain is depicted in Figure 10.4.

Figure 10.4 SCA’s Current Multinational Value Network



⁷ See Nilsson (1996).

Nilsson (1996) comments that, during the 1990s, the forest products industry was:

altered somewhat by the increased importance of recycled fibres as a raw material. Recycled fibres has become a sort of “urban forest” which grows best in densely populated urban centers such as southeast England, Paris, Randstaat and the Ruhr area, with Scandinavia producing relatively little. It is therefore economically advantageous to locate production units in the densely populated areas outside Sweden. . . . The pattern [that] seems to be appearing is that Swedish production is becoming of higher quality based on virgin fibres, while the companies are expanding recycled operations on the continent and in Britain (p. 142).

This makes it clear that the patterns of FDI can become complex and somewhat unrelated to the structure of the original, home-country value chain.

Like its FDI in liner and box production, SCA's recycled newsprint FDI strategy proved to be important. Indeed, in 1994, SCA followed its Reedpack acquisition with a joint venture with the European subsidiary of Mondi Paper (a South African firm) to build another newspaper recycling plant in Aylesford, United Kingdom. This plant is now one of the leading newspaper recycling facilities in the United Kingdom.⁸

Although much of international economics focuses on international trade, FDI is a crucial component of the modern world economy. The box gives you some additional information on where this FDI takes place in the world economy. In order to understand the process of FDI, we need to venture beyond standard international economics into the realm of corporate strategy. The tools of value chains, intangible assets, and internalization can provide insights into this important global process. These tools also allow us to see that there are reasons for trade in intermediate products within multinational value networks. Such trade may have slightly different implications for welfare and income distribution than those we spoke of in Part 1 of this book. For example, trade in intermediate products within value chains might increase production efficiency, providing additional benefits to the countries involved. Here, the realms of corporate strategy and standard trade theory can mutually support our understanding of the world economy.⁹

The OLI Framework

If SCA decides to engage in FDI in France, it most certainly will be at a disadvantage in some important areas *vis-à-vis* French firms. SCA will have to incur the additional costs of operating its business internationally, including increased transportation, communication, and coordination costs. Therefore, if SCA is able to successfully engage in business in France, there must be some other advantages that offset the additional costs of conducting business internationally.¹⁰ John Dunning (1993) outlines three basic

⁸ See the Aylesford Newsprint Web site at <http://www.aylesford-newsprint.co.uk>.

⁹ See Feenstra (1998) for a discussion of these issues. We explore some negative welfare possibilities of intra-firm trade (e.g. transfer pricing) in Chapter 21 on hosting MNEs.

¹⁰ This insight was originally due to Hymer (1976) who, it can be argued, originated the modern, firm-based analysis of the MNE.

Where Does the FDI Go?

We have considered the motivations of firms to engage in FDI and the considerations that arise in taking on a FDI-based, foreign market entry strategy. As individual entities, firms around the world take on these sets of considerations and, in many instances, actually engage in FDI. One question that arises at a more macroeconomic level is: Where are these countries investing? Let's take a brief look at the answer to this question. The figures we cite here are for the year 1998.

Despite the stereotype of FDI being primarily motivated by the cheap-wage version of resource seeking, approximately 70 percent of FDI actually flows into developed, or high-income countries. The largest destination of FDI in this category is the European Union, which hosts approximately 35 percent of world FDI. The second-largest destination is the United States, which hosts approximately 30 percent. Japan receives almost no FDI at all.

Approximately 30 percent of FDI flows to the developing countries and Central and Eastern Europe. South, East, and Southeast Asia host the largest portion of this (approximately 12 percent). Latin America hosts the second-largest portion (approximately 11 percent). Only 1 percent of world FDI takes place in Africa.

What determines the structure of FDI inflows? In the realm of market seeking, the key variable is the rate of growth of country and regional economies. This helps to explain the prominent role of the developed world as a host of FDI. In the realm of resource seeking, the presence of raw materials, either low-cost or skilled labor, and physical infrastructure matter a great deal. In the realm of efficiency seeking, the presence of regional integration schemes, discussed in Chapter 8, is very important. These assist MNEs in building regional corporate networks.

Source: United Nations Conference on Trade and Development.

advantages: ownership or *O* advantages; location or *L* advantages; and internalization or *I* advantages.¹¹ Ownership or *O* advantages refer to ownership of tangible or intangible firm-specific assets SCA owns, which provide it with a competitive edge over French firms. As summarized by Markusen (1995), "Whatever its form, the ownership advantage confers some valuable market power or cost advantage on the firm sufficient to outweigh the disadvantage of doing business abroad" (p. 173). In deploying these assets over a larger range of activities, SCA can realize cost advantages over its rivals through firm-level economies. The theoretical role of the *O* advantage is to explain why SCA engages in the production of a good for the French market instead of a French firm. More generally, its purpose is to explain why a firm from a particular home country engages in the production of a good in a foreign country instead of a foreign firm.

Location or *L* advantages are associated with the foreign country, France. The *L* advantages could include input costs, transportation costs, import restraints, foreign government promotional policies, or access to foreign consumers. *L* advantages often closely relate to the first two motivations for

¹¹See Dunning (1993) and Markusen (1995).

international production discussed in Chapter 9: resource seeking and market seeking. The theoretical role of the *L* advantage is to explain why SCA chooses to produce in France rather than in Sweden. More generally, it explains why a home country MNE chooses to produce in a foreign country rather than its home base. Together, the *O* and *L* advantages are enough to explain why SCA, rather than a French firm, controls production and why this production takes place in France rather than in Sweden.

Finally, as you saw in the previous section, internalization or *I* advantages explain why SCA chooses FDI over the licensing option. The failure of markets in firm-specific assets is key to understanding *I* advantages. Internalization advantages often relate to the efficiency seeking motivation for international production discussed in Chapter 9. According to Dunning, all three advantages, ownership, location, and internalization, are necessary to explain MNE activity.¹² The **OLI framework** is summarized in Table 10.2.

OLI framework
A theory of the multinational enterprise based on ownership, location, and internalization advantages.

Table 10.2 The OLI Framework

Symbol	Meaning	Contribution
O	Ownership advantage	Explains how a firm's tangible and intangible assets help it to overcome the extra costs of doing business internationally; explains why a home-country firm, rather than a foreign firm, produces in the foreign country
L	Location advantage	Explains why a home-based MNE chooses to produce in a foreign country rather than in its home country
I	Internalization advantage	Explains why a home-based MNE chooses FDI rather than licensing to achieve production in a foreign country

Source: Adapted from Dunning, J. H. (1993). *Multinational Enterprises and the Global Economy*. New York: Addison-Wesley.

¹²For a critique of the OLI framework, see Itaki (1991).

Conclusion



Approximately one-third of world trade is intra-firm trade, taking place within MNEs. This trade takes place along value chains, and the OLI framework helps us to understand it. Firms offset the extra costs of doing business internationally through their tangible or intangible assets, which provide ownership advantages to them. They choose to operate abroad because various foreign countries offer location advantages. Finally, they choose investment modes of foreign market entry over contractual modes because there are advantages to internalization. These advantages include but also go beyond the dissemination risk

we discussed in Chapter 9. When all three advantages are present, firms have the incentive to engage in FDI and intra-firm trade.

The presence of OLI advantages does not remove *all* difficulties of operating a firm internationally. We take up some of these management challenges in Chapter 11.

Review Exercises



1. Choose any production process of interest to you. Both merchandise and services are appropriate. Draw a value chain for this production process.
2. For this production process, choose two countries. Place the value chains for these two countries side by side. Show how FDI in the second country by a firm based in the first country can be depicted for the cases of horizontal FDI, backward vertical FDI, and forward vertical FDI.
3. For each of ownership advantages, location advantages, and internalization advantages, state how it helps you to understand why firms engage in FDI rather than trade or contractual modes of foreign market entry.
4. The Web site <http://www.developmentgateway.org> maintains a list of topics that includes FDI. Spend a little time exploring the many subtopics on the FDI topic page. You can get to the FDI topic page from the main page via a drop-down menu.

Further Reading and Web Resources



An excellent introduction to corporate strategy is Besanko, Dranove, and Shanley (2000). The concept of a value chain is explained in Chapter 2 of Porter (1990). The OLI framework is discussed in Chapter 4 of Dunning (1993) and in Markusen (1995). Connections between the discussion of this chapter and Part 1 of this book are explored in Feenstra (1998).

The United Nations Conference on Trade and Development is an organization that has dedicated itself to the analysis of FDI and its role in economic development. Their Web site is <http://www.unctad.org>. Of particular interest is their annual *World Investment Report*, which is highlighted at <http://www.unctad.org/wir>. Also relevant is the Web site of UNCTAD's Division of Investment, Technology and Enterprise Development at <http://www.unctad.org/en/subsites/dite/index.html>. An interesting IMF paper entitled "Trends in Global and Regional Foreign Direct Investment Flows" can be found at <http://www.imf.org/external/pubs/ft/seminar/2002/fdi/eng/pdf/wong.pdf>.

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