Chapter 1

Overview

Economists tend to favor the free flow of capital across national borders, because it allows capital to seek out the highest rate of return. Unrestricted capital flows may also offer several advantages, as noted by Feldstein (2000). First, international flows reduce the risk faced by owners of capital by allowing them to diversify their lending and investment. Second, the global integration of capital markets can contribute to the spread of best practices in corporate governance, accounting standards, and legal traditions. Third, the global mobility of capital limits the ability of governments to pursue bad policies.

1.1 Channels of International Capital Flows

Capital can flow across countries in a variety of ways. One can distinguish among three major ones: foreign direct investment (FDI), foreign portfolio investment (FPI), and loans. FDI is defined as an investment involving a long-term relationship and reflecting a lasting interest and control of a resident entity in the source country (foreign direct investor or parent firm) in the host country.

In national and international accounting standards, FDI is defined as involving an equity stake of 10% or more. In general, FDI itself has three components: equity capital, intra-firm loans, and reinvestment of retained earnings. Because different countries have different recording practices relating to these three components, some measurement problems arise.[1] Not all countries follow the 10% mark for the definition of FDI. Most countries do indeed report long-term intra-firm loans, but not all countries report short-term loans. Most countries report reinvestment of retained earning only with a considerable lag. One implication of these measurement problems is that recorded FDI inflows do not contemporaneously match FDI outflows.

TABLE 1.1.
Aggregate FDI Flows among OECD and Non-OECD Countries

Year	*From OECD to OECD*	*From OECD to Non-OECD*	*From Non-OECD to OECD*
1987	103456.3	26114.1	5397.5
1988	120947.4	30501.9	11557.7
1989	156624.0	32371.2	14351.5
1990	144594.1	35704.5	15451.9
1991	112818.3	31248.3	5324.1
1992	101337.3	38955.6	9871.9
1993	115281.7	40753.4	13183.2
1994	120518.6	53852.0	12551.8
1995	172622.9	47305.8	11374.3
1996	169374.1	59364.9	10813.6
1997	195050.9	70573.1	17852.3
1998	321081.3	72242.1	13088.6
1999	525083.4	102050.0	32179.1
2000	636770.5	71998.8	33443.6
2001	300713.5	74311.3	35607.3
2002	205212.2	34147.4	15645.6
2003	220850.2	66164.6	18315.2

Note: FDI flows in constant millions of U.S. dollars (with CPI 1982–1984 = 100).
Source: FDI data is from OECD international direct investment database.

Foreign portfolio investment is different from FDI in that it lacks the element of lasting interest and control. Foreign portfolio investment also includes lending in the form of tradable bonds. The third type of foreign investment, loans, is primarily bank loans.

Among these types of foreign investment flows, FDI stands out. The world flows of FDI rose about sevenfold in current U.S. dollars over the 1990s (see Figure 1.1, A and B).[2] Furthermore, the vast majority of these flows are among OECD countries. FDI flows from OECD to non-OECD countries are also significant (see Table 1.1).[3] Maurice Obtfeld and Alan M. Taylor (2002) make a succinct observation: "A century ago, world income and productivity levels were far less divergent than they are today, so it is all the more remarkable that so much capital was directed to countries at or below the 20 percent and 40 percent income levels (relative to the United States). Today, a much larger fraction of the world's output and population is located in such low-productivity regions, but a smaller share of global foreign investment reaches them."

The UN (2005) annual report on world investment documents how countries are becoming more receptive to FDI. Table 1.2, which refers

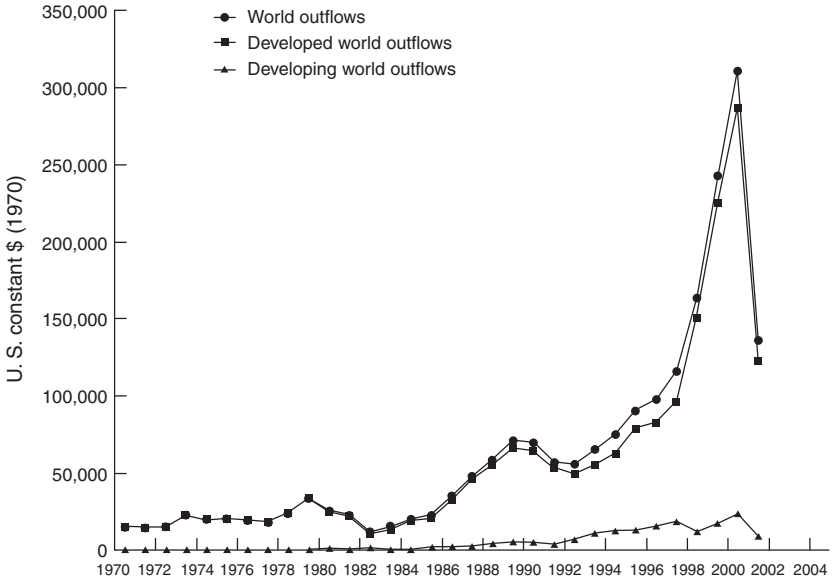

Figure 1.1A. *FDI outflows*

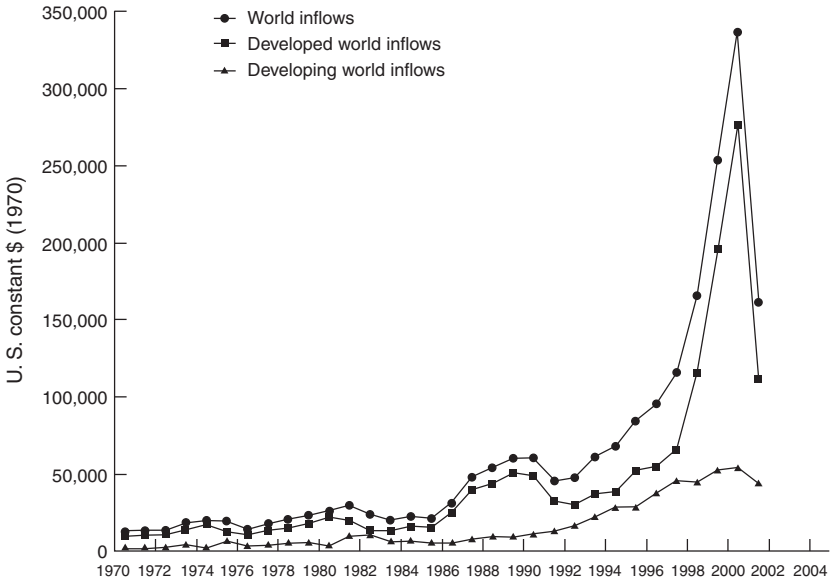

Figure 1.1B. *FDI inflows*

TABLE 1.2.
FDI Regulatory Changes, 1991–2004

Item	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*
Number of countries that introduced changes in their investment regimes	35	43	57	49	64	65	76	60	63	69	71	70	82	102
Number of regulatory changes which are:	82	79	102	110	112	114	151	145	140	150	208	248	244	271
More favorable to FDI[a]	80	79	101	108	106	98	135	136	131	147	194	236	220	235
Less favorable to FDI[b]	2	—	1	2	6	16	16	9	9	3	14	12	24	36

Source: Table 5 from UN (2005).

[a]Include liberalizing changes aimed at strengthening market functioning as well as increased incentives.

[b]Includes changes aimed at increasing control as well as reducing incentives.

to the years 1991–2004, shows that the vast majority of changes in laws and regulations pertaining to investment were more favorable to FDI. An exception is developing countries which introduced some laws and regulations intended to protect some natural resources (especially in the energy field) against "foreign intruders."[4] The report also indicates that countries are cooperating with each other in designing pro-FDI bilateral policies: "The number of bilateral investment treaties (BITs) and double taxation treaties (DTTs) reached 2,392 and 2,559 respectively, in 2004, with developing countries concluding more such treaties with other developing countries."

This book focuses on the unique features of FDI, vis-à-vis other types of capital flows.

1.2 Micro-Level Studies

Studies of FDI can essentially be divided into two main categories: micro-level (industrial organization and international trade) studies and macro-finance studies. Initially, the literature that explained FDI in microeconomic terms focused on market imperfections and on the desire of multinational enterprises to expand their market power; see, for instance, Caves (1971). Subsequent literature centered more on firm-specific advantages, owing to product superiority or cost advantages, stemming from economies of scale, multiplant economies, advanced technologies, or superior marketing and distribution; see, for instance, Helpman (1984).

A multinational may find it cheaper to expand directly in a foreign country, rather than through trade, in cases where its advantages stem from internal, indivisible assets associated with knowledge and technology.[5] The latter form of FDI is referred to as horizontal FDI. Note, therefore, that horizontal FDI is a substitute for exports. Brainard (1997) employs a differentiated product framework to provide an empirical support for this hypothesis. Helpman, Melitz, and Yeaple (2004) incorporate intraindustry heterogeneity to conclude, among other things, that FDI plays a lesser role in substituting for exports in industries with large productivity dispersion.

However, horizontal FDI is not the only form of FDI. Multinational corporations account for a very significant fraction of world trade flows, with trade in intermediate inputs between divisions of the same firm constituting an important portion of these flows; see, for instance, Hanson, Mataloni, and Slaughter (2001). This is referred to as vertical FDI.[6] One of the key determinants of vertical FDI is the abundance of human capital; see Antras (2004) for a comprehensive theoretical and empirical treatise on the various forms of FDI.

In a recent survey, Helpman (2006) observes that between 1990 and 2001 sales by foreign affiliates of multinational corporations expanded much faster

than exports of goods and nonfactor services. He also points out that the fast expansion of trade in services has been accompanied by fast-growing trade in inputs. Furthermore: "the growth of input trade has taken place both within and across the boundaries of the firm, i.e., as intra-firm and arm's-length trade." In light of these developments, Helpman argues that "the traditional classification of FDI into vertical and horizontal forms has become less meaningful in practice." Indeed, his survey includes some new applications of the theory of the organization of the firm to analyze the patterns of exports, FDI, outsourcing, and so forth.

1.3 Macro-Finance Studies

FDI combines not only aspects of international trade in goods and services but also aspects of international financial flows. The macro-finance literature attempts to analyze the composition of aggregate international flows into FDI, FPI, and bank loans, as well as the breakdown of the aggregate flow of FDI according to either modes of entry or modes of finance. As with respect to the modes of entry, FDI can be made either at the greenfield stage or in the form of purchasing ongoing firms (Mergers and Acquisitions—M&A). UN (2005) observes that "the choice of mode is influenced by industry-specific factors. For example, greenfield investment is more likely to be used as a mode of entry in industries in which technological skills and production technology are key. The choice may also be influenced by institutional, cultural, and transaction cost factors, in particular, the attitude toward takeovers, conditions in capital markets, liberalization policies, privatization, regional integration, currency risks, and the role played by intermediaries (e.g., investment bankers) actively seeking acquisition opportunities and taking initiatives in making deals."

As for the modes of finance, there is a distinction between equity capital, intracompany loans, and reinvestment of retained earnings. Figure 1.2 (which reproduces Figure 1.4 of UN 2005) describes the relative share of these three modes of finance over the last decade. The lion's share of FDI is financed through equity capital, 60%–70%. The share of intrafirm loans rose in the 1990s but has declined sharply in the 2000s. This decline is due mainly to repatriation of such loans by multinationals in developed economies. The third mode of finance, reinvestment of retained earnings, seems to exhibit a mirror image pattern to the intrafirm loans.

The macro-finance literature on FDI started with studies examining the effects of exchange rates on FDI. These studies focused on the positive effects of an exchange rate depreciation in the host country on FDI inflows. A real exchange rate depreciation lowers the cost of production and investment in the host country, thereby raising the profitability of foreign direct investment.[7] The wealth effect is another channel through which a depreciation of the real

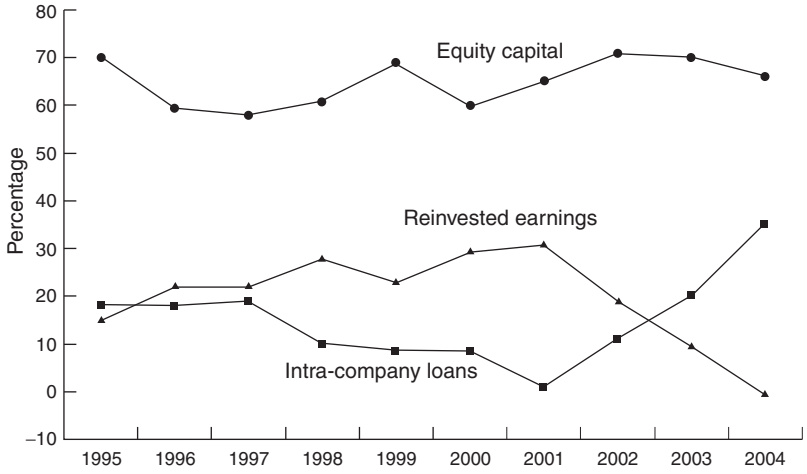

Figure 1.2. *Share of Different Financing Components in World FDI Inflows, 1995–2004* (%).*

Note: Based on data only for countries for which all three components of FDI inflows were available. This number ranges from 66 to 110 economies and accounts for an average of 87% of total FDI inflows.
Source: This is Figure 1.4 of U.N. (2005)

exchange rate could raise FDI. By raising the relative wealth of foreign firms, a depreciation of the real exchange rate could make it easier for these firms to use the retained earnings to finance investment abroad, or to post collateral in borrowing from domestic lenders in the host country capital market; see, for instance, Froot and Stein (1991).

Later macroeconomic studies emphasize the effect of FDI on long-run economic growth and cyclical fluctuations. A comprehensive study by Bosworth and Collins (1999) provides evidence on the effect of capital inflows on domestic investment for 58 developing countries during 1978–95.[8] The sample covers nearly all of Latin America and Asia, as well as many countries in Africa. They find that an increase of a dollar in the volume of capital inflows is associated with an increase in domestic investment of about 50 cents. (In the regression, both capital inflows and domestic investment are expressed as percentages of GDP.) This result, however, masks significant differences among different types of inflows. FDI appears to bring about a one-for-one increase in domestic investment; there is virtually no discernible relationship between portfolio inflows and investment (little or no impact), and the impact of loans falls between those of the other two. These results hold both for the 58-country sample and for a subset of 18 emerging markets. Borenzstein,

De Gregorio, and Lee (1998) find that FDI increases economic growth when the level of education in the host country—a measure of its absorptive capacity—is high.[9] Similarly, Razin (2004) finds strong evidence for the dominant positive effect of FDI (relative to other forms of foreign investments) on domestic investment and growth.

The macroeconomic-finance literature also notes that foreign direct investment (FDI) has proved to be resilient during financial crises. For instance, in East Asian countries such investment was remarkably stable during the global financial crises of 1997–98. In sharp contrast, other forms of private capital flows—portfolio equity and debt flows, and particularly short-term flows—were subject to large reversals during the same period; see Dadush, Dasgupta, and Ratha (2000), Lipsey (2001), Loungani and Razin (2001), and Razin and Sadka (2003). The resilience of FDI during financial crisis was also evident during the Mexican crisis of 1994–95 and the Latin American debt crisis of the 1980s.[10]

1.4 Scope and Purpose

Foreign direct investment is a form of international capital flows. It may play an important role in the general allocation of world capital across countries. It is often pictured, together with other forms of capital flows, as shifting capital from rich, capital-abundant economies to poor, capital-scarce economies, so as to close the gap between the rates of return to capital and enhance the efficiency of the worldwide stock of capital. This is the neoclassical paradigm. This general portrayal of international capital flows may indeed pertain to FDI flows from developed countries to developing countries. The latter are almost all net recipients of FDI. Even in this case, multinational FDI investors bring to the host developing countries not only scarce capital but also superior technologies and new industries.

However, the neoclassical portrayal of international capital flow is hardly reminiscent of the FDI flows among developed countries, which are much larger than those from developed to developing countries. Although *net* aggregate FDI flows from, or to, a developed country are typically small, the gross flows are quite large (see Table 1.1). As Lipsey (2000) observes, "The flows among the developed countries mainly seem to reshuffle the ownership of productive assets, moving them to owners who want them more than their current owners do and who are willing to pay the most for them. Presumably, capital flows move assets from less efficient to more efficient owners, or from owners who are technologically or commercially backward in their industries to firms that are technological leaders. In none of these cases do such flows necessarily change the location of the production, assets, or employment of these industries, though."

In view of this succinct account of FDI flows among developed countries, there arises a question whether FDI plays any useful economic role except the mere shift of asset ownership. Similarly, in many cases FDI to developing countries is also merely a roundtripping of capital. Savers in a developing country which does not have developed and well-functioning saving and financial intermediation institutions export their capital to a location which specializes in exporting FDI back to this country (China and Hong Kong are notable examples). In this case, too, the same question arises as to whether this roundtripping of capital, which creates no *net* import of capital, serves any useful economic role.

The theme advanced in this book reflects our thinking in a sharply different way. We develop an empirically oriented theory which attributes a meaningful economic consequences and implications to *two-way* flows of FDI among developed countries. Also, our book assigns a clearly unique role to FDI, as distinct from FPI and other forms of international capital flows. A key hypothesis of this book is that FDI firms are more efficiently managed than other firms. Thus, for instance, Perez-Gonzalez (2005) shows that after a foreign investor establishes a position that is greater than 50% of the firm's shares, the firm's productivity improves significantly. Having an empirically oriented theory enables us to confront its implications with the data.

1.4.1 Bilateral FDI Flows

FDI flows between a pair of countries. Therefore, there may be important country-pair characteristics that drive the flows of FDI between these two countries. For instance, a common language, geographical distance, similarity or difference in the legal systems (especially, corporate governance and accounting standards), bilateral trade or monetary agreements, common security arrangements, and so on, are all factors that can facilitate or undermine the bilateral flows of FDI. This book studies the determinants of the aggregate flows of FDI between pairs of countries rather than the aggregate flows into a specific country from the rest of the world. Indeed, there are now rich datasets on bilateral FDI flows, especially on flows that originate from OECD source countries. Needless to say, studies of bilateral FDI flows help us to better understand the aggregate flows in and out of a country.

1.4.2 Roadmap

We start in Part I by studying the features that divide foreign investment between FDI and portfolio flows. FDI stands out, relative to other flows, in that FDI investors assume control and management. Therefore, FDI firms are more efficiently managed. This is a *key* hypothesis in the analysis in this book.

There are, however, also costs to direct investments. We specify two types of costs. The first type reflects the initial fixed cost that an FDI investor has to incur in order to manage the firm. The second type, endogenously determined, reflects the cost that may be inflicted on a direct investor when she must sell the firm because of some liquidity shock. Because this idiosyncratic shock is unobserved, the market may not be able to distinguish whether the sale is caused by this shock or rather by some negative signal, private to the FDI investor, about the firm's profits; and therefore the sale price is decreased. Thus, foreign investors with a low probability of liquidity shocks (for instance, high-pocket multinationals) select to be foreign direct investors, whereas the others choose portfolio investments. We also extend this model to allow for an aggregate liquidity shock which triggers the aforementioned idiosyncratic shocks. An increase in the probability of such an aggregate shock raises the share of FPI relative to FDI in the source country. We find supportive evidence for this hypothesis from panel data of about 100 countries from 1980 to 2004.

Having analyzed the formation of foreign direct investors, relative to portfolio investments, we turn in Part II to aspects of foreign direct investors in relation to host-country domestic investors. We study a screening mechanism through which foreign direct investors manifest their comparative advantage over domestic investors in eliciting high-productivity firms. We show that this advantage diminishes as corporate transparency is improved, and the flows of FDI fall accordingly.

The existence of fixed setup costs of new investments introduces two margins of FDI decisions. There is an intensive margin of determining the magnitude of the flows of FDI, according to standard marginal productivity conditions, and also an extensive margin of determining whether at all to make a new investment. Country-pair–specific shocks may affect these two margins in different ways. Maintaining wages fixed in the host country, a positive productivity shock in this country increases the marginal products of the factors of production (including capital), and has therefore a positive effect on the flows of FDI that are governed by the intensive margin. However, when wages are allowed to adjust, the productivity shock generates an upward pressure on wages which raises the fixed setup costs and discourages FDI through the extensive margin. We formulate these conflicting effects of productivity shock in the host country in a way that allows an econometric application. We also analyze productivity shocks in the source country which may have different effects on mergers and acquisitions (M&A) FDI, and on greenfield FDI.

Datasets on bilateral FDI flows typically include many source-host country observations with zero flows. This, by itself, is somewhat indicative of the existence of an extensive margin with the country-pair heterogeneity of fixed setup costs. In Part III we explain and illustrate the advantage of employing the Heckman selection bias method (over Tobit and other methods) in empirically studying the determinants of bilateral FDI flows. This is done in a sample of

panel data on 24 OECD countries over the period from 1981 to 1998. The data are drawn from the source OECD dataset which reports FDI flows from OECD countries to both OECD and non-OECD countries, as well as FDI flows from non-OECD countries to OECD countries. But it does not report FDI flows from non-OECD countries to non-OECD countries. We therefore chose to employ for much of the analysis panel data on 24 OECD countries over the period 1981 to 1998, for which data on flows in all directions are available.

We analyze the main empirical studies of the country-pair determinants of FDI. The effects of productivity shocks are investigated in a sample of panel data on 62 countries (29 OECD countries and 33 non-OECD countries) over the period from 1987 to 2000. As there is a large heterogeneity in the productivity shocks between OECD and non-OECD countries, which is useful for analyzing the effects of productivity on FDI flows, we chose to study a larger sample of panel data in this case. We find some evidence in support of the conflicting effects of productivity shocks.

We also investigate the role played by the host and source corporate tax rates on intensive and extensive margins. We find that the host country tax rate has a negative effect primarily on the intensive margin, whereas the source tax rate has a positive effect mostly on the extensive margin.

Finally, we discuss some policy implications in Part IV. Specifically, we formulate an international tax competition model to explain the coexistence of a "rich" source country with high capital-income (business and individuals) taxes, and public expenditures and a "poor" host country with low capital-income taxes and public expenditures. This phenomenon may be common in the enlarged EU with the new accession countries, which are predominant recipients of FDI from the old member countries. In our two-country setup there are important tax externalities. For example, the setup costs associated with FDI in the host country are effectively subsidized by the source country through the deductibility of these costs. In this context, we also analyze the welfare gains from tax coordination.