Foreign Direct Investment and the Multinational Enterprise

edited by Steven Brakman and Harry Garretsen

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Foreign Direct Investment and the Multinational Enterprise: An Introduction

Steven Brakman and Harry Garretsen

1.1 Introduction

One of the stylized facts about today's world economy is the importance of foreign direct investment (FDI). Figure 1.1 compares the growth of world gross domestic product (GDP), world trade, and FDI.

What is particularly striking about this figure is that from 1990 onward, FDI grows far more rapidly than world GDP and world trade. The sharp decline of FDI growth around 2000 corresponds to the worldwide fall of share prices that not only ended all speculation about the wonders of the new economy but also signaled a (temporary) halt to cross-border mergers and acquisitions, one of the main vehicles for FDI. Figure 1.1 is just one example of the importance of FDI. Similar bursts of rapid FDI growth occured in earlier periods (Eichengreen 2003, Obstfeld and Taylor 2003), and it might be expected that such a salient characteristic of the world economy would have been closely scrutinized by theoreticians and empirical researchers alike. It also seems reasonable to suppose that by now, a vast amount of literature that focuses on FDI—its causes and consequences—would exist. Until quite recently, however, this was not the case. The reason is that it is far from trivial to formalize and analyze FDI and its determinants.

The standard theories of international trade—in the absence of trade costs—have no need for international factor mobility and so do not encompass FDI. In the neoclassical view of the world, factor price equalization (FPE) removes all incentives for international factor mobility. Indeed, in Heckscher-Ohlin-Samuelson (HOS) types of trade models, trade and factor mobility are perfect substitutes. In the transition period toward a new equilibrium, both trade and factor mobility are equally capable of restoring FPE. The literature traditionally focuses
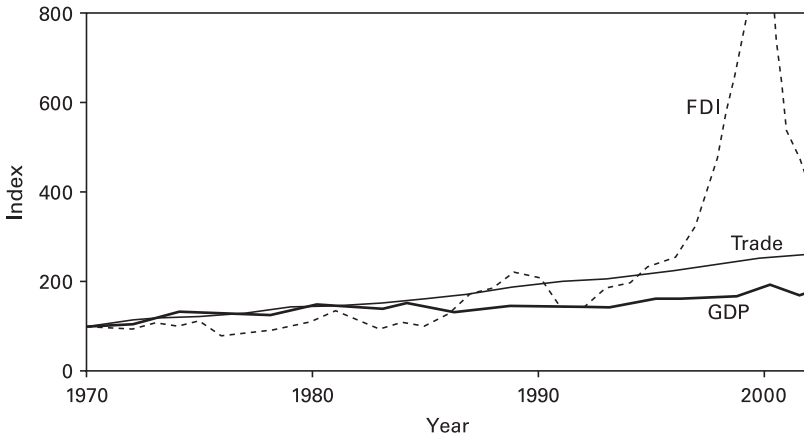
Figure 1.1
Growth of world GDP, FDI, and trade
Note: 1970 = 100.
Source: World Bank (2004).

on the trade channel as the means of restoring equilibrium, because
(final) goods are assumed to be more mobile than factors of produc-
tion. Similarly, in situations where a market distortion is present—for
example, a tariff resulting in a failure of FPE—trade and capital flows
are substitutes in the sense that capital inflow eliminates trade (Mun-
dell 1957). Figure 1.1 suggests, however, that this may not be the case:
FDI growth mirrors the growth of international trade, even though FDI
grows much faster than trade.[1] This implies that the HOS trade model
will not do and that alternative theoretical explanations are required to
explain FDI and the presence of multinational enterprises (MNEs).

Becoming an MNE has obvious disadvantages: the need to set up a
foreign plant or a sales network, to try to overcome cultural and legal
differences, to bear the risk of expropriation, and, of course, exchange
rate risks. Models that explain the existence of MNEs must highlight
the potential benefits of production in foreign markets and show that
these are larger than, for instance, the costs of setting up a plant in
a foreign market. An early attempt to do so is the so-called OLI
approach of Dunning (1977). The *O* refers to ownership advantage. A
firm must have a product or asset that is uniquely associated with this
firm because of a patent, a brand name, a special production process,
or some other characteristic unique to it. This provides the firm with
market power since it supplies a product that is different from others

in the market. The *L* refers to location advantages. Instead of exporting, a MNE chooses instead to produce in a foreign country because it is more profitable. The additional profits come from the fact that by setting up a foreign plant, the firm is able to avoid barriers to trade, like tariffs or transportation costs, which reduce competitiveness should the firm choose to export. A different location-related motive for FDI is to benefit from lower factor costs in foreign markets. The *I* refers to the internalization advantage. It recognizes that even if the *O* and the *L* conditions are satisfied, a firm does not necessarily need to set up a foreign plant. It may simply choose to license a foreign firm to produce, that is, it might outsource part of its production. However, this could reduce long-run profits if the foreign partner decides to defect on the original arrangement and start for itself (after gaining knowledge of the production process). In-house production reduces these risks. Assuming that the location issue has been solved and the firm opts for foreign production, the internalization issue is basically about whether this foreign production should be in the form of FDI or outsourcing.

Although interesting, Dunning's approach is more an organizing framework than a model. It is useful because it identifies elements that should be the ingredients for any full-fledged model of the MNE and FDI, such as imperfect competition (the *O* of OLI), barriers to trade like transportation costs (the *L* of OLI), and internalization aspects (the *I* of OLI). The seminal contribution of Dixit and Stiglitz (1977), which provides an elegant and tractable way of incorporating these elements in a formal model, paved the way for the recent burst of MNE and FDI research activity in the field of international economics. The development of the modern theory of MNEs resembles the development of other trade (related) theories, like the new trade theory and the new economic geography, where the workhorse model of Dixit and Stiglitz (1977) proved to be important as well because of the need to model imperfect competition. The elegant formalization provided by the Dixit-Stiglitz model allows the analysis of increasing returns, imperfect competition, and product differentiation, elements that are crucial to understanding intraindustry trade. The addition of transportation costs in this model leads to the famous home market effect, which is fundamental to the explanation of agglomeration (see the contributions in Brakman and Heijdra 2004).

Helpman (1984) is one of the first attempts to apply the Dixit-Stiglitz framework to MNEs. It is a two factor of production model with monopolistic competition in the sector that can potentially locate

headquarters activities in a different country from where production is carried out. In this model, it is assumed that headquarter services and production are characterized by different factor intensities. This gives rise to multinational behavior if headquarters and production can be separated. As usual in a three-commodity, two-factor model, the trade pattern is ambiguous, because many trade patterns are consistent with full employment. Allowing multinational behavior also implies that the employment of resources by a country might differ from its endowments, indicating that the so-called factor-price-equalization set is larger in the case of multinational production than in a world without MNEs. Helpman's model applies to vertical FDI—production is located in only one country. Horizontal FDI is not possible by assumption, which is a serious drawback of the model, as most FDI is in the form of horizontal FDI. Furthermore, the bulk of FDI is between developed countries, implying that FDI is mostly market seeking rather than factor-cost seeking (Markusen 2002).

The integration of imperfect competition and horizontal FDI was the central element of the research program Markusen started in the 1980s and is summarized in Markusen (2002). If a firm decides to set up two plants in different countries and each plant sells to only the local market, a critical element is transportation costs. A firm has an incentive to become multinational if the additional costs of setting up a foreign subsidiary—the plant-specific fixed costs—are offset by avoiding costs associated with barriers to trade. This implies that transportation or trade costs become an essential element of these models. The most general model in Markusen (2002), called the *knowledge-capital model*, combines both vertical and horizontal multinational behavior at the same time. Not surprisingly, given the prevalence of horizontal FDI in the data, tests of the knowledge-capital model reveal that the horizontal FDI model is empirically more relevant than the vertical FDI model (Carr, Markusen, and Maskus 2001).

These two examples of FDI and MNE modeling by Helpman and Markusen have been important for the development of modern MNE theory, but neither of these two approaches considers the question why the foreign plant has to be internalized (the *I* of the OLI approach) and why outsourcing will not do. Alternatives to full ownership are, for example, a joint venture or licensing to a foreign firm. The basic question is thus whether to insource or outsource. The existence of market failures implies that this is a nontrivial decision for the firm to make. The topic goes back to Coase (1937) and was elaborated by Wil-

liamson (1975, 1985). A few issues stand out: the hold-up problem, the asset specificity problem, the principal-agent problem (whether it can be expected that a foreign agent reveals the true nature of the foreign market), and various matching problems (see Rauch 2001 for the latter). The recent literature now also addresses these problems (Helpman 2006).

Although this introduction is far from complete, it sketches the background against which the chapters in this book were written. The book consists of two parts. In the chapters in part I, "Theory," the modern theory on FDI and MNE as outlined above is taken as a starting point, and the common denominator is to show how the basic framework of this theory could or should be extended. In the second part of this book, "Empirics," several of the empirical hypotheses concerning the determinants and effects of FDI associated with the modern theory of FDI and MNEs are tested.

1.2 Part I: Theory

In the chapter 2, Neary identifies an empirical puzzle that he solves theoretically. As noted, horizontal FDI is more prevalent than vertical FDI. And remarkably, the increased integration of the European Union (EU)—or ongoing globalization for that matter—continues hand-in-hand with ever increasing FDI. This is puzzling because according to theory, a decrease of FDI is expected: a fall in trade costs should be accompanied by a decrease in horizontal FDI. Neary suggests two solutions for this puzzle. The first is the existence of hubs or export platforms for FDI. Foreign firms still jump over trade barriers to gain access to an integrated market that has low internal trade costs, markets like the EU, and will select a host country from where they will export goods to the rest of that market. The second solution to the puzzle comes from the application of his so-called GOLE (General OLigopolistic Equilibrium) model. In a series of papers, Neary has developed a model that, unlike the Dixit and Stiglitz (1977) framework, allows strategic interaction between firms within a general equilibrium framework (see Neary 2003, 2007, 2004). Interestingly, this model implies that increased integration leads to cross-border mergers and acquisitions. And since most horizontal FDI takes place through cross-border mergers and acquisitions, this does offer a solution to the puzzle. In this approach, Neary addresses the O of the OLI framework. In chapter

3, Hoffman and Markusen extend the modern MNE literature by explicitly combining Markusen's (2002) knowledge-capital model with elements of the new economic geography approach, and thereby deal explicitly with the L of the OLI framework. The authors focus on the effects of investment liberalization and find, using simulation experiments, that over a wide range of parameters, headquarters tend to agglomerate but plants tend to spread. Headquarters become more concentrated in countries that are relatively well endowed with skilled labor or countries that are large. The increased spread of plants alters the general conclusion of new economic geography models—that the symmetric or spreading equilibrium is unstable for a wide range of parameter settings, since spreading now becomes the stable equilibrium. The I of the OLI approach is addressed in chapter 4 by Naghavi and Ottaviano. Innovation does not take place in isolation; it is a global phenomenon. The central idea is that while outsourcing increases transaction costs, it also lowers the costs of governance. In this chapter, the static framework of Grossman and Helpman (2002) is reformulated as a dynamic framework. Naghavi and Ottaviano show that product innovation and matching probability are strongly interrelated.

The final three chapters in part I take a closer look at issues that surround FDI: tax competition, how to avoid taxes, and, last but not least, the general welfare consequences of factor mobility. Brakman, Garretsen, and van Marrewijk use a new economic geography model in chapter 5 to show that when the focus is not on government taxation but on government spending, a different conclusion may emerge compared to the traditional tax competition literature. In a new economic geography setting, it is not only the existence of an agglomeration rent that may prevent firms from relocating when the corporate tax rate is lower in other countries. A higher level of government spending can also help countries to attract mobile (footloose?) firms, despite relative high taxes. In their model, the provision of public goods fosters agglomeration. In chapter 6, Amerighi sets up a two-country oligopoly model where two MNEs compete on quantities and try to avoid taxation by using transfer prices. The two national governments have to simultaneously decide on both the corporate tax rate and enforcement policies. Amerighi shows that increased international ownership of the MNEs implies a race to the bottom in tax rates as well as enforcement policies, but that the lowering of trade costs ultimately, when trade costs have become very low, leads to an increase of the corporate tax rates and enforcement policies. Finally, Deardorff discusses in chapter 7 the welfare

effects of fragmentation, when production can be split into separate parts. Fragmentation can apply to both FDI and outsourcing. A main question for policymakers is what the gains from trade are from fragmentation. Deardorff shows that, similar to international trade in final goods, it is not hard to come up with examples where fragmentation hurts particular groups or even the whole world. Having said this, he then makes the case that it is most likely that fragmentation will increase world income. Therefore, when all is said and done, the policy conclusion is that any interference with the fragmentation process should be avoided.

1.3   Part II: Empirics

In the first contribution to the part II, Blonigen, Davies, Naughton, and Waddell extend in chapter 8 the existing empirical literature on the determinants of FDI by explicitly considering the effect of many parents. They use U.S. inbound FDI to show that FDI from different home countries in a given host actually compete for resources. Especially for the EU countries, this crowding-out effect is significant, and it is a forceful reminder that FDI cannot be studied in isolation as a bilateral transaction concerning only a single home and host country. Next, in chapter 9, Barba Navaretti and Castellani look at productivity effects of FDI for Italian MNEs. They address the difficult question of what would have happened to an MNE had it not invested abroad. Their findings for their sample of Italian firms suggest that becoming a MNE and facing additional competition raises total factor productivity. The implication of their findings suggests that wages increase. Surprisingly, however, this need not always be the case, as is shown in chapter 10 by Lorentowitz, Marin, and Raubold. They show that the common belief regarding outsourcing—that skilled workers gain from outsourcing in skill-abundant countries—is not necessarily true. For Austria, a skill-abundant country, they find that relative skill-intensive stages of the production process are outsourced. This reduces the skill premium on wages in Austria. For Poland the results are the opposite to those of Austria: Poland is outsourcing unskilled-intensive stages of the production process. Although the research focuses on only these two countries, the findings suggest that care should be taken before jumping to conclusions about the effects of outsourcing. Using a unique data set for individual firms covering almost 11,000 location choices during the period 1997–2002, chapter 11 by Defever closely

examines the location decisions of MNEs. The emphasis is on the location of MNE services' production in the enlarged EU. A main finding is that agglomeration or clustering effects of MNE activity arise at the sectoral level for production activities and at the functional level for service activities.

Notes

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1. The evidence with regard to this issue is mixed. Bloningen (2001) finds evidence that FDI is both a substitute and a complement to imports.

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