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by

Eric T. Bonnett
This dissertation is dedicated to my lovely wife, Rita.
ACKNOWLEDGMENTS

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Abstract of Dissertation Presented to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

FOREIGN DIRECT INVESTMENT AND THE INVESTMENT CLIMATE OF DEVELOPING COUNTRIES IN THE WESTERN HEMISPHERE

By

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December 2004

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The structure of capital flows to developing countries around the globe has changed considerably since the 1970s. In the Western Hemisphere specifically, foreign direct investment (FDI) accounted for a much larger share of total inflows than any other type of capital by the end of the 1990s. This trend has not escaped recognition by economic theorists, and a large literature has emerged as researchers attempt to understand why some countries attract more FDI than others.

This study examines the impact of changes in the investment climate on a country’s ability to attract FDI flows relative to other countries. Specific attention is given to the developing countries of the Western Hemisphere. The investment climate is broadly defined as (i) governmental policies and regulations that affect the relative “openness” of the country to FDI, (ii) factors that impact the potential return on capital to foreign investors, and (iii) the level of political risk and corruption in the host country.
Analyzing the impact of changes in these types of factors over time revealed some interesting results. First, there is evidence to suggest that the state of the investment climate is an important consideration for foreign investors. Second, FDI in large (in terms of GDP), relatively unstable economies tends to be the most responsive to small changes in the investment climate. Conversely, in small economies that either receive substantial amounts of official development assistance or are dominated by a single industry (e.g., the production of oil), FDI tends to be less responsive to changes in the investment climate.

Finally, the results make clear that, across the sample of countries, there is no single model that can explain all of the differences in the level of response to changes in the investment climate. In other words, the relative impact of investment climate variables on the level of FDI differs according to the economic, political and social conditions inherent to each country. Thus, it is likely that future research into the issue will yield more interesting results if analysis is conducted on a country-by-country basis.
The volatility of capital flows to developing countries in Latin America and the Caribbean is well established. Investors in the region often hold short-term assets and withdraw their funds at the first sign of economic distress (Rojas-Suarez and Weisbrod 1996). This, in turn, contributes to the vulnerability of Latin American and Caribbean economies to external economic shocks such as changes in commodity prices and international interest rates (Birdsall and Lozada 1996).

The financial crises that struck many developing countries after the surge in capital flows during the 1990s led to increased skepticism about the benefits of attracting foreign capital (World Bank 2001). However, the literature makes clear that just as there are many different ways to define a financial crisis, there are equally as many theories of what causes them. Nevertheless, it is generally agreed that the sharp rise in incidence of financial crises in the last 20 years is not independent of the observed increase in the magnitude and frequency of international capital flows.

From 1970 to 1992, Latin American and Caribbean economies were between two and three times as volatile as industrialized economies (Hausmann and Gavin 1996). While much of the observed volatility is a product of inconsistent macroeconomic policy, other factors also had an influence. According to Hausmann and Gavin (1996):

another reason for the volatility of Latin American [and indeed, Caribbean] macroeconomic outcomes is the large external disturbances that routinely buffet the region. The most important of these are sudden changes in the terms of trade and in international capital flows. (Hausmann and Gavin 1996, p. 27)
Large capital inflows cause rapid monetary expansion, inflationary pressures, real exchange rate appreciation and widening current account deficits (Calvo et al. 1996). Consequently, when flows are interrupted, the current account and exchange rate experience reverse adjustments (Hoti 2002). Furthermore, these terms-of-trade shocks have large and statistically significant effects on the variance of economic growth rates over time (Easterly et al. 1993).

In many of the developing economies in the Western Hemisphere, FDI has become the dominant component of capital inflows, accounting for a much higher percentage of gross domestic product (GDP) in the 1990s than in the previous two decades. However, there are exceptions to this rule, and it is often those countries that are the least economically and politically stable that are the least successful at attracting FDI. Some have argued that economic instability leads to uncertainty for the firms and investors who make direct investments. As a result, investors choose to locate in less “risky” countries.

The cross-country variation in FDI since the early 1990s (discussed further in Chapter 2) serves as the inspiration for this study. While a large body of empirical literature addresses the global factors that cause expansions and contractions in global FDI flows, less attention has been given to explaining the differences in FDI flows across countries. More specifically, there is a need for additional insight into the factors that affect the distribution of FDI flows across the developing countries of the Western Hemisphere.

Empirical research suggests that the package of assets that accompanies FDI brings many benefits to the host country including economic growth, development of domestic industries, increased employment and a higher standard of living (Parry 1973).
Theoretical support for each of these contentions has developed over time while there have been fewer attempts to argue against the benefits of FDI. What is made clear by attempts to test the theory is that the benefits realized by the hosts of FDI funds are conditional upon many factors.

**Impacts of FDI on Developing Host Countries**

The increase in foreign equity flows to developing countries in the Western Hemisphere reflects the fact that countries have increased the number of investment opportunities by promoting the privatization of government enterprises and facilitating the development of deeper and more liquid financial markets (Moreno 2000). However, Wells, Jr. (1998) points out that although tensions between foreign investors and developing host countries had clearly weakened by the mid 1990s, there were few definite conclusions as to the net impact of FDI in the lesser developed countries (LDCs). Since then, a vast literature on the subject has emerged.

Much of the research into the economic impacts of FDI is aimed at examining the indirect or “spillover” effects of hosting direct investment. It has been argued that indirect effects primarily take the form of technological spillovers and competition effects. In fact, Blomström and Kokko (2003) contend that the expectation that technological know-how will spillover from multinational corporations (MNCs) to indigenous firms has been strong enough for host countries to lower barriers to entry, open up new sectors to foreign investment and, in some cases, provide investment incentives to foreign firms. Nonetheless, empirical research into the matter is fraught with conflicting results.

For instance, in a study on manufacturing industries in Mexico, Blomström (1986) found that the presence of foreign MNCs in an industry was positively correlated with
structural efficiency. However, the results did not suggest that the increase in efficiency was due to the transfer of technology from the MNCs to domestic firms (whether through imitation or labor migration). Rather, increases in competitive pressure appeared to have a more important effect.

Aitken and Harrison (1999) found that “foreign equity participation [in Venezuelan plants] is positively correlated with plant productivity . . . [but,] foreign investment negatively affects the productivity of domestically owned plants” (p.605). The authors indicate that in the presence of these offsetting effects, the net impact of FDI on the productive efficiency of the host economy as a whole is negligible. More recent research suggests that the extent to which foreign participation impacts the productivity of indigenous firms appears to depend upon the type of linkages that are examined.

While Aitken and Harrison (1999) examine the effect of FDI on the productivity of all firms in the economy, Smarzynska (2002) limits her analysis to the effect on upstream firms (i.e., the backward linkage between foreign affiliates and their local suppliers). Pointing out that spillovers “are more likely to be vertical rather than horizontal in nature” (Smarzynska 2002, p.2), she states, “a rise of ten percent in the foreign presence in downstream industries is associated with a 0.38 percent increase in output of each domestic firm in the upstream sector” (Smarzynska 2002, p.16). Furthermore, Smarzynska found no difference between the effect of wholly-owned foreign subsidiaries and joint ventures with both foreign and domestic investors.

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1 This is due to the multinational firm’s incentive to transfer knowledge to its suppliers in order to increase the quality or decrease the price of its inputs, and prevent the horizontal leakage of information that might enhance the performance of its competitors.
It has been shown by some researchers that controlling for certain domestic conditions leads to more conclusive findings on the net impact of FDI. One such case is that of the relationship between FDI and economic growth in developing host countries. Although empirical findings on the nature of this relationship do vary, the World Bank (2001) indicates that differences in host countries’ absorptive capacity\(^2\) accounts for a majority of the variance. In fact, where absorptive capacity is high, it is generally agreed that FDI has a positive impact on productivity and hence economic growth (World Bank 2001).

The study by Borenzstein et al. (1998) serves to illustrate this point more clearly. Analyzing data on FDI flows to 69 developing countries over a period of 20 years, the authors found that FDI had a positive effect on economic growth. Furthermore, the magnitude of this effect was shown to depend strongly upon the available stock of human capital, a variable commonly used as a measure of absorptive capacity. That is, higher levels of human capital caused FDI to have a larger positive impact on growth. Furthermore, with sufficient levels of human capital, FDI appeared to be more productive than, and complementary to domestic investment. The authors also note that the positive impact of FDI persisted even after controlling for initial income, human capital, government consumption and the parallel market premium for foreign exchange.

Aside from the results of a handful of empirical studies, it is generally agreed that FDI has the potential to facilitate the transfer of ideas from industrialized to developing countries, thus increasing productivity in the latter (World Bank 2001). In addition to the stability of FDI relative to other forms of foreign capital, the potential for increased

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\(^2\) Proxies for absorptive capacity include but are not limited to openness to trade, the amount and quality of infrastructure and human capital, and inflation.
productivity provides some rationale for why many developing countries have shown an appetite for FDI.

**Problematic Situation**

It has been suggested by the Economic Commission for Latin America and the Caribbean (ECLAC 2002) that the high volatility of net capital inflows (other than FDI) during the last ten years has undermined the stability of economic growth in the region. When net capital inflows are high, domestic credit and liquidity grow too quickly, while the opposite is true in times of recession (ECLAC 2002). This phenomenon tends to amplify boom-bust cycles, thus destabilizing economic growth. As an example, Mishkin (2001) states

> The financial crises that struck Mexico in 1994 and the East Asian countries in 1997 led to a fall in the growth rate of GDP on the order of ten percentage points. The financial crises in Russia in 1998 and Ecuador in 1999 have had similar negative effects on real output. Not only did these crises lead to sharp increases in poverty, but to political instability as well. (Mishkin 2001, p.1)

The link between capital flow volatility and economic growth has led many researchers to gain interest in the factors that drive capital flows. There is considerable debate over whether capital flows to developing countries are driven by forces external to the countries themselves, or by domestic factors. The existing empirical literature suggests that the answer depends upon how the issue is addressed and that analyzing the sum of all capital flows may be misleading. After all, each form of capital has its own characteristics and set of circumstances (Lusinyan 2002).

Foreign direct investment accounts for a much larger share of GDP than any other form of foreign capital inflow for many of the developing countries in the Western

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3 Moreno (2000) provides one of the more concise reviews of the empirical literature addressing this issue.
Hemisphere, and much of this investment activity has been driven, or at least encouraged, by the actions of host-country governments. In addition to privatizing government enterprises, developing countries have adopted policies intended to foster direct investment by MNCs. It is therefore surprising that the empirical literature does not contain more models that attempt to measure the effect of these policies.

Gabel and Bruner (2003) report that multinational corporations and their subsidiaries employ nearly 200 million people, generate $1.5 trillion in wages and pay over $1.2 trillion in taxes to their host governments, annually. The almost overwhelming global presence of the MNC has inspired considerable debate among the many players involved in international commerce. Government policymakers are interested in maximizing the benefits of hosting multinationals while simultaneously limiting their negative impacts. Multinational managers are interested in maximizing the profitability of their businesses given a set of available investment alternatives. In a world where MNCs are increasingly prevalent, economists are left with the task of analyzing their causes and impacts. The resulting body of academic literature is substantial and diverse in purpose.

Wells, Jr. (1998) indicates that the “issues that face managers – public and private – who are concerned with FDI and the developing countries . . . have not attracted sufficient attention from economists” (p.101). Foreign direct investment flows are ultimately driven by multinational corporations, and hence, their managers. Thus, the interaction between government policy and the strategic allocation of capital by MNCs needs to be addressed. Much of the thought on this matter has been aimed at modeling
the effect of exchange rate regimes on the international allocation of production, but the issue is much more broad.

**Problem Statement**

The study of foreign direct investment has attracted the attention of researchers from various fields of business. Economists have portrayed FDI as the result of production cost differentials and comparative advantages in resource supply. In the field of finance, FDI has been described as a tool for international portfolio diversification. Finally, in the strategic management body of literature, FDI patterns are seen as being dictated by the organizational decisions of the firm’s management. Although these approaches may differ from one another, efforts to understand why FDI occurs have yielded some compelling results in each line of research.

Foreign direct investment can be viewed as the allocation of financial capital from an entity in one country to establish or support a business entity in another country. When defined in this manner, FDI becomes the result of a strategic decision guided by the goals of management. To the extent that foreign investment policy can create an environment that either fosters or impedes direct investment, the actions of host-country governments may have a significant influence on FDI flows. Along these lines, the ultimate concern of this study determining the extent to which FDI flows are affected by the investment climates of developing host countries.

By surveying a group of U.S.-based multinational companies, Basi (1966) identified several variables related to the investment climate that were of significant importance to the investment decision. Of the variables considered by Basi, the

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4 “Management” is defined broadly as those individuals who have a direct influence over the international allocation of direct investors’ capital.
following factors were most often cited as either “crucially important” or “fairly important” to multinational managers: (i) the host country’s attitude toward foreign investment; (ii) political stability; (iii) limitations on ownership; (iv) currency exchange regulations; (v) the stability of foreign exchange; and, (vi) tax structure. While some of these variables are difficult to quantify, Basi at least provides an illustration of the “investment climate” that is consistent with the how the term is used in this study.

The contribution this study makes to the existing literature centers on two primary characteristics of the project’s design. First, the empirical model presented here examines the relative effect of five distinct investment climate factors on FDI. While some proxy for the investment climate is often included as an explanatory variable in existing models, fewer models have been designed to simultaneously examine different aspects of the investment climate. The second distinguishing characteristic of the study is its focus on Latin America and the Caribbean. Much of the existing literature is devoted to examining FDI flows to the entire universe of developing countries. However, less ambiguous conclusions may be provided to policymakers in the region by limiting the focus of the analysis to the developing countries of the Western Hemisphere.

There are three reasons for examining the effect of the overall investment climate on inflows of FDI. First, early attempts to survey firms on the determinants of international production show that variables related to the investment climate are among the most influential factors from the perspective of management. Second, debate on the importance of many investment climate factors to foreign investors is ongoing. Finally,

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5 See Dunning (1973) for a review of surveys conducted by various authors prior to 1973.
the relevance of the issue to policy-makers is clear, as many investment-climate variables are under the direct control of the regulatory bodies of host countries.

Examination of FDI flows to the developing countries of the Western Hemisphere is particularly relevant. The financial markets of these countries are increasingly accessible to foreign investors, especially those who reside in the United States, where nearly 20% of world FDI outflows originated during the period 1970-2002. Furthermore, the provisions of the Free Trade Agreement of the Americas (FTAA), which is scheduled for entry into force by the end of 2005, provide for the promotion and protection of foreign investment funds, regardless of their source.

Objectives

The general objectives of this study are

• To provide an understanding of FDI as an economic phenomenon resulting from the strategic activities of multinational corporations

• To examine the effect of the investment climate of developing countries in the Western Hemisphere on inflows of FDI over the last two decades.

In order to achieve these rather broad goals, the study is designed with several specific objectives in mind. The specific objectives of the study are

• To examine the evolution of the multinational corporation (MNC) from a theoretical perspective and address the strengths and weaknesses of several streams of theory

• To develop a framework for understanding FDI that integrates the elements of economic and strategic management theory

• To develop a policy-relevant model of FDI inflows by including variables that are not only considered as elements of the investment climate, but are also affected by the actions of host-country policymakers.
Scope

Chapter 2 establishes the context for the study by providing an historical account of contemporary developments in global economic integration. Specific attention is given to the developing countries in the Western Hemisphere. The chapter compares and contrasts the different types of international capital flows and presents a detailed analysis of the structure of capital flows to Latin America and the Caribbean over the last thirty years.

Chapter 3 presents the theoretical foundations of the study. The chapter begins with a short review of the existing empirical research on FDI, although the results and implications of the models are not the main point of concern. Rather, the models are used to highlight the distinction between neoclassical economic theory and strategic management theory, as well as to illustrate the fact that research on FDI has been conducted in a number of contexts. Specific attention is given to the conceptual evolution of the firm in each of the two streams of theory. Finally, a review of the most relevant theoretical literature serves to define the perspective from which the empirical considerations of the study derive.

Chapter 4 revisits the empirical literature is revisited in more depth. The chapter reviews a range of models that examine issues related to the international allocation of economic activity. Some of the models presented explicitly address the economic determinants of FDI, while others analyze factors that affect the strategic decision-making processes of multinational corporations. Empirical research on investment location and the alternative modes of foreign ownership is also reviewed.

Chapter 5 presents the empirical model used to analyze a set of panel data on 21 developing countries in the Western Hemisphere over a period of 18 years. The chapter
compares the results from several alternative estimation procedures and provides a
discussion on the responsiveness of FDI to changes in the investment climates of
different countries. Finally, Chapter 6 summarizes the empirical results and presents a
set of conclusions based on the findings. Chapter 6 also provides suggestions for future
research.
CHAPTER 2
HISTORICAL CONTEXT

It is difficult to find a piece of recent literature in the field of international economics within which the term “globalization” does not appear. According to the Economic Commission for Latin America and the Caribbean (ECLAC 2002), globalization refers to the denationalization of political, legal and cultural systems, as well as economic markets. The primary entities driving this process are governments, private investors and financial institutions (Schmukler 2004), and its socio-cultural impacts on developing countries are far-reaching, and often difficult to measure. In terms of economic impacts, globalization has led to reductions in trade barriers between countries, increased exchange of information and technology, and in many cases, greater vulnerability to worldwide economic conditions. It should be noted, however, that the path toward globalization has been anything but uniform across countries.

ECLAC distinguishes between the three traditionally recognized phases of globalization by comparing the relative levels of capital and labor mobility, the (non)existence of free trade and international institutions for economic cooperation, and the extent of standardization among national development models. The first phase of globalization has its roots in the transportation revolution and began to take shape in the last thirty years of the 19th century. Transportation costs fell dramatically during this period, effectively reducing the distance between countries and contributing to increased mobility of goods and labor (Philippe 2001).
With the Bretton Woods conference in 1944 came the initial movement toward establishing international organizations for economic cooperation (specifically, the International Monetary Fund and the World Bank). However, during this (the second) phase of globalization, disparity remained among national models of economic organization, and capital and labor mobility were limited. Although the Bretton Woods agreement was intended to foster the flow of capital across international boarders, it wasn’t until the first oil crisis in the early 1970s that international capital mobility really expanded (Phillipe 2001). Nevertheless, with the foundation of global institutions for economic cooperation, the stage was set for an expansion in the trade of goods and financial capital.

Since 1973, the drive towards international cooperation has affected a real expansion in international trade of manufactured goods, services and capital. The increased global presence of multinational corporations also contributed to this expansion. Most recently, the birth of the information age brought about unprecedented access to information and communication technologies, further facilitating international transactions.

While this story characterizes the path to globalization among industrialized economies throughout the world, it does not necessarily account for the individual experiences of many developing economies in the Western Hemisphere. There are four major economic integration groups in Latin America and the Caribbean: the Andean Community; the Central American Common Market (CACM); the Caribbean Community and Common Market (CARICOM); and the Southern Cone Common Market (MERCOSUR). Mexico, Chile and the Dominican Republic do not hold membership in
any of these four integration groups but do relationships with them. Given that the Dominican Republic is currently an observer to CARICOM and that a bilateral free trade agreement exists between the two, the Dominican Republic is grouped with CARICOM in the ensuing discussion. Mexico and Chile are discussed independently.

**A Taxonomy of Capital Flows**

According to Liberatori (2003), “international economic integration is per se the result of both direct and indirect mobility of resources across national borders . . . including migration of workers, international trade in goods and services, capital flows and international production and investment” (p.2). In addition, international trade and investment flows are the result of both equity and non-equity transactions. In addition to the distinction between equity and non-equity, capital flows are categorized according to the source of funds and the conditions upon which they are disbursed (i.e., concessional vs. interest bearing). The Development Assistance Committee (DAC 2000)\(^1\) states that

Official transactions are those undertaken by central, state or local government agencies at their own risk and responsibility, regardless of whether these agencies have first borrowed the necessary funds from the private sector. Private transactions are those undertaken by firms and individuals resident in the reporting country. (DAC 2000, p.6)

Official capital consists of official development assistance (ODA) and other official flows (OOF). According to the guidelines set up by the DAC, ODA includes flows to countries on Part I of the Development Assistance Committee List (which includes all of the countries in this analysis) that satisfy three criteria: (i) the funds must be provided by official agencies including state and local governments or their executive agencies; (ii)

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\(^1\) The DAC is the principal body through which the Organization for Economic Cooperation and Development (OECD) deals with issues related to cooperation with developing countries. The DAC statistical reporting directives provide a basis upon which all donor countries should report disbursements of official capital to developing countries.
the transaction must be administered with the promotion of economic development and welfare of developing countries as its main objective; and (iii) the funds must be concessional in nature and convey a grant element of at least 25%. Official development assistance flows are unique in that the debt service includes no interest payment and the grant portion of these flows is free of repayment obligation. Other official flows, as defined by the DAC, include official sector transactions with aid recipients that do not satisfy the ODA criteria.

Private capital flows accounted for a significant share of resource flows to developing economies in the Western Hemisphere during the last 30 years. Private capital includes commercial-bank and trade-related lending, foreign direct investment and portfolio investment. Bank and trade-related lending is comprised of commercial-bank lending and other credits extended by foreign lenders in the private sector. The criteria established by the World Bank dictates that lending by commercial banks that are wholly- or partly-publicly owned be excluded from bank and trade-related lending.

Portfolio capital flows include both equity and bond investment. Portfolio equity flows are measured as the sum of country funds, depository receipts, and direct purchases of shares by foreign investors who own less than 10% of the voting stock of a firm. Portfolio bond investment consists of any bond issues purchased by foreign investors who own less than 10% of the voting stock of the issuer.

Foreign direct investment has historically been categorized as a private capital flow despite the fact that direct investment, as defined by the DAC, may originate from private or official sources. Another characteristic of FDI is that it takes the form of both equity and non-equity investment. The World Bank’s comprehensive guide to FDI released in
2003 describes some of the ambiguities that have historically existed in the measurement and classification of FDI flows and establishes a clearer definition of FDI than had previously been provided. The following discussion draws heavily upon the guide.

According to the World Bank,

> direct investors may be individuals; incorporated or unincorporated private or public enterprises; associated groups of individuals or enterprises; governments or government agencies; or estates, trusts, or other organizations that own direct investment enterprises in economies other than those in which the direct investors reside. (Liberatori 2003, p.3)

Furthermore, the IMF indicates that in order for funds to be classified as direct investment, “it is necessary to establish a (or show a pre-existing) specific relationship between the parties involved in the transaction” (Liberatori 2003, p.2), where the term “specific relationship” refers to the investor’s possession or acquisition of a lasting interest or an effective voice in the management of a direct investment enterprise.

In order to minimize the subjectivity of this definition, a specific empirical threshold has conventionally been used to separate FDI from portfolio flows. The threshold defined by the IMF dictates that only those entities in which the foreign investor has acquired at least 10% of the ordinary shares or voting power qualify as direct investment enterprises. Foreign direct investments are made through greenfield investment (e.g., creation of new production capacity), joint ventures, or through mergers and acquisitions (e.g., the privatization of an existing government-owned enterprise). The types of capital covered by direct investment include: (i) equity capital; (ii) reinvested earnings; and (iii) inter-company loans.

All flows of capital reported in this study are “net inflows.” This is important because there is a clear distinction between “net inflows” and “net flows.” For instance, the term “net foreign direct investment flows” refers to nonresident direct investment in
the host economy net of resident direct investment abroad. This is not what this study examines. Rather, “net inflows of foreign direct investment” (with which this study is concerned) refers to nonresident direct investment in the host economy net of foreign direct investment funds withdrawn from the host economy by foreign investors. When defined in this manner, a negative value for “net inflows of FDI” in any given year would indicate that repatriation of FDI capital (which is an outflow) exceeded new inflows of FDI in the host economy during the period. Similarly, a negative value for “net inflows of bank and trade-related lending” indicates that principal and interest (P&I) payments to foreign lenders exceeded new loan disbursements to the borrowing country. Furthermore, a negative value for “portfolio equity” would indicate a certain level of portfolio capital flight, not that more portfolio capital was invested by resident entities than received by the host economy.

A Method of Characterizing Different Types of Capital Flows

In addition to the definitional characteristics provided by the Organization for Economic Cooperation and Development (OECD), capital flows differ in terms of their implications for both the host country and the investor. In fact, Williamson (2000) states that there are five characteristics relevant to distinguishing among the various forms of capital flow: (1) cost; (2) conditionality; (3) risk-bearing; (4) access to intellectual property; and (5) vulnerability to capital flow reversal. The following discussion of these characteristics draws heavily upon the work presented by Williamson (2000).

Cost. Official capital, given that it often comes in the form of grants or concessional lending, is traditionally considered to be the cheapest form of capital available to developing economies. While there is no clear difference between the cost of commercial-bank lending and portfolio bond investment, it is generally recognized that
the cost of each is less than official capital. Portfolio equity returns tend to be highly variable, fluctuating with the performance of stock markets. However, given that markets typically demand an equity risk premium, it is generally accepted that the required return on portfolio equity investment is, on average, higher than the return on foreign debt. Meanwhile, foreign direct investment is believed to be the most expensive form of capital for developing countries. As evidence of this, Williamson points out that a conservative estimate of the annual return on United States FDI is about 12.4%.

**Conditionality.** Developing countries are often required by the lending multilateral development bank (MDB) to establish a clear set of macroeconomic policy objectives in order to qualify for concessionary loan funds. In addition, development funds tend to be tied to the design and implementation of specific development projects. Thus, disbursements of official development assistance (ODA) are considered as highly conditional. Furthermore, the negotiations that often take place between multinational firms contemplating investments and host countries (e.g., performance requirements imposed by the host) result in FDI also being highly conditional, although perhaps not to the extent of official flows. Other forms of capital are typically free of these types of conditions.

**Risk-bearing.** “Risk-bearing” refers to who reaps the benefits (or foots the bill) in the case of unexpectedly high (or low) revenues and costs. Here, risk is broken down into commercial risk, interest risk and exchange rate risk. Virtually all official capital, with the exception of investments made by the International Finance Corporation, convey commercial risk to the borrower. The same is true of bank loans and portfolio bond
investment, except in the extreme case of lender bankruptcy. In the case of portfolio equity investment and FDI, commercial risk is typically assumed by the investor.

Interest risk is also born solely by the investor in the case of equity investment, whether portfolio or direct. For official flows and loan capital, the placement of interest risk depends upon the terms of the loan. Fixed interest rates place the burden on the lender while floating rates convey risk to the borrower. Given that most official loans carry fixed interest rates, the lender (in most cases a multilateral development bank) usually bears the risk of changes in the market interest rate. Both bonds and commercial loans tend to made at floating interest rates, and therefore the burden is typically assumed by the borrower.

Exchange rate risk, in the case of equity investment, is usually born by the investor. Given that developing countries are rarely able to borrow large sums of money in their local currency, exchange rate risk is typically conveyed to the borrower of official funds and commercial loan capital. However, this risk may be transferred to the lender if borrowed funds are denominated in the domestic currency.

**Intellectual property.** Since the pioneering work on FDI by Stephen Hymer (1976), it has been commonly asserted that direct investment by foreign firms brings with it the transfer of technological know-how in the form of patents, trademarks and managerial expertise. As pointed out in Chapter 1, these externalities associated with FDI are often referred to as spillover effects. The conditions associated with official capital (e.g., macroeconomic policy requirements) also result in the transfer of knowledge from MDBs and other official entities to host economies. Each of the other forms of capital inflow typically does not facilitate the transfer of intellectual property.
Vulnerability to reversal. Although firms do shift working balances into and out of different currencies in response to changes in macroeconomic prospects, the sum of these transfers is likely to be small relative to the total of sunk capital invested in a foreign economy (Williamson 2000). Thus, FDI is traditionally regarded as being minimally vulnerable to reversal. Official flows also tend to be stable, and have actually been shown to be counter-cyclical in nature. Private bank and trade-related lending, while usually grouped together, tend to be very different in terms of vulnerability to reversal. Short-term loans are more vulnerable to reversal than long-term loans, and trade-related credits are almost always disbursed on extremely short terms. However, the fact that trade credits are constantly renewed as new trade transactions need to be financed makes trade-related lending more stable forms of capital inflow. At the other extreme is bank lending, which in recent crises (e.g., the East Asian crisis and the Latin American debt crisis) has proven to be highly vulnerable to reversal.

Figure 2-1. Williamson’s Key Characteristics of Capital Flows
Figure 2-1 summarizes Williamson’s framework for distinguishing between different types of capital flows. The origin (or center) of the diagram corresponds to low levels of conditionality, risk bearing, etc., while the outer limits represent the highest levels. The figure shows reiterates the fact that FDI tends to be conditional and, at least in theory, facilitates the transfer of technology. In contrast, portfolio equity investment brings with it no conditionality or transfer of knowledge. The cost of equity investment is typically high, which reflects the investor’s burden of commercial risk, interest rate risk and exchange rate risk. Perhaps most importantly, FDI is considered the most stable form of foreign capital inflow available to developing host countries.

The Structure and Evolution of Capital Flows from 1970 to 2001

Figure 2-2 shows the structure of capital inflows to most of the developing economies of the Western Hemisphere during the period 1970-2001. What is readily evident in the figure is that private investment and lending served as the major sources of foreign financing to these countries for much of the period 1970-2000. With the exception of the mid-1980s, inflows of private funds were generally 3- to 5-times greater than official development assistance and other official flows combined.

Looking specifically at the structure of private flows, bank and trade-related lending was the most abundant type of private finance throughout the 1970s and early 1980s. However, this trend came to an abrupt end as the Latin American debt crisis set in. As Figure 2-3 shows, repayments of private foreign debt actually exceeded new lending in 1989 and 1993. The global economic slowdown of the late 1990s also had a detrimental effect on the level of private lending to the developing countries of the

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2 All dollar-denominated figures are stated in terms of current US dollars. These figures are converted from domestic currencies using single-year official exchange rates.
Western Hemisphere. Similarly, net inflows of portfolio capital were rather unstable, displaying the greatest year-to-year volatility during the 1990s.

Figure 2-2. Capital Flows to Developing Economies in the Western Hemisphere

In contrast to bank lending and portfolio investment, inflows of FDI grew during the period 1970-2001; a majority of the growth occurred in the period immediately following the debt crisis. Inflows of FDI stood at 0.99% of GDP in 1993, while they accounted for just under 5% in 1999. However, the most remarkable trend is that inflows
of FDI, which once represented less than 20% of the size of private lending, ended the period at over 50-times the magnitude of private lending and portfolio investment combined.

Overall, the information presented in Figures 2-2 and 2-3 provides a reasonably good characterization of how the structure of capital inflows to developing countries across the globe has evolved over the last three decades. However, some of the most interesting inferences are revealed by comparing the cases of individual countries. Accordingly, the remainder of this chapter is devoted to examining the different experiences of developing countries in the Western Hemisphere.

The Andean Community

The Andean Group was established in 1969 by the Agreement of Cartagena and originally included Bolivia, Columbia, Ecuador, Peru and Chile (Andean Community General Secretariat 2003). Venezuela became a party to the Agreement in 1973 and Chile subsequently withdrew in 1977. The Group was primarily established as a reaction to the poor performance of the Latin American Free Trade Agreement, but by the late 1980s, commerce orchestrated by the Agreement amounted to no more than 5% of the combined trade of the group’s members (Hanratty and Meditz 1989).

The Group's adoption of Decision 220 in 1987 loosened foreign investment regulations, allowing greater freedom for the repatriation of profits, a higher percentage of foreign ownership and investment in a wider variety of industries (Hanratty and Meditz). The name of the organization was changed to the Andean Community as part of The Trujillo Amending Protocol of 1996. In addition to a common external tariff and rules to prevent distortions in competition, the present-day agreement includes measures to guarantee international investments.
As Figure 2-4 shows, capital flows to the Andean Community have, for the most part, been dominated by private investment since 1970. Official development assistance flows to the group were less than 1% of GDP in every year except 1991, and even then they only reached 1.10% of aggregate output. Similarly, other official flows (OOF) exceeded 1% of GDP only twice – in 1990 and 1992 – and never reached higher than 1.32% of GDP. Overall, both ODA and OOF (as a percentage of GDP) were generally flat between 1970 and 2001 and never accounted for more than 0.5% of GDP.

Figure 2-4. Capital Flows to the Andean Community

Figure 2-5 shows that ODA flows (as a percentage of GDP) to Bolivia grew from 1970 to 1992. In fact, ODA to Bolivia peaked at just under 12% of GDP in 1992. In dollar magnitude, Peru attracted almost as much ODA as Bolivia. However, private capital flows to the Andean Community as a whole were much more substantial (as well as more volatile) than official flows. Private investment declined sharply during the first half of the 1980s, but after the adoption of Decision 220 these flows expanded just as quickly as they had dropped off. Private lending was the dominant source of capital for
the group until 1985, when foreign direct investment began to grow. The shift in private capital inflows from debt to equity investment is evident in Figure 2-6.

Figure 2-5. ODA Flows to Members of the Andean Community

Figure 2-6. Private Capital Flows to the Andean Community

Heavy lending in Venezuela during the late 1970s pushed private lending to the Andean Community to over 4.70% of the group’s aggregate GDP. However, repayments of foreign debt actually exceeded new lending as Venezuela began to service those obligations during the 1980s; in 1987, repayments of private debt by the Community as a
whole exceeded new loan disbursements by almost $1.86 billion, leading to a net outflow of private capital equal to 1.21% of GDP. Net bank lending (i.e., new lending minus interest and principal payments on existing debt) remained mostly negative until 1993. Then it was Columbia that attracted a majority of the private lending in the Andean Community. Although lending to the group in 1997 was actually higher than in 1979, increased economic activity caused bank and trade-related lending to account for a much smaller proportion of GDP.

FDI flows to the Andean Community alternated between negative and positive values from year to year before stabilizing in the 1980s. However, both FDI and portfolio investment in the Andean Community expanded rapidly following Decision 220. Foreign direct investment surged to over 5% of the group’s GDP in 1997 on the heels of a sharp increase in investment in Columbia and Venezuela. Despite a continuing surge of FDI in Bolivia, direct investment in the larger countries contracted over the next few years and FDI in the Community as a whole fell from 5.07% of GDP in 1997 to just over 3% in 2001.

Organized markets for equity securities existed in the Andean Community as early as the end of the 16th century when the emergence of joint-stock companies began in Columbia (Bolsa de Valores de Columbia, 2003). However, foreign portfolio investment in the Andean Community first occurred in Venezuela in 1989 and equity markets in Peru, Columbia and Ecuador began to attract foreign portfolio capital in the mid-1990s. The Andean Community is unique in that portfolio investment in the group during the last 32 years was split evenly between the equity and bond markets.
In summary, private capital was the most significant and most volatile type of financial capital flowing into the Andean Community over the past three decades. Private lending accounted for the majority of private capital flows to the group prior to the Latin American debt crisis of the 1980s, while FDI and portfolio investment reigned in the latter part of the 1980s and the 1990s. Disbursements of private debt contracted sharply in the 1980s and never recovered to pre-crisis levels. Although inflows of portfolio investment expanded during the 1990s, they paled in comparison to inflows of FDI and private lending.

**The Central American Common Market**

The General Treaty of Central American Economic Integration established the Central American Common Market (CACM) in December 1960. The agreement went into effect in June 1961 with the completion of the necessary articles of ratification by El Salvador, Guatemala and Nicaragua. Honduras and Costa Rica subsequently acceded to the agreement in 1962. The General Treaty established the Central American Bank for Economic Integration, a common external duty known as the Central American Standard Import Tariff and a free trade area among CACM members. The Integration Industries Convention (Régimen de Industrias de Integración—RII) was also established at that time as a means for governing foreign investment practices. In addition, the Convention granted special incentives and privileges to firms given "integration industries" status. Over time, this component of the agreement proved to be the most difficult to implement (Merrill 1994).

The CACM integration process was somewhat successful in the 1960s, but by the end of the decade Honduras and El Salvador had engaged in the so-called “Soccer War.” This dispute effectively reduced the Central American Common Market to an entity that
existed merely on paper (Merrill 1994). Although it took nearly a decade to establish an official peace accord between the two countries, Honduras was able to negotiate a set of favorable trade arrangements with other CACM members. The movement toward the economic integration of Central America was rejuvenated in the early 1990s and Honduras officially rejoined the process in early part of 1992.

Figure 2-7 shows the evolution of net capital inflows to CACM over the last three decades. Bank and trade-related lending kept private capital flows to the group above 2% of aggregate GDP during most of the 1970s. Lending subsided and ODA flows increased three-fold throughout the 1980s and into the early 1990s; ODA reached 7.02% of GDP in 1990.

From that point, inflows of ODA decreased and private capital inflows, led by an expansion in FDI, jumped from just over 2% of GDP in 1997 to 5.56% in 1998. Inflows of private capital had subsided by 2001 and were once again exceeded by inflows of ODA. Other official flows never exceeded 1.5% of aggregate GDP.
As shown in Figure 2-8, the sharp increase in ODA in the early 1990s was led by foreign aid flows to an ailing Nicaraguan economy. Foreign aid to Nicaragua reached $837 million in 1991 and accounted for over 50% of the country’s GDP. Flows of ODA fell to 18.2% of Nicaraguan GDP over the next two years, only to rebound to over 48.5% of GDP in 1996 (or roughly $933 million).

![Figure 2-8. ODA Flows to Members of CACM](image)

Although relatively less substantial than ODA flows to Nicaragua, flows of assistance to both Honduras and El Salvador were significant during the 1980s and 1990s. As Figure 2-8 shows, flows of ODA to El Salvador reached 10.64% of GDP in 1987 but gradually fell below 2% by 2001. Official development flows to Honduras reached their highest level in 1999, when they accounted for more than 15% of GDP.

As previously mentioned, private capital flows to CACM were dominated by bank and trade-related lending during most of the 1970s. However, as was the case with most of the countries in the Western Hemisphere, private lending contracted significantly during the Latin American Debt Crisis. Foreign direct investment in the group, while fairly consistent throughout the 1970s and 1980s, expanded during the 1990s. In fact,
FDI increased from 1.75% of the group’s aggregate GDP in 1997 to over 5% of GDP in 1998. Interestingly, Nicaragua was both the primary recipient of ODA funds and one of the major beneficiaries of the expansion in FDI.

During the 1990s, major assistance from the International Finance Corporation was directed at implementing new FDI laws and establishing an investment promotion agency in Nicaragua. Figure 2-9 shows that FDI flows to Nicaragua increased from 0.0% to 13.23% of GDP during that decade. In 1998, the privatization of electricity and telecommunications providers in El Salvador contributed to substantial inflows of FDI (Sandrasagra 2000). Meanwhile, flows to Costa Rica grew steadily and eventually reached 4.42% of GDP.

Figure 2-9. FDI Flows to Members of CACM

Bond purchases by foreign investors were inconsistent and rarely exceeded 1% of GDP in a given year among the CACM countries. The most remarkable inflow of portfolio funds was in 1993, when investment in Honduras rose to 4.37% GDP ($152 million). Flows of portfolio capital to Costa Rica and El Salvador in 2001 led portfolio
investment in CACM to 0.89% of aggregate GDP, the highest level observed in the past three decades.

In summary, official development agencies were the main source of financial capital flows to CACM throughout the 1980s and most of the 1990s. While the group’s ability to obtain private credit was obviously affected by the debt crisis of the 1980s, FDI as a percentage of GDP increased steadily from 1984 to 1998. It is this expansion in FDI that brought inflows of private capital to levels that exceeded inflows of ODA in the late 1990s. However, it is noted that the magnitude of private inflows and official inflows converged during the first two years of the new millennium.

The Caribbean Community and Common Market

The idea of regional integration began in the Caribbean with the establishment of the rather short-lived British West Indies Federation of 1958. However, at the end of the four years during which the Federation existed, the 10 members found themselves economically the same as they had been for centuries (CARICOM Secretariat 2003). Although plans for a customs union were part of the original Federation, free trade among the islands in the region was not realized until the Caribbean Free Trade Association (CARIFTA) came into effect in 1968.

The Caribbean Community Treaty was signed in Chaguaramas, Trinidad on July 4, 1973 and it was agreed among the four independent countries of CARIFTA – Barbados, Guyana, Jamaica, and Trinidad and Tobago – that the agreement would come into effect in August of that year. The revised Treaty of Chaguaramas officially established CARICOM among these four independent signatory countries. The Treaty also set forth that eight other Caribbean nations – Antigua, Belize (British Honduras), Dominica, Grenada, St. Lucia, Montserrat, St. Vincent and St. Kitts and Nevis – would join the
Community by May 1, 1974. Haiti became the first French speaking Caribbean State to obtain full membership in CARICOM on July 3, 2002.

With the exception of Montserrat (which remains a British territory), each of the signatory CARICOM countries is currently independent from European control. Nevertheless, nearly half of the members achieved independence subsequent to 1975. The obvious problem with analyzing capital flows to these countries is the lack of availability, or separability, of such data. As a result, seven of the 15 CARICOM countries are not included in this analysis. The remaining members do represent an anecdotal sample of CARICOM, as they account for nearly 75% of the overall economic activity of the group (as measured by 2001 GDP). It is noted, however, that the unique experiences of the eight CARICOM countries not included in this analysis may not be characterized by the experiences of the countries that are examined.

As shown in Figure 2-10, capital flows to CARICOM were dominated by those from private sources during the first half of the 1970s. However, massive repayments of private debt obligations by Jamaica in 1976 and 1978 led to net outflows of private capital in those years. Throughout the 1980s, official development assistance gradually increased in some of the largest countries in CARICOM (including Haiti, Jamaica, and the Dominican Republic) and ODA flows to the group reached 3.45% of GDP by 1990. As time passed, private investment in CARICOM began to strengthen primarily in Jamaica, Trinidad and Tobago, and the Dominican Republic. By 2001, private capital flows (as a percentage of GDP) were in excess of the levels seen in 1970. In fact, net inflows of private capital were almost 10-times the magnitude of net ODA inflows in 2001.
Figure 2-10. Capital Flows to CARICOM

Figure 2-11 shows the structure of private capital flows to CARICOM. Foreign direct investment was the primary source of private capital for CARICOM as a group during the period 1970-2001. While bank and trade-related lending never exceeded 1% of GDP, FDI accounted for more than 7% of GDP in the early 1970s and more than 5%
of GDP in the late 1990s. Portfolio investment in CARICOM expanded in both 2000 and 2001, reaching 3.15% of GDP. Most of this investment came in the form of bond purchases in by foreign investors in Jamaica, Trinidad and Tobago, and Barbados.

**MERCOSUR**

MERCOSUR is an acronym for the Southern Cone Common Market and specifically refers to the South American countries of Argentina, Brazil, Paraguay and Uruguay. The Treaty of Asunción was signed on the March 26, 1991, effectively establishing MERCOSUR at the end of November that same year. The Treaty was intended to promote economic integration among countries in the region, although Chile and Bolivia were conspicuously absent from the agreement (Hudson 1995). Bolivia had originally intended to become the fifth member of MERCOSUR, although this accession has never taken place. Furthermore, Chile evaded the agreement on the contention that the other four signatory countries would have to lower their tariffs to the Chilean level before Chile would join.

The Protocol of Colonia, which was signed in January of 1994, specifically addresses the promotion and reciprocal protection of investments among the members of MERCOSUR. The Protocol grants national treatment to investments in MERCOSUR signatory countries made by investors from other members of the group. Other protocols to the Treaty of Asunción cover the defense of competition, the protection of intellectual property rights and dispute settlement.

Figure 2-12 shows that for the last three decades financial capital flows to MERCOSUR were dominated by private flows. Paraguay was the only member of MERCOSUR for which ODA represented a substantial proportion of GDP, ranging from 0.67% to nearly 3.5%. Although Brazil received more ODA in most years than the other
three members of MERCOSUR combined, the immense size of the Brazilian economy kept annual receipts to under 0.5% of GDP. Other official flows, while slightly higher than ODA, never exceeded 0.75% of the group’s aggregate GDP in a single year.

Figure 2-12. Capital Flows to MERCOSUR

Figure 2-13 shows the evolution of private flows to MERCOSUR. In much the same manner as the rest of Latin America, private flows to MERCOSUR consisted mostly of debt throughout the 1970s and early 1980s. The boom in FDI began in 1994 and continued through the end of the decade. Brazil and Argentina attracted a vast majority of the FDI flows to the group. In fact, FDI in Argentina quadrupled in the latter half of the 1990s, and FDI in Brazil in 1999 was more than 6-times the level in 1995. Large flows of portfolio capital also poured into both Argentina and Brazil throughout the 1990s; flows to these two countries led portfolio investment to just over 3% of MERCOSUR’s aggregate GDP in 1993.

MERCOSUR is unique in that portfolio investment in the group really began to increase prior to the expansion in FDI, whereas this wasn’t necessarily the case in the rest of Western Hemisphere. With the exception of Mexico, the heaviest portfolio investment
in Latin America took place in Argentina and Brazil. Also, differences in the magnitude of private capital flows and official flows are also more obvious in MERCOSUR than in any of the other groups in the Western Hemisphere. However, the gap narrowed slightly in 2001 as private flows to the group dropped, led mostly by contractions in both portfolio investment and FDI in Argentina.

Figure 2-13. Private Capital Flows to MERCOSUR

**Mexico and Chile**

Mexico is a party to several free trade agreements with countries and trade groups on both sides of the globe. The most significant of these agreements are the so-called Group of Three (1995) and the 1994 North American Free Trade Agreement (NAFTA). The Group of Three is a sub-regional economic complementarity agreement which includes provisions for trilateral investment flows between Mexico, Columbia and Venezuela. Similarly, NAFTA also provides for the national treatment of signatory countries’ investors and their investments.
Figure 2-14 shows that, with the exception of four years in the 1980s, private funds were the most abundant type of financial capital flowing into Mexico during the period 1970-2001. In fact, Mexico attracted almost twice as much private capital as the Andean Community, CACM and CARICOM combined. Private flows to Mexico consisted mostly of bank and trade-related lending until the mid-1980s. However, credit reversals and repayments to foreign lenders exceeded new borrowing in 1993 by more than $6 billion.

Figure 2-15 shows the structure of private capital inflows to Mexico during the period 1970-2001. The figure shows that portfolio investment poured into Mexico at an unprecedented rate in 1993, perhaps in anticipation of NAFTA. Bond purchases by foreign investors amounted to nearly $9 billion while portfolio equity investment soared to $14.3 billion. Total portfolio investment in 1993 reached 4.87% of GDP, whereas FDI only amounted to just over 1%. Direct investment expanded in the latter half of the 1990s and eventually reached 4% of GDP in 2001. Meanwhile, portfolio flows were much more volatile, ranging from -0.38% to 4.29% of GDP.
Chile and Mexico are similar in the fact that ODA accounted for a small portion of total capital inflows over the last three decades. In the case of Chile, ODA never surpassed $200 million in any single year. Private capital flows were substantial during the late 1970s and early 1980s, accounting for anywhere between 9% and 12% of GDP annually. Nearly all of the private capital flowing into Chile at this time took the form of bank and trade-related lending. Private credit collapsed during the Latin American debt crisis and for a period of three years in the late 1980s official flows to Chile actually exceeded inflows from private sources.

Following the crisis, FDI in Chile surged to 12.3% of GDP. A slight recovery in private lending and a modest increase in portfolio investment also contributed to private capital inflows reaching almost 18% of GDP by the end of the 1990s. As Figure 2-16 shows, the new millennium brought a sharp decline in FDI, and thus, net private capital inflows as a whole.
Summary of Trends

The figures in this chapter provide a graphical illustration of both the volatility and evolving structure of capital flows to the developing countries of the Western Hemisphere. As previously mentioned, Schmukler (2004) argues that the evolutionary process has been shaped by three primary agents. First, governments have influenced the structure of capital flows in some instances by relaxing restrictions on the foreign exchange transactions and allowing increased participation by foreign investors in many sectors. Second, borrowers and investors, in choosing among different forms of financing alternatives, have also played a role. Finally, financial institutions have begun to offer a broader range of financing alternatives to investors and borrowers by making use of international equity and debt markets. As a result, the developing countries of the Western Hemisphere by and large have become more financially integrated with the developed economies of the world. However, some interesting differences have been exposed in this chapter with regard to the level of private foreign investment in the various countries within the region.
Private capital flows to developing countries around the globe expanded sharply during the last thirty years. The bulk of this expansion was accounted for by increases in foreign direct investment in many Latin American and Caribbean economies. The chapters that follow examine some of the potential reasons for such substantial increases in FDI. Chapter 3 is devoted to reviewing the theoretical considerations of researchers who have examined the issue in the past.
CHAPTER 3
THEORETICAL FOUNDATIONS

Foreign direct investment has been examined in a number of contexts in the economic literature. The significance of the topic is illustrated by the variety of theoretical models and frameworks that have emerged from efforts to characterize and explain FDI. The diversity of the empirical literature alludes to the existence of many distinct research agendas. An area that receives a disproportionate amount of attention (and the area of concern in this study) is identifying the factors that drive flows of FDI. The economic literature offers several approaches to examining this issue.

Ethier (1986) developed a general equilibrium approach to the determination of FDI flows, addressing the need to understand how the founding principles of neoclassical trade theory relate to the issue of foreign investment. Similar models were developed by Helpman (1984) and Markusen (1984). While they are theoretically elegant, efforts to test these models empirically have met with limited success. In fact, a review of the empirical literature on FDI uncovers little in the way of general equilibrium comparative-static analyses.

A second approach to the determination of global FDI flows is rooted in the theory of industrial organization and is aimed at explaining why individual firms make investments in foreign countries to produce the same goods as they produce at home (Blomstöm and Kokko 1997). Early theoretical work in this area, including Hymer (1976) and Vernon (1966), focused on the firm-specific characteristics that make FDI more attractive than exporting (Buckely and Casson 1998b). Meanwhile, Dunning (1977,
1995) expanded the set of factors to include host-country-specific variables as well as firm-specific characteristics. Empirical research along these lines has shown that tariff and non-tariff barriers to trade, as well as the legal, political and economic conditions of host countries have a significant effect on investment decisions (Davidson 1980).

In a third body of literature, researchers model FDI flows as a function of either the global supply of investment funds, the host country’s demand for investment funds, or some combination of the two. In one example of such an analysis, Dasgupta and Ratha (2000) developed a two-stage approach that addresses both the supply and demand for investment funds without relying on general equilibrium. In the first stage, the global supply of FDI is determined by so-called “push” factors as investors in developed countries decide how much capital to invest in the developing countries. In the second stage, the global supply of direct investment funds is given, while country-specific variables (the so-called “pull” factors) determine each developing country’s respective share of FDI.

The remainder of this chapter is devoted to comparing two widely-cited streams of theory that are often used to explain the global allocation of FDI flows: neoclassical economic theory and strategic management theory. This will serve to illustrate the perspective from which the empirical section of this study is approached. The methodology developed here is that foreign direct investment, both vertical and

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1 Variables considered in the first stage of the process include global market growth (proxied by world trade as a percentage of world GDP), world GDP growth, GDP growth in developing countries as a whole, the real LIBOR rate and an index of privatization.

2 Variables examined in the second stage include the current account balance, GNP per capita and private non-FDI flows as a percentage of GDP.
horizontal, is the observable outcome of coordinated international economic activity⁴. As such, the international allocation of FDI flows is ultimately dictated by investors as they choose among alternative investment locations based on criteria that are perceived to affect profitability. *Neoclassical economic theory* pays little attention to the actions of firms with regard to resource allocation, treating the firm as the proverbial “black box” into which resources go and out of which goods emerge (Demsetz 1997). Conversely, the *strategic management* stream of literature (which has Coase’s 1937 theory of internalization at its core) is concerned with explaining the strategic allocation of resources by firms, thus providing a role for the decisions of management.

**Neoclassical Economic Theory vs. Strategic Management Theory**

The purpose of neoclassical economic theory, with perfect competition as its core, “is to understand price-guided, not management-guided, resource allocation” (Demsetz 1997 p.426). The economic firm is generally embodied in a mathematical function (i.e., a production function) defined in terms of technology. In this construct, the usefulness of the theory lies in its ability to “capture fundamental economic forces and their interrelationships” (Taylor and Seale 1999 p.8). The theory illustrates a state of dependency, where production takes place in the firm and consumption and resource supply take place in households (Demsetz 1997). The strategic management of resource supply and output demand conditions is not directly addressed by neoclassical economic theory, giving rise to the suggestion that the economic firm is a “black-box” about which little is known.

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³ Most foreign direct investment is “horizontal” in the sense that a majority of the output of the foreign affiliate not intended for export to the parent firm’s home country (Markusen 1995).
Over time, neoclassical theory has been useful in attempting to explain the
domestic, and by extension in the trade literature, the international allocation of resources
and economic welfare. In neoclassical trade theory, the notion of the firm is generally
that of a purely domestic entity “competing via trade with the national champions of
other countries” (Markusen 1995 p.169). In addition to the assumption of perfect
competition, extending the theory to the international trade of goods and services often
requires the researcher to assume the existence of comparative advantages in resource
supply. The shortcomings of this extension have been recognized by many and a more
recent research agenda (referred to by Markusen as the “new trade theory”) is aimed at
acknowledging that “trade and gains from trade can arise independently of any pattern of
comparative advantage (as traditionally understood) as firms exploit economies of scale
and pursue strategies of product differentiation in an imperfectly competitive
environment” (Markusen 1995 p.169).

Relaxing the assumption of perfect competition does not pose a significant problem
for general-equilibrium trade analysis. However, the definition of the firm in neoclassical
trade theory inherently limits its ability to provide any explanation for the widespread
“real-world” phenomenon of the multinational enterprise. As the boundaries of the firm
expand in both geographic and product space, the need arises to address the strategic
activities that occur inside the black-box of the economic firm.

A useful example is Calderon-Rossell’s (1985) attempt to model the effect of
foreign exchange rates and production costs on the MNC’s choice between producing in
foreign and/or domestic locations. In this model, the multinational firm is composed of a
parent (in the home country) and a subsidiary (in a foreign country). Monopolistic
demand and cost functions for each are assumed. The limitations of this approach are characteristic of neoclassical trade model in that the analysis is limited to a two-country world and requires the assumption of perfect competition, comparative advantage and zero transportation costs.

The strategic management body of literature was inspired by Robinson’s (1932) pioneering suggestion that assumptions in economic theory should correspond to conditions in the real world (Coase 1937). Robinson (1932) takes notice of the disparity between the firm as it is defined in economic theory and the firm as it is described by the “plain man.” Coase (1937) subsequently set out to provide a definition of the firm that is “not only realistic in that it corresponds to what is meant by a firm in the real world” (p.386) but is also tractable by the tools of economic analysis.

Coase’s (1937) seminal paper addressed the motives for organizing domestic assets and labor into a firm rather than making use of specialized market exchanges to conduct arm’s-length transactions. The main tenet is that the cost of using the “price mechanism” associated with market exchanges, along with the costs of negotiating and concluding separate contracts make it more profitable to internalize production activities. He stated, “It is true that contracts are not eliminated when there is a firm but they are greatly reduced” (Coase 1937 pp.390-91).

Coase contended that elements of the regulatory regime in an economy also provide incentive for firms to internalize operations. Specifically, he contends:

Another factor that should be noted is that exchange transactions on a market and the same transaction organised within a firm are often treated differently by Governments or other bodies with regulatory powers. If we consider the operation of a sales tax, it is clear that it is a tax on market transactions and not on the same transactions organised within the firm. Now since these are alternative methods of “organisation” – by the price mechanism or by the entrepreneur – such a regulation
would bring into existence firms which otherwise would have no *raison d’être*…Of course, to the extent that firms already exist, such a measure as a sales tax would merely tend to make them larger than they would otherwise be. (Coase 1937 p.393)

Thus, the “Coasian” concept of internalization can be described as the firm’s incentive to internalize imperfect markets when the cost associated with transacting internally is lower. However, Coase also identified the tendency for firms to increase in size and diversify geographically as the costs of decentralization (i.e., communication and transportation costs) decrease, albeit in a purely domestic sense. Nevertheless, his work ultimately led to the realization that the firm’s boundaries are set in two dimensions: product space (through vertical and horizontal integration), and geographic space (both regionally and internationally).

Pointing once again to the dichotomy between the economist’s definition of the firm and the firm in “everyday speech,” Phelan and Lewin (2000) argue that modern theorists are really attempting to explain the existence of the “corporation.” For them, a corporation is broadly defined as an entity comprised of a number of people and other assets, which may have legal status as a company or partnership. This rather broad definition is a reflection of the structural diversity of the real-world organizations that are referred to by modern economic theorists as firms.

The focus of more recent research “has shifted away from the coordination problems originally emphasized by Coase and towards the role of firm boundaries in providing incentives” (Holmström and Roberts 1998 p.74). Furthermore, strategists have made significant contributions to understanding the benefits of the firm structure as well as how resources affect their boundaries (Phelan and Lewin 1999). An extensive body of literature is devoted to examining the relationship between firms and so-called hold-up problems, transactions costs, and intellectual property rights. While much of the early
research was conducted in a domestic setting, Dunning (1977) provided a framework that extends the analysis to the international allocation of economic activity.

**Dunning’s OLI Framework**

The “Coasian” theory does not specifically address the emergence of the multinational corporation. However, a more contemporary agenda of the strategic management literature is to explain the determinants of foreign production, and hence, the existence of multinationals. Within this area of research, Dunning’s (1977) Ownership-Location-Internalization (OLI) framework receives a disproportionate amount of attention.

In an effort to address why firms take ownership positions in foreign markets as opposed to exporting or conducting transactions at arm’s length, Dunning contended that foreign direct investments (FDIs) are made when three conditions are fulfilled:

(1) the firm must possess *ownership*-specific advantages, those that are “internal to the enterprise of the home country, but capable of being used with other resources in the home country or elsewhere” (Dunning 1970 p.399). Ownership-specific advantages include organizational and entrepreneurial skills, patents, and firm size (which may lead to both scale economies and market power);

(2) the host country must possess *location*-specific advantages, those “originating only from the resources of [the home] country but available to all firms” (Dunning 1970 p.399). Location-specific endowments include Ricardian-type endowments, i.e., proximity to the point of sale, market size, and availability of natural resources and manpower; as well as the legal and commercial environment in which resources are used, i.e., market structure, and governmental legislation and policies (Dunning 1980);

(3) and finally, there must be benefits to *internalizing* foreign production processes.

Addressing the two former conditions, Dunning (1980) states, “The possession of *ownership* advantages determines which firms will supply a particular market, whereas the pattern of location endowments explains whether the firm will supply that market by exports (trade) or by local production (non-trade) [and hence FDI]” (p.11). The third
condition addresses the mechanism by which firms exploit ownership and location advantages in order to service foreign markets. In subsequent work, Itaki (1991) pointed out that Dunning’s early concept of internalization differs from that of Coase in that it “is interpreted as internalization of an “ownership advantage” rather than that of an imperfect market” (p.445). This is made clear in the following statement by Dunning:

The thesis is that the international competitiveness of a country’s products is attributable not only to the possession of superior resources of its enterprises but also to the desire and ability of these enterprises to internalise the advantages resulting from this possession; and that servicing a foreign market through foreign production confers unique benefits of this kind. (Dunning 1977 p.402)

Nonetheless, Dunning subsequently reconciled his concept of internalization with that of Coase, modifying it to include internalization of both imperfect markets and ownership advantages (Itaki 1991).

Dunning (1980) later revisited his original argument and added that the desirability of internalizing foreign production processes could derive from both market imperfections and public intervention. Market imperfections include uncertainty in future market conditions or government policies, structural imperfections (e.g., barriers to entry, high transactions costs, etc.) and cognitive imperfections (e.g., unavailability or costly acquisition of information about the product or service being provided), while two types of public intervention were considered (at least, by Dunning) to be relevant to multinational enterprises.

The first concerns the extent to which government intervenes in the production and marketing of public goods by corporations. Dunning (1977) states, “the need both to generate innovations and ideas and to retain exclusive right to their use, has been one of the main inducements for enterprises to internalize their activities” (p.404). In addition, the efficient exploitation of technology often requires complementary resources that
cannot be protected by patent (e.g., financial systems, organizational skills, marketing expertise and managerial experience). Dunning indicates that the lack of public intervention in the production and marketing of these complementary resources also encourages internalization by firms.

The second type of public intervention that promotes internalization is economic policy which tends to distort the international allocation of resources. This includes corporate taxes and policies regarding the remittance of dividends and other forms of profit repatriation. For example, a multinational enterprise, in an effort to record profits in the lowest tax areas, may find it desirable to control the prices at which intermediary products are exchanged by its international groups. Thus, the firm may internalize production across international boarders and use transfer pricing in order to avoid higher sales taxes resulting from the exchange of intermediary goods at external-market prices. However, Dunning recognized that as early as the 1970s, more intense governmental surveillance over transfer pricing strategies had begun to erode some of these types of benefits (Dunning 1977).

In his summarization of the OLI framework, Kurt Pederson (2002) provides a useful figure that illustrates how the presence or absence of location and internalization advantages might affect the mode of internationalization preferred by firms. In Figure 2-1 (which is a reproduction of Pederson’s figure), +I and +L indicate the existence of internalization and location advantages respectively, while –I and –L indicate their absence. In the figure, the firm’s possession of ownership advantages is assumed.

Pederson isolates the role of location-specific advantages, suggesting that the extent to which these types of advantages exist influences the firm’s decision of whether
to make a direct investment or to serve the foreign market at arm’s length. Loree and Guisinger (1995) classify aspects of the policy environment (e.g., corporate tax rates, regulations on profit repatriation and foreign ownership, and investment incentives) as location-specific (dis)advantages and state that host-country governments have a “normative desire…to manipulate policies that are thought to affect FDI flows” (p.285).

In his critique of the OLI framework, Itaki (1991) takes issue with the inseparability of ownership and location advantages by pointing out that the eclectic framework is “weakest when ascertaining which items are most decisive in attracting FDI” (p.456). Using the case of a technological breakthrough made by a foreign affiliate as an example, Itaki contends that the new technology would be classified by Dunning as an ownership advantage of the parent MNC. However, to the extent that the cost of developing and implementing the new technology is a product of local labor costs in the foreign country, the advantage of the new technology (in economic terms) may be both ownership-specific and location-specific. While Itaki’s observations are valid, the purpose of this study is not to make inferences on which of Dunning’s three conditions bears the greatest impact on the FDI decision. Rather, the usefulness of the OLI framework lies in its taxonomical illustration of factors that may positively or negatively affect the MNC’s decision to invest in a given foreign country.

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Foreign direct investment has been modeled by some researchers as the end-result of a multi-stage process\(^4\). Although the context varies, the same analogy is useful in setting a backdrop for this study. In the first stage, firms develop the initiative to establish some form of international presence. This initiative could derive from conditions specific to the home country, global economic conditions, or a mix of the two. In the second stage, the firm’s management makes decisions on the mode of organization and location for its international operation. Here, it is argued that managers consider location-specific attributes like the overall investment climate, market size and barriers to trade (Dunning 1973). The third stage of the process involves making detailed economic profitability forecasts given a prospective location for the foreign affiliate. Important factors in this stage include the level of industrial concentration and existing competition (Miller and Weigel 1972).

The literature review provided in this chapter is intended to provide insight into the first stage of the process described above, while the empirical considerations of this study pertain more directly to the second stage. Simply put, different aspects of the investment climate are analyzed to determine their effect, if any, on the extent to which foreign firms in general have found each country to be a suitable or unsuitable business location. However, one should remain cognizant of the fact that a firm’s decision to operate in a foreign market does not necessarily result in foreign investment. Contractor and Kundu (1998) provide clarification of this point by stating

Until a decade ago, local adaptation by global firms was expressed by varying their business practices and methods in each country, while leaving the ownership and organizational structures fairly invariant across nations. Today, the modal choice issue has gone beyond the “internalize or not” question (Buckley and Casson,

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\(^4\) See Miller and Weigel (1972) and Barrell and Pain (1996) for two examples.
1976), and even beyond the “licensing vs. joint venture vs. merger” set of alternatives (in Buckley and Casson 1996), to include other types of [non-investment based] alliances, such as management service contracts, and franchising. The general modal choice set now includes varying levels of equity ownership, as well as several alliances of various descriptions. The manager must, today, choose from a larger set of options. (Contractor and Kundu 1998 p.353).

Thus, the literal intent of this study is to examine how firms respond to host-country investment-climate conditions, with specific attention given to the affect on the decision to participate via an equity-based mode of organization.

In an attempt to understand how the investment climate affects FDI decisions, Stobaugh, Jr. (1969) specified the following basic approaches companies take when analyzing the investment climate of potential host countries: (1) go-no go, (2) premium for risk, (3) range of estimates, and (4) risk analysis. The two former approaches are the least complex with regard to the required investigation and calculations, while the latter two involve highly complex analyses. Nevertheless, it is useful to illustrate how elements of the investment climate might affect the decisions made by firms who use the two simpler approaches (i.e., go-no go and premium for risk).

For Stobaugh, managers who use the go-no go approach sometimes use it in conjunction with the premium for risk approach and typically base the investment decision on one or two characteristics of the host country. For instance, suppose the manager is faced with a high probability that the host country currency will devalue, a condition that directly affects the projected profitability of the venture. In this case, the risk of devaluation might lead the manager to reject the investment alternative (in other words, the manager chooses the “no go” option). On the other hand, if the probability of devaluation is not high enough to warrant a rejection on the initial screening, the manager might require a higher return on investment given the risk of devaluation, thus requiring a
premium for the risk. In either case, a host country facing a high probability of devaluation is less likely to attract FDI than a country with a low probability.

This example provides an understanding of how just one element of the investment climate (fluctuations in foreign currency values) might affect the outcome of the FDI decision and can be extended to account for other investment climate factors as well as firms who use alternative investment approaches. Other examples of location-specific factors that could influence firms looking to invest in a specific foreign country might include the level of political (in)stability, the nature of the corporate tax regime, the extent to which foreign firms are protected from expropriation of assets and the level of business-related corruption.

It is easy to imagine how each of these factors could lead a foreign firm to either reject or accept an investment project on the basis of its perceived level of risk. However, theoretical research into the foreign investment behavior of firms also suggests that other factors often play an important role in the decision process. For instance, the existence of resources with strong global demand in a particular country might attract foreign investment irregardless of conditions that would otherwise translate into a prohibitive level of risk for foreign firms. Alternatively, previous research has also shown that the level of FDI may be related to the other types of capital (e.g., official development assistance and private foreign lending) flowing into a given country.

The next chapter focuses on how empirical researchers have examined the factors that affect the FDI decisions of multinational firms. Specific attention is given to the strategic management stream of literature. Later, in Chapter 5, each of countries
examined in this analysis are analyzed for the extent to which other considerations might dominate the effect of the investment climate.
CHAPTER 4
EMPIRICAL CONSIDERATIONS

The literature review presented in the previous chapter highlighted the distinction between neoclassical economic theory and strategic management theory as each relates to the direct investment activities of the multinational corporation (MNC). The purpose of this chapter is to develop an empirical model that can be used to analyze FDI flows to selected developing economies in the Western Hemisphere. The chapter begins by reviewing several empirical studies specifically concerned with the determinants of foreign direct investment as well as the factors that affect the mode of organization (i.e., ownership structure) and the location of FDI. The chapter ends with an in-depth look at the variables that are analyzed in this study.

The MNC’s Motivations for Making Direct Investments

It should be recognized that Dunning’s OLI triad represents only one of many attempts to understand why MNCs establish foreign operations. While some of the alternative theories have gained impetus, most are derived from the same motivations and often yield results that tend to reiterate Dunning’s contentions. For example, in a direct comparison of portfolio theory and the OLI framework, Morck and Yeung (1991) found that the incentives for FDI derive from the benefits of internalizing foreign operations rather than benefits associated with international diversification of corporate portfolios.

Morck and Yeung (1991) examined the extent to which multinationality affects a firm’s market capitalization (i.e., “market cap”), and thus the net worth of the firm’s shareholders. Assuming that financial markets operate efficiently, the MNC’s market cap...
$V$ can be measured as the sum of its tangible ($T$) and intangible ($I$) asset values. Citing a host of earlier studies (including work by Dunning, Vernon, and Modigliani and Miller), the authors set out to determine the extent to which a firm’s degree of multinationality\(^1\) impacts its intangible asset value. Expenditures on R & D and advertising were used to control for the effect of intangible assets like technical expertise and consumer goodwill. The authors also control for different industries by including a series of three-digit SIC\(^2\) code dummy variables.

Ordinary least squares (OLS) regression results indicated that the degree of multinationality was positively correlated with the MNC’s share price and that the relationship was highly significant. On average, a firm with five or more subsidiaries was found to have a share price 8.41% higher than that of a firm with less than five foreign subsidiaries. More importantly, Morck and Yeung showed that the impact of spending on intangibles like advertising or R & D also increased with the degree of multinationality.

The implication of these findings, according to the authors, is that the value of multinationality is not derived from the international diversification of risk, tax advantages or relative production costs. Rather, the firm’s possession of (ownership-specific) intangible assets serves as a necessary condition for FDI to positively affect the firm’s market value. Thus, the results call into question the notion that investors value

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\(^1\) The degree of multinationality is measured by the number of subsidiaries the firm has, the number of foreign nations in which the firm has subsidiaries and a series of dummy variables representing various levels of FDI (Morck and Yeung 1991).

\(^2\) Standard Industrial Classification
the MNC as a means for international portfolio diversification, and lend credibility to the theory of internalization.

Pugel (1981) tested the effect of four ownership-specific variables – the possession of proprietary new technology, marketing ability and expertise, organizational and managerial technique, and the ability to obtain capital at favorable rates – on outward U.S. FDI intensity, which was measured as the share of U.S. subsidiary profits in the total after-tax industry profits in the host country. He used the proportion of scientists and engineers in the total workforce as a proxy for the extent to which new technology is generated through R & D. Advertising intensity in the industry served as a proxy for marketing abilities and the importance of organizational and managerial technique was measured by the share of total employment in the industry accounted for by managers. Finally, the amount of capital necessary to establish a factory of minimum efficient scale was measured by total assets (net of depreciation) multiplied by the location-specific importance of scale economies (the measurement of which is explained below).

Using data roughly corresponding to the 3-digit SIC level on U.S. manufacturing industries, Pugel found that all four ownership advantages favored outward FDI. He also included two location-specific independent variables representing “centralizing” and “decentralizing” agents. Namely, he examined the importance of scale economies in production – measured as the average size of the largest plants producing half of the industry’s output divided by total industry shipments – and the magnitude of transport costs. The four-firm concentration ratio (C4) of each industry was also included as a measure of oligopolistic rivalry.
Pugel specified a double-logarithmic regression equation and used OLS to estimate the relationships between the dependent and explanatory variables. As such, the resulting parameter estimates can be interpreted as elasticities. The importance of scale economies was shown to hinder outward FDI, as was the magnitude of transport costs, although the effect of the latter was statistically insignificant. The C4 variable was positively related to FDI, indicating that “oligopolistic reaction leads to more FDI than would otherwise occur in an industry” (Pugel 1981, p.226). Pugel takes this finding as an indication of the fact that firms operating in industries where production concentration is high tend be more likely to protect their market share in foreign countries by establishing a subsidiary.

The findings of these studies suggest that a firm’s FDI decision is impacted by the need to protect proprietary information and expertise. However, the nature of this relationship has been a source of debate among theorists. Along these lines, Lee and Mansfield (1996) found that the adequacy of a developing country’s system of intellectual property protection (a location-specific variable observed by direct survey of a random sample of U.S. firms) affects both the volume and composition of FDI in a country.

Least squares estimates on outward FDI data from 100 major U.S. firms in 14 developing countries suggest that “if the percentage of firms regarding protection in a particular country as inadequate falls by 10 points, U.S. foreign direct investment there might increase by about $140 million per year” (Lee and Mansfield 1996, p.185). Other theorists have argued that a lack of intellectual property protection may favor FDI as opposed to licensing or contracting. In contrast, the empirical results presented by Lee
and Mansfield suggest that a MNC’s incentive to invest directly is positively related to the level of intellectual property protection in the host country.

**Decisions on the Mode of Organization**

The study by Lee and Mansfield provides an example of how the scope of research on FDI has broadened over time from analyzing the export versus FDI decision to focusing on the incentives of internalization as opposed to licensing, subcontracting or franchising. According to Buckley and Casson (1998), the 1990s witnessed a renewed interest in why certain circumstances seem to favor some modes of market entry over others. They make the following statement which, in fact, embodies the perspective from which this study is approached:

> Entry [into a foreign market] involves two interdependent decisions – on location and mode of control. Exporting is domestically located and administratively controlled, foreign licensing is foreign located and contractually controlled, and FDI is foreign located and administratively controlled. (Buckley and Casson 1998, p.541)

A review of the empirical literature on alternative modes of foreign entry and ownership turns up studies on the decision between greenfield investment or mergers and acquisitions (see Zejan 1990, and Hennart and Park 1993), joint ventures versus wholly-owned subsidiaries (see various works by Contractor and Lorange, and Beamish and Killing), and more broadly, the decision between foreign equity investment and non-equity contractual alliances. Researchers have found that many of the same variables play a role in each of these distinct decisions.

The theoretical model of entry strategies developed Buckley and Casson (1998) yields the generalized result that high transaction costs cause firms to favor FDI over subcontracting and licensing if the cost is associated with arm’s-length technology transfer, and over franchising if the cost is associated with the arm’s-length intermediate
output market. However, empirical work by Contractor and Kundu (1998) indicates that the choice of entry mode depends upon much more than transactions costs, pointing out the relevance of agency costs as well as the importance of host country-specific variables and firm characteristics. The authors provide an interesting study on the international hotel industry, a sector in which foreign equity ownership is at least as widespread as non-equity modes of organization (Contractor and Kundu 1998).

Contractor and Kundu specify their dependent variable as the mode of organization and allow for four different modes: (i) fully owned, (ii) partially owned, (iii) management or service contract and (iv) franchise. Host country-specific determinants included as independent variables are Frost and Sullivan’s “Composite Risk Index”, the level of foreign business penetration (measured by FDI/GDP), the level of development (i.e., GDP per capita), and a measure of cultural distance between the home and host countries3. The most interesting result of the analysis is that foreign equity-based modes are less likely in risky countries and more likely in lower income countries.

The results reached by Contractor and Kundu were supported by survey questionnaire responses reported by Kim and Hwang (1992), who surveyed 96 multinational managers on the importance of host-country environmental factors to the decision between three modes of entry (i.e., licensing, joint venture and wholly-owned subsidiary). The survey results indicated that perceived country risk and the level of unfamiliarity with the host country are more important environmental factors than the uncertainty of demand and intensity of competition in the host country. Specifically,

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3 Firm-specific structural, strategy and control factors are also considered by Contractor and Kundu but are less relevant to the intent of this study and are omitted for the sake of time.
higher levels of risk and unfamiliarity were associated with lower levels of resource commitments and hence lower levels of FDI.

As part of the vast literature inspired by Dunning’ seminal work, Agarwal and Ramiswami (1992) examined the interrelationships between ownership, location and internalization (OLI) factors and the choice of entry mode. The authors pointed out that while there is a significant body of research devoted to examining the effect of OLI factors, the interrelationships of the three types of variables have largely been neglected. They concentrated on overseas leasing data from the U.S. equipment leasing industry and specified the OLI triad as

- Ownership advantages such as firm size, multinational experience and the ability to develop differentiated products
- Location advantages such as market potential and level of investment risk
- Internalization advantages such as contractual risk.

Overseas leasing is carried out by foreign financiers who either “export” the loaned funds from the home country or establish a foreign leasing subsidiary. Furthermore, foreign leasing subsidiaries are established through contractual arrangement, setting up a new foreign entity, or by direct investment into a foreign leasing company. The authors analyzed survey data consisting of responses from Presidents and CEOs of 97 U.S. leasing firms on the effect of the OLI factors. The interacting relationships estimated by Agarwal and Ramiswami were obtained from logistic regression and chi-square analysis.

The major findings were as follows: (1) large firms show a preference for investment modes of entry in both low and high potential markets; (2) small firms with limited multinational experience prefer the joint venture mode of entry in markets with high potential; (3) firms with greater ability to develop differentiated products favor
foreign investment over exporting when contractual risks are high; and, (4) even in high potential markets, substantial investment risk leads both small and large firms to export instead of investing.

The results presented by Agarwal and Ramiswami highlight an important fact. That is, although the empirical methods of each study mentioned above vary, they share a common result. That is, host-country locational factors and their interactions with ownership-specific factors play a key role in determining the MNC’s choice of entry mode (i.e., non-investment versus equity investment-based). The investment climate, or at least investment risk, also appears to have a substantial effect on the decision of whether or not to establish operations in a foreign location.

**Decisions on Location**

While many studies (including those cited thus far) have examined the effects of ownership and internalization factors on the FDI decision, a large body of literature is specifically devoted to analyzing the location decision. This is typically done by modeling the cross-country distribution of FDI flows from a particular country (flows from the U.S. and Japan have received a disproportionate amount of attention), groups of countries (here, flows from the EU are the primary concern), or the entire universe of countries. From a host-country’s perspective, it is important to understand how firms determine the geographic location of FDI. However, a randomly-selected group of managers would likely point out a diverse collection of factors that affect this decision. For instance, the manager of a labor-intensive firm may value low wage rates while the management of a capital-intensive firm might tolerate higher wages in exchange for lower interest rates. Nevertheless, analyzing the distribution of outward FDI flows does provide some insight into how firms choose foreign investment locations.
Mody and Srinivasan (1997) analyzed the allocation of investment funds by Japanese and U.S. investors by concentrating on the factors that caused investors to differentiate between countries. They treat the FDI decision as a two-step process in which the foreign investor first decides how much capital to invest abroad and then how that pool of investment funds will be allocated across countries. Separate equations were estimated for each supplier country, with the dependent variable specified as the share of FDI host-country \( i \) received in each time period. The authors controlled for factors like proximity in distance and methods of conducting business while testing for the effects of location-specific variables like market size, the price of labor and capital, the corporate tax rate, trade propensity, country risk, infrastructure, education and the existing stock of FDI (the latter of which was included as a measure of persistence).

Several sets of regression coefficients were estimated. First, OLS estimators were obtained, although the authors point out that these estimates are biased when unobserved country effects are correlated with the observed explanatory variables. Second, the fixed-effects model was used to eliminate the influence of unobserved country characteristics, thus providing coefficients that “reflect [the] responsiveness of foreign investment to changes within a country, over time” (Mody and Srinivasan 1997, p.784). Third, between-estimators were provided with the intent to capture the variation in FDI shares across countries\(^4\). While the authors recognize that each of these regression techniques has the potential to result in biased estimators, they indicate that the results provide different perspectives and can be used in conjunction to describe the variation in the data. Finally, generalized least squares (GLS) estimators are obtained from a random-effects

\(^4\) Mody and Srinivasan (1997) interpret the fixed-effects estimators (or “within-estimators”) as short-run effects and the between-estimators as long-run effects.
model. The authors point out that the GLS estimates represent a weighted average of within- and between-estimators, thus providing the best composite picture.

Country infrastructure and primary school enrollment rates (a measure of labor quality) were found to be major influences on location only. Meanwhile, past investment in a country affected both the timing and location of FDI. Corporate tax rates, the cost of investment, country risk and wage inflation were not significant determinants of the location decision, although the latter two did effect the timing of investment. Finally, the authors found that the determinants of investment location for Japanese and U.S. investors had converged over time.

As is the case with the model presented by Mody and Srinivasan, other studies on the policy determinants of FDI location primarily concentrate on the effect of host-country corporate tax rates. Loree and Guisinger (1995) indicate that this is primarily due to the difficulty of capturing the incidence of other policy variables. However, data compiled by the U.S. Department of Commerce and the Internal Revenue Service in 1977 and 1982 provided information on host-country investment incentives and performance requirements, in addition to corporate tax rates. Loree and Guisinger (1995) tested the effect of all three policy variables on the location of U.S. direct investment abroad. As the authors point out, any empirical study that “attempts to model and observe the effects of policies requires the inclusion of non-policy variables as controls of alternative explanations” (p.285). Thus, they included GDP, infrastructure, and country risk as independent control variables.

Loree and Guisinger made two interesting distinctions with regard to the measurement of variables included in their model. First, the authors indicate that total
FDI flows include equity investment, reinvested earnings of foreign subsidiaries, and other long- and short-term capital flows. Consequently, they specified the dependent variable as the equity component of FDI, as opposed to total FDI flows. Second, they point out that models intended to measure the response of FDI flows to changes in the absolute level of the dependent variables often rely on the assumption that the stock of FDI in each country is at equilibrium at the beginning of each period. Citing the difficulty of maintaining such an assumption, the authors chose to measure the variables in absolute levels.

Loree and Guisinger also include a dummy variable for the host country’s status as “developed” or “developing” (as classified by the OECD). They justify the inclusion of this variable by pointing out that differences in the pattern of liberalization among developed and developing countries suggest that the affects of policy variables in each class may differ. So, in addition to testing the aforementioned relationships, the authors tested for differential effects of policy variables among developed and developing countries.

OLS coefficient estimates were reported for both policy and non-policy determinants of U.S. FDI location in 1977 and 1982. While the results suggest that both play a significant role, policy variables may be more important since they are able to be altered quickly while non-policy variables take months, sometimes years to change (Loree and Guisinger 1995). Although most of the non-policy variables had the expected signs, only the effect of infrastructure was statistically significant in both years. The authors indicate that the insignificance of the other non-policy variables is most likely
due to industry specific characteristics that can only be captured by segmenting the FDI data.

However, the interaction of the policy variables and the development-status dummy provide some interesting inferences. First, host country performance requirements had a negative influence on equity FDI flows to both developed and developing countries. Second, investment incentives had a positive influence on equity FDI in developing host countries only. Finally, the most significant effect was that of the corporate tax rate, which was negatively correlated with U.S. FDI in both periods irregardless of development status.

Woodward and Rolfe (1993) concentrated on export-oriented FDI activity in the Caribbean Basin over a four-year period in the mid-1980s. The data available to the authors allowed them to examine the effect of location-specific characteristics on manufacturing plant openings in the region. It was assumed that investors in the region would choose one of 16 location alternatives by analyzing the level of profit their firm could achieve by locating in that country. Using conditional-logit analysis, the authors found that GNP per capita, the length of tax holidays and the likelihood of an exchange rate devaluation each had a large, positive, and statistically significant effect on locational probability. Significant negative relationships were found for wage rates, restrictions on the repatriation of profits, inflation and transport costs.

Loree and Guisinger indicate that this may be due to competitive response from other countries ultimately “ending in the prisoner’s dilemma trap where all countries increase their [investment] incentives simultaneously but no country increases its relative share of foreign investment” (1995, p.296).
The Empirical Model

The empirical analysis in this study draws upon existing research into the strategic behavior of foreign direct investors while attempting to shed new light on the effect of the investment climate on FDI flows to developing countries. The model is constructed in such a manner as to include a set of location-specific factors that are considered by the entities that make FDIs. Relevance to host-country policymakers in the Western Hemisphere is considered paramount.

Some researchers have suggested that the locational characteristics that influence foreign direct investors vary according to the intended purpose of the investment. For instance,

market characteristics such as size, growth in size and income level are most relevant for investment that seeks to access the host market. Other types of investment, such as export-oriented, may be more concerned with other locational characteristics such as wage rates or policies regarding export levels. (Loree and Guisinger 1995 p.295)

In a study on FDI in developing host countries, Lecraw (1991) distinguishes between three types of FDI – natural resource-seeking, market-seeking, and export-oriented efficiency-seeking. However, he suggests that despite the distinct characteristics and motives for each type investment, there exists a set of common locational factors (Lecraw 1991) that influence all inflows of FDI irregardless of the type. Lecraw’s view is adopted here. That is, the range of factors considered in this analysis are intended to represent a set of conditions faced by all foreign direct investors irregardless of whether

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6 Lecraw (1991) indicates that these factors include: a change in the corporate tax rate, the growth rate of the labor force, a change in the openness of the host country’s policy toward FDI, a change in the country’s risk rating, a change in the real exchange rate, and the growth rate of infrastructure.
the purpose of investment is to gain access to natural resources, the domestic market, or
to establish an export platform.

Many researchers have analyzed bilateral investment data as opposed to investment from the entire universe of source-countries. The most often cited reasons for using this approach are that the researchers are examining the effect of distance between the home and host countries (i.e., the “gravity” approach), or that it is hypothesized that the relationships vary by the nationality of the investor. The gravity approach is not appropriate for this analysis given that the study analyzes flows of FDI from the entire universe of sources. Furthermore, empirical results presented by Mody and Srinivasan (1997) suggest that the factors that drive the location of FDI have converged over time for at least two of the most prominent sources of direct investment funds in the region: the U.S. and Japan. Given these findings, it is reasonable to think that the use of aggregate rather than bilateral investment data does not hinder the validity of the results.

Foreign direct investment flows are measured in dollars and “therefore depend on the size of the economy” (Lecraw 1991, p.171). Meanwhile, the independent variables in this study are (at least theoretically) independent of economic size. This makes it necessary to standardize the dependent variable across countries. Addison and Heshmati (2003) point out that the tradition in existing literature is to specify the dependent variable as FDI as a percentage of GDP.

**The Host-Country Investment Climate**

Examining the effect that the host-country investment climate has on FDI essentially requires the inclusion of three types of variables on the right-hand side (RHS) of the regression equation. The first group consists of governmental policies and regulations that affect foreign investment. Restrictions on foreign investment, foreign
ownership, and access to foreign exchange (i.e., barriers to profit repatriation) serve as indicators of the host government’s attitude toward foreign investment. Factors that affect the return on capital to foreign investors make up the second group. Variables of this type are the corporate tax rate and changes in the exchange rate. The third group is comprised of measures of political stability and corruption.

Basi (1966) surveyed 160 U.S. firms via questionnaire and asked managers to rank 15 potential determinants of FDI location as either “crucially important,” “fairly important,” or “not important.” In Basi’s survey, a majority of U.S. firms ranked political stability in the host country and the government’s general attitude to foreign investment as “crucially important.” It was also clear that other components of the investment climate, although not weighted as heavily as these two, received a considerable amount of attention from multinational managers. Table 4-1 summarizes Basi’s findings on the importance of several investment climate factors.

Table 4-1. Survey Results on the Importance of Investment Climate Factors

<table>
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<tr>
<th>Foreign Country Investment Climate Factor</th>
<th>Number of Firms Ranking Determinant as:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crucially Important</td>
</tr>
<tr>
<td>(1) Favorable Attitude Toward U.S. Investments</td>
<td>76</td>
</tr>
<tr>
<td>(2) Political Stability</td>
<td>101</td>
</tr>
<tr>
<td>(3) Tax Structure</td>
<td>30</td>
</tr>
<tr>
<td>(4) Stability of Currency Exchange</td>
<td>61</td>
</tr>
<tr>
<td>(5) Inflationary Trends</td>
<td>35</td>
</tr>
</tbody>
</table>

The Policy and Regulatory Environment

Governmental policy towards foreign investment has attracted a disproportionate amount of attention over the last 10 to 15 years. In fact, Lecraw (1991) points to several examples where changes in host-countries’ attitudes toward foreign investment led to
dramatic changes in the magnitude of inward FDI (such as in China and Korea during the 1970s and 1980s). Several measures have been proposed in the literature to proxy for the regulatory environment foreign investors face when conducting business in a given country. In response to the need for transparent methods of measuring and comparing regulatory regimes across countries, an increasing number of private and public institutions have begun to provide numerical ratings of the regulatory risks foreign investors face.

The *International Country Risk Guide* (referred hereafter as *ICRG*) published by the PRS Group encompasses one of the most comprehensive collections of data on the economic, financial and political risks that investors encounter in developing countries. The *ICRG*’s composite political risk rating is comprised of twelve components measured via subjective analysis of the available political information from individual countries. Of the twelve components, the “investment profile” score provides the most relevant measure of the regulatory environment facing foreign direct investors.

As defined by the *ICRG* (Sealy 2003), the investment profile is made up of three risk factors: (1) the risk for contract viability/expropriation; (2) the risk for restrictions on profit repatriation; and (3) the risk for payment delays. Each of the three factors is assigned a score ranging from 0 to 4, with a score of 4 indicating “very low risk” and 0 indicating “very high risk.” The three component scores are summed together to yield an overall investment profile rating ranging from 0 to 12.

A score of 4 (the highest possible) for the first component is taken as an indication that the host-country judicial system is likely to enforce contracts made between the foreign investor and its domestic associates, and that there is little risk of unjustified
expropriation of assets by the host-country government. A high score for the second component signifies that foreign parent-companies are relatively free to repatriate profits and that the level of taxation on repatriated funds is relatively low. Finally, a high score for the third component signals the existence of legislative protection against undue delay of payment for services or products rendered. Using this methodology, the overall investment profile score is expected to be positively correlated with FDI.

In order to better understand the ICRG investment profile rating, it is useful to compare the cases of two countries in which the score differs significantly; Haiti had the lowest investment profile score among the countries in the sample (at 5.5) in 2001, while Uruguay had one of the highest (at 11.5). The inefficiency and lack of transparency in Haiti’s outdated legal system often hinder the resolution of disputes between foreign investors and domestic parties. In fact, there have been more than 10 cases of expropriation of private assets owned by U.S. interests in Haiti over the last 25 years. While the Haitian government publically indicated its desire to alleviate these types of situations, there has been little in the way of real action.

In contrast, property rights in Uruguay are recognized and protected by a well-established and transparent legal system. In terms of dispute settlement, foreign investors are usually given a choice of arbitration or court proceedings. Bankruptcy laws dictate that creditors collect their debts first, followed by employees and then government. There have been no instances of government expropriation in Uruguay in recent history. Thus, it appears that the ICRG investment profile score does a good job of capturing the actual state of affairs at least in the two example-countries examined here.
Political risk

Political risk assessment has been “one of the fastest growing areas of research in international business . . . [as] the discipline has flourished in the wake of the international turmoil of recent years” (Simon 1984, p.123). Assessing differences in political risk levels across countries is a difficult process that often requires highly specialized information and expertise. Thus, many MNCs have again turned to outside sources for assistance in analyzing the political risks inherent to developing host-countries. The academic literature is peppered with econometric models that employ political risk indexes composed by a variety of public and private entities. Business managers and academic researchers often choose the source that provides a measure that is most relevant to their purposes.

This study examines two primary sources of political risk in developing countries: government instability and corruption. With regard to the first, Butler and Joaquin (1998) state, “Political risk is the risk that a sovereign host government will unexpectedly change the ‘rules of the game’ under which businesses operate” (p.599). While it is possible for an incumbent regime to have a “change of heart” with regard to its position on foreign investment, it is more likely that political risk arises from an actual regime change. Thus, government stability serves to measure the risk that the “rules of the game” will change.

With regard to the second source, it is sometimes unclear whether corruption in local government serves as “a beneficial ‘grease,’ a minor annoyance, or a major obstacle for international investors” (Wei and Shleifer 2000, p.303). However, to the extent that corruption results in so-called “crony capitalism,” it is possible that corrupt government practices at least encouraged the recent Latin American currency crisis by facilitating
“the misallocation of financial resources to the friends and relatives of government officials” (Wei and Shleifer 2000, p.304) rather than to their most productive uses.

It is possible that even in the most moderate cases “financial corruption in the form of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans . . . may force the withdrawal or withholding of an investment” (Sealy 2003, p.A-5). In the most extreme case, the uncovering of corrupt governmental activities could trigger a “popular backlash [requiring a major restructuring,] or, at worst, a breakdown of law and order” (Sealy 2003, p.A-6). For all of these reasons, corruption is viewed here as a detrimental characteristic of the existing regulatory regime.

As previously mentioned, there are twelve components to the ICRG composite political risk rating. Scores for government stability and corruption are two of the factors included in the composite rating and are used here as measures for the perceived level of political risk. The score for political corruption ranges from 0 to 6, with a higher score corresponding to lower risk. This score is reached through a subjective assessment of the extent to which the following conditions exist in the political system: “excessive patronage, nepotism, job reservations, ‘favor-for-favors’, secret party funding, and suspiciously close ties between politics and business” (Sealy 2003, p.A-6).

The ICRG’s government stability score is a measure of the government’s ability to stay in office and carry out its declared program(s). As such, the score has three subcomponents: government unity, legislative strength and popular support. Each subcomponent is given a value of 0 to 4, a higher score indicating a higher level of unity, strength and support. The overall government stability rating is the sum of the three
scores. The ICRG’s risk ratings for corruption and government stability are each expected to be positively correlated with FDI.

With regard to the government stability rating, it is useful to compare the cases of Argentina and Uruguay. The ICRG government stability score for Uruguay was 11.0 in 2001, while Argentina received a rating of 5.5. Uruguay had a stable democratic government, and there have been no instances of political violence in the recent past. On the other hand, Argentina was plagued by social tension and political unrest. Violent protests led to the death of at least 25 Argentine citizens from 2000 to 2002. Once again, the ICRG rating seems to provide a reasonably good representation of the conditions that persisted in the two countries used as examples here.

Factors that affect the return on investment

The paper by Stobaugh, Jr. (1969) illustrates how managers use the projected return on investment (ROI) from a foreign project to discriminate between investment alternatives. As was discussed in Chapter 3, the projected ROI is sometimes used as a basis for passing on an investment opportunity altogether (referred to as the go-no go decision), while in other cases managers might require a premium for risk in countries that are perceived as riskier investment locations (the example used in Chapter 3 was the risk of currency devaluation). In either case, factors that negatively affect the projected ROI decrease the host country’s probability of attracting foreign investment.

Two variables that directly affect the return to foreign investors are considered in this study. These ROI factors are intended to measure location-specific attributes of the host country that affect income in two ways. First, the domestic (i.e., within the host country) ROI is affected by the host-country corporate tax rate. Second, the foreign
owner’s ROI is subject to changes in the foreign exchange rate. The following paragraphs elaborate on these two points.

The effect of income taxation is straightforward; *ceteris paribus*, a one percent increase in the corporate tax rate leads to a one percent decrease in the after-tax profit of a corporation. While the corporate tax rate may not have a significant impact on the competitiveness of an individual firm (given that all firms residing in the host country are faced with the same taxes), it may be used by governments as a tool to attract FDI that might otherwise be directed at another country. In fact, some researchers have found evidence that OECD countries do compete with each other over corporate tax rates in order to attract foreign investment. Furthermore, Loree and Guisinger (1995) indicate that MNCs may choose to allocate a disproportionate amount of investment capital into countries with the lowest tax rates.

The most commonly used measure for taxation in the empirical literature is the top marginal corporate tax rate, but it is often the case that foreign firms face different levels of taxation. However, the definition of a *direct investment enterprise* provided by the World Bank (Liberatori 2003) requires that the firm be classified as a resident entity of the host country. As such, it is assumed here that *direct investment enterprises* are taxed in a manner comparable to a domestically-owned firm. The top marginal corporate tax rate is used in this analysis as the measure of taxation and is expected to be negatively correlated with FDI.

The effect of exchange rate regimes on FDI has attracted a significant amount of attention in the empirical literature. A stable and predictable exchange rate has the effect of allowing managers of a parent-company to be confident that they will be able to
transfer funds to and from its foreign affiliate without substantial risk of loss due to exchange. Furthermore, “uncertainty caused by exchange rate volatility . . . makes the domestic value of foreign revenues and costs uncertain” (Darby et al. 2000, p.1). That is not to say that domestic firms are not-at-all affected by the exchange rate. Rather, this study is more interested in how it affects the attractiveness of a host country from the vantage point of a foreign investor.

Goldberg (1993) points out three theoretical effects of exchange rate volatility on foreign investment: (i) sectoral profitability effects; (ii) location effects; and (iii) wealth effects. First, sectoral profits are subject to exchange rate-induced changes in product demand and cost, thus impacting the international competitiveness of industries. Next, exchange rate volatility alters the attractiveness of domestic and foreign production locations, and hence domestic and foreign investment levels. Finally, the distribution of wealth across countries is affected by movements in the exchange rate, which in turn also alters the demand for domestic and foreign investments.

With specific attention given to the location effect, Aizenman (1992) found that aggregate investment was higher in countries with fixed exchange rate regimes than those with a flexible exchange rate. This finding led him to suggest that “the adoption of a fixed exchange rate could encourage flows of foreign direct investment” (Aizenman 1992, p.913). It is important to note that Aizenmen made this finding under the assumption that foreign investors are risk-neutral. Although, it is expected that introducing risk-adversity would only compound the negative effect of exchange rate volatility on foreign investment. Aizenman’s finding, as well as those presented in
previous sections, lead to the expectation that exchange rate volatility will be negatively correlated with net FDI inflows in the ensuing analysis.

**Control Variables**

In addition to testing the effects of the factors mentioned above, two additional variables are included on the right-hand-side of the equation as controls for alternative explanations. Although not specifically categorized as elements of the investment climate, both income and the level of integration with foreign economies (also referred to as “openness”) are considered as traditional determinants of FDI flows (Addison and Heshmati 2003). Following the precedent set in the existing literature, productivity is measured by per capita GDP. Total trade (i.e., imports plus exports) as a percentage of GDP serves as a proxy for a country’s degree of openness or integration with the global economy. Each of the control variables is expected to have a positive effect on FDI.

A linear relationship between the explanatory variables and the dependent variables is assumed. Chapter 5 addresses the validity of this assumption and compares two alternative models that may be used to estimate the data: the fixed-effects model and the random-effects model. A series of test statistics are calculated and serve as the basis for choosing the most appropriate method of estimation. Finally, the response of FDI to changes in the investment climate is examined and discussed for each country in the analysis.
CHAPTER 5
MODEL SPECIFICATION, ESTIMATION, AND EMPIRICAL ANALYSIS

Data and Sources

The data for this analysis were obtained from various sources. The foreign direct investment share of GDP, total trade share of GDP and per-capita GDP series were obtained from the World Bank’s World Development Indicators 2003 CD-ROM database. Corporate tax rate data came from the World Tax Database maintained by the University of Michigan Business School\(^1\). Exchange rate data were obtained from the International Monetary Fund’s (IMF) International Financial Statistics website\(^2\). Finally, the investment profile, corruption and government stability scores were obtained from the PRS Group’s International Country Risk Guide (ICRG) data wizard\(^3\).

Although data on FDI were readily available for many of the developing countries in the Western Hemisphere starting in 1970, annual risk ratings were much more difficult to obtain. In fact, the availability of these ratings limited the sample size to 21 countries observed over the 18-year period 1984-2001. Gross domestic product data for Nicaragua in 1999, 2000 and 2001 were estimated by increasing the 1998 value by the growth rates reported by the Economist Intelligence Unit. The total number of observations in the

\[^1\] The World Tax Database compiles corporate tax rate information from a variety of sources and was accessed at http://www.wtdb.org/.

\[^2\] The IMF’s International Financial Statistics database can be accessed at http://ifs.apdi.net/imf/.

\[^3\] The ICRG data wizard can be accessed at http://www.countrydata.com/wizard/. Data are available for a fee.
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<thead>
<tr>
<th>Country</th>
<th>FDI (% of GDP)</th>
<th>Investment Profile</th>
<th>Corporate Tax Rate (%)</th>
<th>Government Stability</th>
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<th>Exchange Rate Variability (%)</th>
<th>Trade (% of GDP)</th>
<th>Per-capita GDP (US$)</th>
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<td>0.732</td>
<td>876.655</td>
<td>2,367.956</td>
</tr>
<tr>
<td>Brazil</td>
<td>3.500</td>
<td>0.618</td>
<td>463.218</td>
<td>558.691</td>
</tr>
<tr>
<td>Chile</td>
<td>3.333</td>
<td>0.485</td>
<td>14.669</td>
<td>13.037</td>
</tr>
<tr>
<td>Colombia</td>
<td>2.611</td>
<td>0.608</td>
<td>21.663</td>
<td>9.293</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>4.889</td>
<td>0.471</td>
<td>12.495</td>
<td>4.386</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>3.222</td>
<td>0.548</td>
<td>23.659</td>
<td>33.641</td>
</tr>
<tr>
<td>Ecuador</td>
<td>2.972</td>
<td>0.436</td>
<td>46.817</td>
<td>24.846</td>
</tr>
<tr>
<td>El Salvador</td>
<td>2.750</td>
<td>0.809</td>
<td>8.900</td>
<td>16.008</td>
</tr>
<tr>
<td>Guatemala</td>
<td>2.611</td>
<td>0.916</td>
<td>13.913</td>
<td>17.555</td>
</tr>
<tr>
<td>Guyana</td>
<td>1.944</td>
<td>0.998</td>
<td>34.741</td>
<td>41.700</td>
</tr>
<tr>
<td>Haiti</td>
<td>1.333</td>
<td>0.840</td>
<td>9.781</td>
<td>14.476</td>
</tr>
<tr>
<td>Honduras</td>
<td>1.972</td>
<td>0.118</td>
<td>13.829</td>
<td>18.849</td>
</tr>
<tr>
<td>Jamaica</td>
<td>2.389</td>
<td>0.502</td>
<td>23.323</td>
<td>25.680</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.889</td>
<td>0.471</td>
<td>36.308</td>
<td>39.946</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>4.444</td>
<td>0.856</td>
<td>15,341.711</td>
<td>42,745.495</td>
</tr>
<tr>
<td>Paraguay</td>
<td>1.389</td>
<td>1.037</td>
<td>22.985</td>
<td>16.456</td>
</tr>
<tr>
<td>Peru</td>
<td>3.000</td>
<td>0.343</td>
<td>584.282</td>
<td>1,302.757</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>2.833</td>
<td>0.383</td>
<td>6.097</td>
<td>8.208</td>
</tr>
<tr>
<td>Uruguay</td>
<td>3.000</td>
<td>0.000</td>
<td>45.462</td>
<td>29.240</td>
</tr>
<tr>
<td>Venezuela</td>
<td>2.944</td>
<td>0.236</td>
<td>37.774</td>
<td>25.338</td>
</tr>
<tr>
<td>Sample</td>
<td>2.839</td>
<td>1.041</td>
<td>860.729</td>
<td>9,661.129</td>
</tr>
</tbody>
</table>
resulting balanced data set is 3024. Table 5-1 presents some descriptive statistics on the
data used in the analysis.

**Model Specification and Estimation**

Panel estimates were obtained by regressing the dependent variable against a set
of explanatory variables for the 21 countries listed in Table 5-1. The basic regression
equation takes the form

$$Y_{it} = \alpha + \sum_j \beta_{jt} X_{jit} + \sum_k \phi_{jt} Z_{jit} + \epsilon_{it}, \quad (5-1)$$

where $Y_{it}$ represents “net inflows of FDI as a percentage of GDP” for country $i$ ($i = 1, 2, \ldots, N$) in period $t$ ($t = 1, 2, \ldots, T$); $\alpha$ is a constant term, and $\beta$ and $\phi$ are $K \times 1$ and $J \times 1$ vectors of unknown parameters to be estimated, respectively. The variable $X$ represents a vector of investment climate determinants of FDI and $Z$ is a vector of control variables, each of which varies in both country and time dimensions. The error term $\epsilon_{it}$ in the basic panel regression model has two components and can be expressed as

$$\epsilon_{it} = \mu_{it} + \nu_{it}, \quad (5-2)$$

where $\mu_{it}$ represents the variation unique to the cross-section and $\nu_{it}$ is white noise.

Greene (2000) indicates that there are two frameworks commonly used to
generalize this basic model. First, the fixed-effects model, which is used to obtain
within-estimators, takes $\alpha$ as constant over time but specific to each country. The
dependent variable in the fixed-effects model is regressed against the difference between
the observed value of each of the explanatory variables and its mean, thus eliminating the
effect of unobserved country (or “fixed”) characteristics. Thus, the fixed-effects
regression equation can be expressed as
\[ [Y_{it} - \overline{Y}_i] = \alpha_i + \sum_j \beta_j [X_{jit} - \overline{X}_{jit}] + \sum_k \phi_k [Z_{kit} - \overline{Z}_{kit}] + \epsilon_{it}, \] (5-3)

where \( \overline{Y}_i \) is the mean of country \( i \)'s FDI inflows, \( \overline{X}_{jit} \) is a \( J \times 1 \) vector of means on \( X_{jit} \) and \( \overline{Z}_{kit} \) is a \( K \times 1 \) vector of means on \( Z_{kit} \), taken over the \( T \) observations respectively. The intercept term \( (\alpha_i) \) in this model varies by country and thus is an unknown parameter to be estimated. Furthermore, \( \alpha_i \) is interpreted as the mean residual in each country \( i \) and can be expressed as

\[ \alpha_i = \overline{FDI}_i - \sum_j \beta_j \overline{X}_{jit} - \sum_k \phi_k \overline{Z}_{kit}. \] (5-4)

Equation 5-4 is unique to each country in that any change in the constant term represents a parametric shift. The error term \( \epsilon_{it} \) in the fixed-effects model is defined as follows:

\[ \epsilon_{it} = Y_{it} - \alpha_i - \sum_j \beta_j X_{jit} - \sum_k \phi_k Z_{kit} \]
\[ = Y_{it} - (\overline{Y}_i - \sum_j \beta_j \overline{X}_{jit} - \sum_k \phi_k \overline{Z}_{kit}) - \sum_j \beta_j X_{jit} - \sum_k \phi_k Z_{kit} \]
\[ = [Y_{it} - \overline{Y}_i] - \sum_j \beta_j [X_{jit} - \overline{X}_{jit}] - \sum_k \phi_k [Z_{kit} - \overline{Z}_{kit}]. \] (5-5)

Second, the variance components model is used to obtain random-effects estimators. These estimates are a weighted average of between- and within-estimators, and thus reflect “both the influences across and within countries” (Mody and Srinivasan 1997, p.785). The intercept term in this model is not allowed to vary by country, hence the estimated coefficients reflect the average country in the sample. Random-effects estimators are derived from the following reformulation of the basic regression equation:

\[ Y_{it} = \alpha + \sum_j \beta_j X_{jit} + \sum_k \phi_k Z_{jit} + u_i + \epsilon_{it}. \] (5-6)

In Equation 5-6, \( u_i \) “is a random disturbance characterizing the \( i^{th} \) observation and is constant over time” (Greene 2000, p.568).
The random-effects model involves a transformation similar to the one made in the fixed-effects model with one exception; when the mean is subtracted from each observation, it is weighted by $1 - \sqrt{\lambda}$, where $\lambda$ is defined as

$$\lambda = \frac{\sigma_{\varepsilon}^2}{\sigma_{\varepsilon}^2 + T\sigma_u^2}. \quad (5-7)$$

In Equation 5-7, $\sigma_{\varepsilon}^2$ is the variance of the basic error term $(\varepsilon_i)$, $\sigma_u^2$ is the variance of the country-specific error term $(u_i)$ and $T$ is the number of years.

Some extreme cases should be explained purely for example. If the value of $\lambda$ from the random-effects model is equal to 1, then the random-effects model is ordinary-least-squares and the classical regression model defined by Equation 5-1 applies. At the other extreme, a value of 0 for $\lambda$ would indicate that all of the variation in the data is unique to the cross-section of countries. If this were the case, then the random-effects model would be identical to the fixed-effects formulation.

Ordinary-least-squares (OLS) estimates were obtained first and serve as a basis against which to compare the alternative methods of estimation. Following Greene (2000), the first hypothesis test was for the existence of individual-country effects in the data. The Lagrange multiplier (LM) test statistic\footnote{This statistic is part of the standard TSP output. A more detailed explanation of how the statistic is computed can be found in Greene (2000).} from the least-squares regression took a value of 66.3939, much larger than the critical value of 3.84\footnote{Chi-square (95%)}. Thus, the null hypothesis of no individual-country effects was rejected.

An $F$ test comparing the fixed-effects estimators to those from the classical OLS regression further suggest that individual-country effects exist in the data. The null
hypothesis in this case is similar to the first LM heteroscedasticity test performed (i.e.,
there are no individual-country effects in the data, and hence there is no difference
between OLS and the fixed-effects model. The computed $F$ statistic was 6.267, which
exceeds the 99% critical value of 1.88 for $F(20,350)$. As such, there is strong statistical
support for the existence of country-specific effects.

Given the existence of individual-country effects in the data (and consequently, the
conclusion that the classical regression equation is inappropriate), the LM test statistic
based on the residuals from the fixed- and random-effects models was used to determine
the need to estimate heteroscedastic-consistent standard errors for each of the models.
The test statistics took values of 133.363 and 103.887 for the fixed- and random-effects
models, respectively, leading to a rejection of the null hypothesis of no heteroscedasticity
and indicating the need to compute heteroscedastic-consistent standard errors.

By estimating a set of robust standard error matrices for the fixed- and random-
effects models, it is possible to compare the two models and choose the most appropriate.
The preferred method is the Hausman test for correlation between the individual-country
effects and the other regressors in the equation (Greene 2000). If the individual effects
are correlated with the other regressors, the fixed-effects model is the most appropriate.
Conversely, if the hypothesis that the two are uncorrelated cannot be rejected, then the
random-effects model is the better choice. The Hausman test is based on the Wald
criterion and is asymptotically distributed chi-squared. The test statistic of 0.63254 was
considerably less than the 95% critical value of 2.167 for the chi-square distribution with

---

6 The ROBUST command in TSP performs this computation even if the nature of the heteroscedasticity is
unknown.
the necessary degrees of freedom. Thus, the null hypothesis of no correlation could not be rejected, and the random-effects model was deemed to be the most appropriate.

The Box-Cox transformation was made to several explanatory variables that were hypothesized to have a non-linear relationship with the dependent variable. The following transformation was made to the exchange rate, trade, corporate tax and per-capita GDP variables:

$$x^{(\delta)} = \frac{x^{\delta} - 1}{\delta}, \quad (5-8)$$

where the optimum value of $\delta$ for each variable was estimated by scanning the range of values between $-2$ and $2$ (in increments of 0.1) and maximizing the log-likelihood function of the fixed-effects regression equation. However, making the transformation to these variables did not have a significant impact on the regression results and in each case the linear model performed at least as well as the non-linear specification. Thus, the most appropriate approach was to estimate the random-effects regression equation under the assumption of linearity in the independent variables.

**Results of Estimation**

The parameter estimates and their associated standard errors can be seen in Table 5-2. Overall, the results suggest that the model performed well. The $R^2$ value of .424 indicates that the right-hand-side (RHS) variables in the model explained nearly half of the variation in the data. This can be considered a relatively high $R^2$ given the size and cross-sectional nature of the panel data set used in this analysis. Six of the seven explanatory variables were statistically significant and only one took an unexpected sign.
Table 5-2. Random Effects Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Error</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Profile</td>
<td>0.00156060</td>
<td>0.00089697</td>
<td>1.679</td>
<td>0.093</td>
</tr>
<tr>
<td>Corporate Tax Rate</td>
<td>(0.05498600)</td>
<td>0.02076900</td>
<td>(2.648)</td>
<td>0.008</td>
</tr>
<tr>
<td>Government Stability</td>
<td>0.00256093</td>
<td>0.00079045</td>
<td>3.240</td>
<td>0.001</td>
</tr>
<tr>
<td>Corruption</td>
<td>(0.00019929)</td>
<td>0.00182247</td>
<td>(0.109)</td>
<td>0.913</td>
</tr>
<tr>
<td>Exchange Variability</td>
<td>(0.00002477)</td>
<td>0.00001345</td>
<td>(1.842)</td>
<td>0.066</td>
</tr>
<tr>
<td>Trade</td>
<td>0.07202500</td>
<td>0.00599952</td>
<td>12.005</td>
<td>0.000</td>
</tr>
<tr>
<td>Per Capita GDP</td>
<td>0.00000160</td>
<td>0.00000084</td>
<td>1.890</td>
<td>0.059</td>
</tr>
<tr>
<td>Constant</td>
<td>(0.03032100)</td>
<td>0.01162300</td>
<td>(2.609)</td>
<td>0.009</td>
</tr>
</tbody>
</table>

The investment profile score had a positive impact on FDI and was significant at the 10% level. The parameter estimate of 0.0015 suggests that a one-unit improvement in the investment profile score would have the effect of increasing the FDI share of GDP by 0.15%. Based on the definition provided by the *ICRG (International Country Risk Guide)*, the investment profile score takes into consideration the risks associated with profit repatriation, contract viability and expropriation, and delay of payment. The score would increase (or improve) if a the ruling regime in a country were to

- ease the restrictions on profit repatriation by allowing a greater percentage of profits to be transferred out of the host country or by lessening the tax (or other) penalties associated with such a transfer
- enact tougher legislation to ensure the enforcement of legal contracts and limit the possibility of excessive delays in payment for goods or services rendered
- decrease the government’s right to expropriate funds or other property belonging to foreign investors.

Thus, the positive relationship between the investment profile score and FDI is not surprising.

The government stability score was the most significant of the investment climate variables examined. As defined by the *ICRG*, the government stability score is a measure of government unity, legislative strength and popular support. The rating is intended to
provide an indication of the cohesiveness of the ruling regime and the extent to which opposing parties pose a threat to its ability to remain in power. A one-unit increase in the government stability score was estimated to have the impact of increasing the FDI share of GDP by 0.26%. Thus, the results suggest that the potential for change in the host-country regulatory regime is of substantial concern to foreign investors.

The amount of variability in the exchange rate had a negative effect on FDI, although the magnitude of this effect was rather small. The exchange rate variable, as specified in the model, does not reflect whether the change is due to an appreciation or depreciation in the host-country currency. Rather, it simply measures the level of stability in the local currency’s value against the US dollar. Darby et al. (1999) showed that exchange rate volatility leads to uncertainty in the future cash flows of a proposed foreign investment project, and in turn, to a greater likelihood that the investment project will either be postponed or rejected altogether. However, the results of this analysis suggest that a 1% increase in exchange rate variability decreases the FDI share of GDP by only 0.002%. It is noted that the risk of changes in the foreign exchange rate is a risk that can be hedged in international financial markets (e.g., through the use of currency swaps and futures contracts), and that this fact may account for the lack of response in FDI to changes in the variable. The exchange rate variable was significant at the 10% level.

The parameter estimate for the corporate tax rate suggests that higher taxation is a significant deterrent to foreign investment. Decreasing the corporate tax rate by 1% had the effect of increasing the FDI share of GDP by as much as 5.5%. Furthermore, the tax rate variable was significant at the 1% level.
The negative coefficient for corruption indicates that as the risk for political corruption increases the FDI share of GDP increases. However, the variable was not statistically significant. Nonetheless, the existing theoretical literature suggests that corruption can serve as a benefit to foreign investors in the sense that they often possess the capital necessary to “buy favors” from governmental agents. Although the regression results seem to offer weak support for this contention, the most obvious inference is that the level of political corruption does not appear to be a significant determinant of FDI in the sample countries.

Finally, each of the control variables had a positive impact on the FDI share of GDP. The trade variable was significant at the 1% level and the magnitude of its impact was 0.072. This result suggests that countries that trade more also attract more FDI as a share of GDP. Per-capita GDP was significant at the 10% level, although the magnitude of its effect was much smaller. A $1,000 increase in per-capita GDP was estimated to increase the FDI share of GDP by only 0.0016%.

Although the parameter estimates presented in Table 5-2 appear to be small in magnitude, their corresponding effect on the absolute level of FDI is considerable in many cases. This is important because it is the impact in terms of dollars with which this study is ultimately concerned. As shown below, simple algebra can be used to reveal the effect of the independent variables on the actual dollar level of FDI in each of the countries in the sample.

The dependent variable is specified in the regression equation as the FDI share of GDP for two reasons. First, as pointed out by Lecraw (1991), because the magnitude of the explanatory variables is not dependent upon economic size, there is a need to
standardize the dependent variable (as defined in this study) across countries. This is most often accomplished by dividing FDI by GDP. An alternative approach is to include GDP as a discrete independent variable on the RHS of the regression equation. However, the FDI and GDP variables were correlated with each other and GDP became the dominant variable in the regression equation, detracting from the significance of the other variables in the model. The regression equation was therefore estimated in shares and the effect of each variable on the dollar level of FDI was then extracted from the model by multiplying through by GDP as follows:

\[
\sum \frac{FDI_{it}}{GDP_{it}} \beta \alpha + \sum \beta_j X_{jst} + \sum \phi_k Z_{kit} = \sum \frac{FDI_{it} (GDP_{it})}{GDP_{it}} + \sum \beta_j X_{jst} (GDP_{it}) + \sum \phi_k Z_{kit} (GDP_{it})
\]

Equation 5-10 shows that although the estimated parameters are constant across countries, the magnitude of change in each country’s level of FDI is unique to that country. The remainder of this chapter is devoted to analyzing the relationship between FDI and hypothetical changes in the investment climate variables in each country.

Equation 5-10 was used to create a benchmarking scenario where the parameter estimates were applied to the most recent data available (2001). The implied impacts on FDI of \textit{ceteris paribus} changes to the explanatory variables in the model are presented for each country in the analysis.

For the variables that consisted of a rating or score, the effect of a one-unit improvement in the score is considered. For the corporate tax rate, trade and per-capita GDP variables, the effect of a 10% increase is shown. Finally, the reaction of FDI to eliminating any variability in the foreign exchange rate – in other words, pegging the local currency to the US dollar – is considered. In each case, the change in the dollar
level of FDI is reported along with the percentage change from the model’s predicted value using the benchmark data. The percentage change is referred to hereafter as the “responsiveness” of FDI to changes in the investment climate.

**MERCOSUR**

Table 5-3 presents the benchmark values of the explanatory variables for the countries of MERCOSUR. Table 5-4 shows the responsiveness of FDI to changes in the explanatory variables. As Table 5-4 shows, FDI in Argentina was the most responsive

| Table 5-3. Investment Climate Variables – MERCOSUR (Benchmark = 2001) |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                     | Investment Profile Score | Government Stability Score | Corruption Score | Corporate Tax Rate | Exchange Rate Variability |
| Argentina           | 7.5                   | 5.5                   | 2.5               | 0.35               | 0.00000                 |
| Brazil              | 8.5                   | 6.0                   | 2.0               | 0.15               | 0.14838                 |
| Paraguay            | 9.5                   | 7.0                   | 1.0               | 0.30               | 0.14773                 |
| Uruguay             | 11.5                  | 11.0                  | 3.0               | 0.30               | 0.08392                 |

<table>
<thead>
<tr>
<th>Table 5-4. FDI Responsiveness – MERCOSUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness of FDI to a Change in:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Investment Profile Score (1-unit increase)</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Argentina</td>
</tr>
<tr>
<td>Brazil</td>
</tr>
<tr>
<td>Paraguay</td>
</tr>
<tr>
<td>Uruguay</td>
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<tr>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

in terms of the percentage change in FDI resulting from a change in each of the investment climate variables. The results indicate that, *ceteris paribus*, a one-unit improvement in the investment profile score would increase FDI in Argentina by almost 54%. Based on the benchmark values, this represents a change in FDI of $404.5 million. A one-unit increase in Argentina’s government stability rating affected a 92% increase in
FDI, or nearly $688 million. A decline in the risk for corruption was estimated to decrease FDI by 7.13%, and cutting the corporate tax rate by 10% led to a 69% increase in FDI. It is noted that the value of the Argentine Peso was, in fact, pegged to the U.S. dollar in 2001. Thus, there was no change from the benchmark value and no response in FDI.

At first glance, the results for Argentina might be considered suspect given their inconsistency with the results from other countries in the sample. However, there are both computational and qualitative rationales for why such extreme results were observed for Argentina. An anomaly in the benchmark data caused the model’s predicted value for FDI to be unusually low. This was primarily the result of a sharp decline in the government stability rating for Argentina in 2001. In any event, the combination of Argentina’s large GDP and the low predicted value for FDI made the impact of any adjustment to the explanatory variables (which is a function of both the parameter estimate and GDP) very large in terms of percentage change. However, this result is consistent with the empirical evidence.

As mentioned, the ICRG government stability rating for Argentina fell from 10.0 in 2000 to 5.5 in 2001, a difference of 4.5 (the reasons for this change are discussed below). During the same period, the investment profile score increased by 2.0 points and the corruption score fell by 0.5 points. The exchange rate variability and corporate tax rate did not change. Working backwards from the benchmark values of the explanatory variables and FDI, the results indicate that the observed changes in the investment climate variables would cause a 66% decrease in FDI. In reality, FDI dropped by 72% from 2000 to 2001. Thus, the results of the analysis appear to correspond well with what
can actually be observed in the data for Argentina. Furthermore, the observed changes in
the ICRG risk rating variables can be rationalized by analyzing the political and

Argentina is the third largest economy in Latin America and a member of
MERCOSUR. To a large extent, foreign investment in Argentina during the early 1990s
was in response to privatization. In the late 1990s, foreign acquisitions in a number of
deregulated industries continued to account for relatively high levels of investment (EIU
2003). However, the Argentine economy was hit hard by the Brazilian currency
devaluation in 1999. The global economic slowdown that occurred after the turn of the
century only aggravated the situation and the country was facing a serious financial crisis
by late 2001. The President of Argentina (Fernando de la Rúa) was forced to resign in
2001 after he failed to fulfill his promise to revive the economy (EIU 2003). The ensuing
political environment was characterized by violent protest and dissension both within and
between political parties.

The investment climate in Argentina degraded quickly as a result. Although the
country remained open to foreign investment, an inconsistent regulatory environment and
a weak judicial system contributed to a $20.7 billion contraction in FDI (from $23.9
billion in 2000 to just over $3 billion in 2001). The EIU (2003) states that the majority of
FDI after 2001 consisted of capital contributions from parent firms to sustain existing
Argentine subsidiaries. The contraction in FDI combined with the flight of other types of
capital led to net capital outflows in 2001 and 2002.

The EIU (2003) indicates that the degradation of the investment climate in
Argentina was the primary reason for the drastic decline in FDI from 2000 to 2001. The
results of this analysis are consistent with this contention. The extent to which the results appear to be overstated can be accounted for by the fact that Argentina was an economically large country in which FDI was very low relative to its size. However, this situation was not necessarily comparable to some of the other countries in MERCOSUR.

Within MERCOSUR, the results indicate that FDI was much less responsive to changes in the investment climate in the smaller countries of Paraguay and Uruguay. For example, a one-unit improvement in the investment climate had the effect of increasing FDI by 4.66% and 4.22% in Paraguay and Uruguay, respectively. In reality, despite a history of treating foreign and domestic investors as equals, Paraguay and Uruguay attracted much less FDI (both in absolute levels and as a share of GDP) than the two larger countries in MERCOSUR.

The Paraguayan government continued to be the primary agent in the economy throughout the 1990s and there was little popular support for privatizing state-controlled industries. As a result, major opportunities for direct investment failed to materialize and Paraguay received only a small portion of the FDI flowing into Latin America during the 1990s investment boom (EIU 2003). Contagion effects from the problems in Brazil and Argentina suppressed economic growth late in the decade.

Similar conditions existed in Uruguay at the time. During the period 1999-2002, the Uruguayan economy suffered its deepest and longest recession in 50 years (EIU 2003). Like Paraguay, the Uruguayan government resisted privatization during the 1990s while otherwise remaining open to foreign investment. Despite granting private sector access to the telecommunications, utilities, transportation and insurance industries, the Uruguayan government maintained its monopolization of these markets through 2001.
Although plans to further privatize these industries had developed, they were met with opposition among voters who were concerned about the potential impact on the labor market.

Table 5-4 shows that the results for Paraguay and Uruguay were very similar. In these countries, the percentage change in FDI resulting from a change in each of the investment climate variables was about half the estimated response in Brazil, with one exception. In Paraguay and Uruguay, FDI was more responsive to a decrease in the corporate tax rate than in Brazil. This is interesting because the Brazilian tax rate (15%) was half as high as in Paraguay and Uruguay (30%). Thus, it stands to reason that the marginal effect of lowering the tax rate was smaller in Brazil.

Improvements in both the investment profile and government stability scores in Uruguay— the magnitudes of which were 1.5 and 1.0, respectively— from 2000 to 2001 were accompanied by very little change in FDI. The results suggest that these improvements in the investment climate, _ceteris paribus_, would effect a $43.2 million increase in FDI. In reality, FDI increased from $273.5 million to $318.2 million, a difference of $44.7 million. The results for Paraguay were comparable.

There are several explanations for why FDI might be less responsive to changes in the investment climate in Paraguay and Uruguay than in Argentina and Brazil. The most obvious of these reasons is the underlying resistance to privatization in the two former countries. The governments of Argentina and Brazil promoted the sale of many state-owned companies and opened a number of industries to private investment during the 1990s. Foreign investors responded in kind by making substantial FDIs. Conversely, the empirical evidence suggests that the broad resistance to privatization in Paraguay and
Uruguay effectively narrowed the scope of available investment opportunities. Hence, FDI in these countries was less than 2% of GDP and showed little response to improvements in the investment climate.

MERCOSUR is dominated by Brazil, the second-largest economy in Latin America. Brazil was both the primary source of imports for each of the other members of MERCOSUR and the primary destination of their exports. It was also the largest recipient of FDI in Latin America throughout the late 1990s. However, before 1996, FDI never amounted to more than 1% of the country’s GDP. Constitutional amendments in 1995 led to the privatization of state-owned interests in the telecommunications, energy and transportation industries in Brazil, causing the country to become a major recipient of FDI in South America. Even after the sale of state-owned assets slowed, FDI remained above 4.4% of GDP (EIU 2003). This level of investment contributed to positive, although sluggish economic growth despite the devaluation of the Brazilian Real in 1999. Interestingly, it has been suggested that other countries in the region suffered more than Brazil as a result of the Real devaluation.

From 2000 to 2001, the investment profile score for Brazil increased 2.5 points, reflecting the enactment of new, more liberal investment regulations for foreign equity investors. At the same time, the political reform process stalled as President Cardoso entered his final year in office. Accordingly, the government stability score for Brazil decreased from 10.0 to 6.0. The corruption rating simultaneously fell from 3.0 to 2.0 and the corporate tax rate did not change. Based on the benchmark values, the regression results indicate that FDI in Brazil would decrease by 38% in response to these changes.
In reality, FDI declined from $32.8 billion to just under $22.6 billion, a change of 31%.

Again, the model’s in-sample prediction is consistent with the actual observed value.

**The Andean Community**

Three of the countries in which FDI was the most responsive to the investment climate – Colombia, Venezuela and Peru – were members of the Andean Community. These are relatively large countries in terms of GDP with few restrictions to foreign investment. However, FDI remained below 3% of GDP in each during 2001. Table 5-5 presents the benchmark values of the explanatory variables for the Andean Community and Table 5-6 shows the responsiveness of FDI to changes in the investment climate in these countries.

### Table 5-5. Investment Climate Variables – Andean Community

<table>
<thead>
<tr>
<th>(Benchmark = 2001)</th>
<th>Investment Profile Score</th>
<th>Government Stability Score</th>
<th>Corruption Score</th>
<th>Corporate Tax Rate</th>
<th>Exchange Rate Variability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia</td>
<td>9.5</td>
<td>6.0</td>
<td>2.0</td>
<td>0.35</td>
<td>0.14513</td>
</tr>
<tr>
<td>Venezuela</td>
<td>7.0</td>
<td>7.5</td>
<td>2.0</td>
<td>0.34</td>
<td>0.09342</td>
</tr>
<tr>
<td>Peru</td>
<td>8.5</td>
<td>8.5</td>
<td>2.0</td>
<td>0.30</td>
<td>0.01818</td>
</tr>
<tr>
<td>Bolivia</td>
<td>9.5</td>
<td>9.0</td>
<td>2.0</td>
<td>0.25</td>
<td>0.06616</td>
</tr>
<tr>
<td>Ecuador</td>
<td>7.0</td>
<td>7.5</td>
<td>1.5</td>
<td>0.25</td>
<td>0.56025</td>
</tr>
</tbody>
</table>

### Table 5-6. FDI Responsiveness – Andean Community

<table>
<thead>
<tr>
<th>Responsiveness of FDI to a Change in:</th>
<th>Investment Profile Score (1-unit increase)</th>
<th>Government Stability Score (1-unit increase)</th>
<th>Corruption Score (1-unit increase)</th>
<th>Corporate Tax Rate (10% decrease)</th>
<th>Exchange Rate (fix to US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia</td>
<td>$124,115,544</td>
<td>$211,048,179</td>
<td>-$16,423,805</td>
<td>$158,600,325</td>
<td>$296,257</td>
</tr>
<tr>
<td>Venezuela</td>
<td>188,179,873</td>
<td>319,984,252</td>
<td>-24,901,228</td>
<td>233,594,139</td>
<td>289,144</td>
</tr>
<tr>
<td>Peru</td>
<td>81,398,200</td>
<td>138,410,882</td>
<td>-10,771,158</td>
<td>89,155,042</td>
<td>24,332</td>
</tr>
<tr>
<td>Bolivia</td>
<td>12,002,187</td>
<td>20,408,723</td>
<td>-1,588,210</td>
<td>10,954,946</td>
<td>13,060</td>
</tr>
<tr>
<td>Ecuador</td>
<td>27,082,634</td>
<td>46,051,770</td>
<td>-3,583,756</td>
<td>24,719,561</td>
<td>249,548</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia</td>
<td>13.66%</td>
</tr>
<tr>
<td>Venezuela</td>
<td>10.30%</td>
</tr>
<tr>
<td>Peru</td>
<td>10.11%</td>
</tr>
<tr>
<td>Bolivia</td>
<td>5.97%</td>
</tr>
<tr>
<td>Ecuador</td>
<td>2.54%</td>
</tr>
</tbody>
</table>
As a result of several legislative actions taken in the 1990s, foreign investment was permitted in nearly every industry in Columbia by the mid-point of the decade. Foreign firms subsequently invested heavily in the oil, electricity, financial services and telecommunications industries. Despite the country’s level of openness to private enterprise, the EIU (2003) indicates that instability in Columbia’s foreign investment regulatory regime and the increased threat of guerilla terrorism depressed FDI flows from 1999-2001.

The results suggest that a one-unit change in the investment profile score would increase FDI in Columbia by $124 million (a 13.22% change from the benchmark level). The same change in the government stability score increased FDI by $211 million, while lowering the corporate tax rate by 10% led to an increase of $158.6 million. In October 2000, a decree was issued by the Columbian government eliminating restrictions on the acquisition of voting stock in publicly-traded companies by foreign investors. Accordingly, the investment profile score increased from 3.0 in 2000 to 9.5 in 2001. However, popular support for President Serpa declined as concerns over guerilla terrorism made the hard-line approach of his political challenger, Mr. Uribe, more attractive to many voters (EIU 2003). As the likelihood of Mr. Serpa’s re-election decreased, Columbia’s government stability score fell from 9.0 to 6.0. The corporate tax rate and corruption rating remained unchanged during that period, and the variability of the exchange rate decreased slightly.

Based on the benchmark values, the cumulative effect of these changes would be an increase in FDI of $173 million. This is roughly equivalent to a 20% change. Although FDI did increase from 2000 to 2001, the magnitude of the actual change was $47 million,
much less than the model’s prediction. One potential explanation for this is the persistence of civil unrest in Columbia. Factors not fully accounted for in the regression equation, such as kidnappings and other interference by guerillas, paramilitary groups and criminal gangs serve as hindrances to FDI. The results suggest that although the investment climate improved substantially, these threats to foreign investors limited the potential response of FDI.

Like Columbia, Venezuela had one of the worst investment profile ratings in Latin America throughout the 1990s. However, the low rating in Venezuela’s case was primarily due to a lack of effective systems for dispute settlement and tight restrictions on the repatriation of profits. Sweeping changes were made in late 1999 regarding the constitutional treatment of foreign investment in Venezuela. The new constitution allowed for 100% foreign ownership in a number of industries, established legal means for the settlement of business disputes, and simplified the rules for making direct investments. However, the process of approving the implementing legislation continued through 2001. Although the ICRG investment profile rating for Venezuela reflected these changes (improving from 4.0 in 2000 to 7.0 in 2001), the data shows that a majority of investors opted to await the completion of the reform process before carrying-through with their investments. As such, FDI in Venezuela amounted to less than 3% of GDP in 2001.

Foreign direct investment in Peru was fueled by an extensive privatization program during the late 1990s. Although the program was ongoing through 2001, the investment climate was adversely affected by the collapse of President Fujimori’s government and his subsequent resignation in mid-2000. Contract law also continued to be an issue for
foreign investors in Peru. As a result, judicial reform was identified as a priority of the new Toledo administration in 2001.

Table 5-6 shows that in terms of percentage change, the estimated response of FDI to changes in the investment climate was almost identical in Peru and Venezuela, although the dollar amount of these changes differs substantially. For example, while a one-unit increase in the investment profile score had the impact of increasing FDI by $81.3 million in Peru, the change in FDI in Venezuela was $188 million. In each case, this represents an increase of just over 10%. An improvement in the government stability score increased FDI by roughly 17% in both countries, while decreasing the tax rate led to an 11.1% and 12.8% increase in Peru and Venezuela, respectively.

Although not reflected by the ICRG government stability rating, the political environment in Peru from late 2000 to early 2001 was volatile. The EIU (2003) indicates that many foreign investments were withheld pending a resolution to the political turmoil that followed Mr. Fujimori’s resignation. In fact, FDI in 2000 was 66% lower than the level observed in 1999. Although the brevity of the situation (i.e., new elections had been held and the situation was resolved by mid-2001) prevented it from being captured by annual data, its impact on FDI in Peru was significant.

The estimated impacts of changes in Venezuela’s investment climate were, however, consistent with what can be observed in the FDI data. For instance, the investment profile score for Venezuela increased 3.0 points from 2000 to 2001, while the government stability and corruption scores decreased by 3.5 points and 1 point, respectively. The results of the analysis suggest that FDI in Venezuela should have been roughly 30% higher in 2000 than in 2001. In reality, FDI increased by 29.4%.
When compared to Columbia, Venezuela and Peru, FDI in Bolivia was less responsive to changes in the investment climate. However, over the entire sample, Bolivia was one of the countries in which FDI was the most responsive. The government of Bolivia actively promoted FDI in nearly every economic sector throughout the 1990s and inflows reached 12% of GDP by 1999. While the global economic slowdown in 2000 and 2001 caused global FDI flows to contract, FDI continued to account for more than 8% of Bolivia’s GDP during these years. The energy sector was the principal destination of this investment, although much of the economy has been liberalized by the late 1990s.

The results indicate that FDI in Bolivia was roughly half as responsive as in Venezuela. Also, FDI averaged 9.8% of GDP in Bolivia from 1997-2001, compared to an average of 4.2% in Venezuela. In fact, throughout the entire sample, only Trinidad and Tobago had a higher average level of FDI than Bolivia. From 2000 to 2001, Bolivia’s investment climate, government stability and corruption scores each declined by 0.5, 1.0 and 1.0, respectively. The regression results suggest that FDI in Bolivia should have been roughly 12% lower in 2001 as a result of these changes. This result is consistent with the observed 9.5% decrease in investment.

Direct investment in Ecuador was much less responsive to changes in the investment climate than the rest of the Andean Community countries. As was the case with the least responsive countries of MERCOSUR, the Ecuadorian government imposed heavy restrictions on private sector involvement in most sectors of the economy. In fact, the Ecuadorian economy remained one of the most protected in Latin America through 2001 (EIU 2003). Another negative aspect of Ecuador’s investment climate was a lack of
contract enforceability. Regardless, FDI inflows accounted for over 7% of the country’s GDP in 2001. Over 80% of this investment took place in the petroleum industry, which was liberalized in the early 1990s.

The estimated change in FDI from a one-unit improvement in the investment profile, government stability and corruption ratings in Ecuador were $27 million (2.54%), $46 million (4.32%) and –$3.6 million (-0.34%), respectively. A 10% decrease in the corporate tax rate impacted FDI by nearly $25 million. These levels of response were among the lowest in the sample, and there are two potential explanations for this. First, the limitation on foreign ownership in most industries could have been sufficient to prohibit the new investment that would have accompanied the aforementioned improvements in the overall investment climate. Second, it is also possible that, by opening the petroleum industry to foreign investment, the Ecuadorian government effectively overrode the negative impact of the overall investment climate. In fact, the EIU (2003) indicates that economic growth in Ecuador has tracked the performance of the global oil sector since its oil reserves were tapped in the 1970s. Furthermore, the EIU states that this phenomenon is the result of a lack of institutional reform, and hence investment, in other industries (EIU 2003). The results of this analysis offer support for these conclusions.

CARICOM

As Table 5-7 shows, with the exception of Haiti, the countries of CARICOM were generally less responsive to changes in the investment climate (in terms of percentage change) than the larger countries of MERCOSUR and the Andean Community. In fact, Guyana was the least responsive country in the sample. There are several attributes
shared by the countries of CARICOM that may explain their relative lack of FDI response.

Table 5-7. FDI Responsiveness – CARICOM

<table>
<thead>
<tr>
<th>Investment Profile Score (1-unit increase)</th>
<th>Government Stability Score (1-unit increase)</th>
<th>Corruption Score (1-unit increase)</th>
<th>Corporate Tax Rate (10% decrease)</th>
<th>Exchange Rate (fix to US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haiti</td>
<td>$5,628,751</td>
<td>$9,571,224</td>
<td>$7,192,667</td>
<td>$18,691</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>31,944,980</td>
<td>54,319,787</td>
<td>29,157,648</td>
<td>14,845</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>13,316,668</td>
<td>22,643,889</td>
<td>17,016,627</td>
<td>1,173</td>
</tr>
<tr>
<td>Jamaica</td>
<td>11,723,277</td>
<td>19,934,459</td>
<td>14,265,736</td>
<td>16,471</td>
</tr>
<tr>
<td>Guyana</td>
<td>1,052,049</td>
<td>1,788,923</td>
<td>1,728,457</td>
<td>448</td>
</tr>
</tbody>
</table>

| Haiti                                     | 7.42%                                       | 12.61%                            | -0.98%                          | 9.48%                    | 0.02%                    |
| Dominican Republic                        | 3.80%                                       | 6.47%                             | -0.50%                          | 3.47%                    | 0.00%                    |
| Trinidad & Tobago                         | 2.67%                                       | 4.55%                             | -0.35%                          | 3.42%                    | 0.00%                    |
| Jamaica                                   | 2.39%                                       | 4.06%                             | -0.32%                          | 2.90%                    | 0.00%                    |
| Guyana                                    | 1.15%                                       | 1.96%                             | -0.15%                          | 1.89%                    | 0.00%                    |

In comparison to many of the other countries in the sample, Haiti, Trinidad and Tobago, Jamaica and Guyana were relatively small in terms of both geographic and economic size. Interestingly, the countries of Trinidad and Tobago, Jamaica and Guyana also had some of the highest average levels of FDI (as a percentage of GDP) in the sample. Foreign direct investment in Trinidad and Tobago accounted for 11% of GDP from 1997-2001, the highest in the sample. In comparison, FDI stood at 8.0%, 7.9%, 5.7% and 0.07% of GDP in Guyana, Jamaica, the Dominican Republic and Haiti in 2001, respectively.

In terms of the percentage response of FDI to a change in one of the investment climate variables, Haiti is the obvious outlier within CARICOM. For example, while the results indicate that the other CARICOM countries were among the least responsive in the sample, a one-unit increase in Haiti’s investment profile score had the effect of a 7.4% increase in FDI. As mentioned above, Haiti also attracted the least FDI of all the
countries in the sample during 2001. Thus, the large magnitude of this impact is primarily the result of an extremely low level of FDI in the benchmark year.

Table 5-8 displays the benchmark explanatory variable values for each of the CARICOM countries. The table shows that political corruption and economic volatility have been the norm in Haiti, and recent developments fail to provide any sign of the possibility for future improvements in these areas. Thus, Haiti’s relative inability to attract FDI could be the result of a low level of governmental stability and an unsuitable environment for foreign investment. However, the results of the analysis indicate that if conditions were to improve, FDI in Haiti would be highly responsive.

Table 5-8. Investment Climate Variables – CARICOM

<table>
<thead>
<tr>
<th>(Benchmark = 2001)</th>
<th>Investment Profile Score</th>
<th>Government Stability Score</th>
<th>Corruption Score</th>
<th>Corporate Tax Rate</th>
<th>Exchange Rate Variability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haiti</td>
<td>5.5</td>
<td>11.0</td>
<td>1.0</td>
<td>0.35</td>
<td>0.20191</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>9.0</td>
<td>10.5</td>
<td>2.0</td>
<td>0.25</td>
<td>0.02826</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>11.5</td>
<td>4.0</td>
<td>3.0</td>
<td>0.35</td>
<td>0.00536</td>
</tr>
<tr>
<td>Jamaica</td>
<td>9.5</td>
<td>9.5</td>
<td>2.0</td>
<td>0.33</td>
<td>0.08542</td>
</tr>
<tr>
<td>Guyana</td>
<td>8.0</td>
<td>9.5</td>
<td>3.0</td>
<td>0.45</td>
<td>0.02586</td>
</tr>
</tbody>
</table>

Extreme social poverty also persists as a major deterrent to foreign investment in Haiti. The adult literacy rate of just 48%, compared to an average of 90% in the rest of the Caribbean, reflects the lack of an educated work force (EIU 2003). In addition, Haiti’s natural resource base is threatened by both an increasing population and a lack of financial support for any sort of environmental preservation or restoration efforts. Furthermore, infrastructural development has been hindered by a regulatory regime that has traditionally discriminated against foreign investors (EIU 2003).

In contrast to Haiti, FDI in the three least responsive countries in CARICOM averaged over 5.7% of GDP from 1997-2001. For example, FDI in Guyana stood at over 8% of GDP in 2001. The results in Table 5-7 show that a one-unit improvement in
Guyana’s investment profile score led to an increase in FDI of 1.15% (roughly $1 million). A one-unit improvement in the government stability score and a 10% decrease in the corporate tax rate each had the effect of increasing FDI by just less than 2% (approximately $1.7 million).

Guyana’s economy was dominated by agriculture throughout the 1990s and sugar was the primary export commodity. As a result, economic growth was subject to weather patterns and international commodity prices. In 2000, gold became the primary export commodity as international gold prices rose higher and Guyana’s sugar production fell, the latter of which was primarily due to inclement weather (EIU 2003). Although the economy expanded rapidly during the early 1990s, growth during the late 1990s alternated between positive and negative levels.

A number of industries in Guyana were successfully privatized during the 1990s. While attempts to privatize the electric-power and airline industries failed, sales of majority stakes in the telecommunications, agriculture and banking industries pushed inflows of FDI to nearly $147 million (or 40% of GDP) in 1992 (EIU 2003). This level of FDI, combined with extensive debt relief and large inflows of foreign assistance, strengthened the financial environment in Guyana from the late 1990s through 2001.

Inflows of official development assistance (ODA) averaged more than 20% of Guyana’s GDP during the period 1989-2001. Guyana saw net outflows of private bank lending during that same period. Most development projects in Guyana were funded by multilateral banks as many investment opportunities were typically too small to attract the attention of investors from the developed countries. However, a substantial amount of private investment was aimed at Guyana’s timber and gold resources. These facts
seem to suggest that foreign direct investors, rather than increasing their investment in Guyana because of the improvements in the investment climate, may have responded to investment opportunities that presented themselves as a result of development efforts led by World Bank and the IMF. This possibility is examined again later in the discussion on Nicaragua.

In stark contrast to both Guyana and Nicaragua, efforts to pay down foreign debt caused net outflows of official capital in Trinidad and Tobago throughout most of the 1990s. Instead, the government of Trinidad actively promoted privatization, and FDI consequently poured in at a disproportionate rate. However, just as in Nicaragua and Guyana, the results indicate that changes in the investment climate would have relatively little effect on the level of FDI in Trinidad.

Trinidad and Tobago had the largest FDI share of GDP in the sample in 2001 at over 9.4%. Despite being the smallest country geographically, the island-nation’s fossil fuel reserves combined with relative economic and political stability made Trinidad and Tobago an attractive target for foreign investors. As a result, economic growth was driven by fluctuations in oil and chemical prices, averaging 4.2% during 1997-2001 (EIU 2003).

The reaction of foreign investors to recent developments in Trinidad and Tobago support the results of the analysis. Dissension among the ranks of government left the Trinidadian legislature in a political deadlock in mid-2001 and three national elections were subsequently held over the next two years. Accordingly, the ICRG government stability score for Trinidad fell five points from 2000 to 2001, the quickest decline observed over the entire sample. However, foreign investors were undeterred even in the
face of such political turmoil and FDI continued to expand through the end of 2002 (EIU 2003).

In 1999, as much as 82% of U.S. FDI in Trinidad flowed into the petrochemical, oil and natural gas industries. As previously mentioned, this can be compared to the case of Ecuador. In fact, over 80% of FDI in Ecuador during the period 1997-2001 was in the oil and mining industry, and U.S. investors were the principal source of these funds. These data, when combined with the fact that foreign investment was relatively unresponsive to changes in the investment climate in these countries, seem to suggest that the possession of oil reserves served as the dominant consideration of foreign investors in these countries. In other words, foreign investors tended to engage in petroleum-related investment projects regardless of the existing state of, or changes in, the overall investment climate.

Although Jamaica is not an oil producing nation, the country is very comparable to Trinidad and Tobago in terms of FDI response. For example, a one-unit improvement in the investment profile rating had the effect of increasing FDI in Jamaica by 2.39% ($11.7 million), compared to 2.67% for Trinidad. The government of Jamaica also promoted the privatization of many industries and imposed few limits on foreign ownership during the late 1990s.

One possible explanation for the small response of FDI to changes in Jamaica’s investment climate is the high level of economic concentration. Specifically, Jamaica’s tourism industry accounted for over 50% of FDI inflows and 15% of total economic activity in 2001. Jamaica is comparable to the cases of both Trinidad and Ecuador in the sense that a single industry accounted for a majority of FDI. This is interesting because
the same cannot be said about most of the other countries in the sample. In fact, it was typically the case that FDI inflows were spread across a number of industries within the most responsive countries in the sample. In the cases of Jamaica, Trinidad and Ecuador, it seems plausible that FDI might have been more responsive to the international demand for these countries’ primary products (tourism and mineral exports in the case of Jamaica, oil in the case of Ecuador and Trinidad) than to changes in their investment climates.

The Central American Common Market

Table 5-9 presents the benchmark explanatory variable values for the countries in the Central American Common Market. Table 5-10 shows that, on average, FDI in these countries tended to be less responsive than in most of the other countries in the sample. For instance, Guatemala showed the largest response among the CACM countries in terms of both dollars and percent change. A one-unit improvement in the government stability score increased FDI by 9.26%, or $52.5 million. This can be compared to changes of 5.78%, 4.28%, 4.19% and 3.59% for El Salvador, Costa Rica, Honduras and Nicaragua, respectively. The investment profile score had a slightly smaller impact on FDI in the CACM countries, ranging from 5.44% (or $30.9 million) in Guatemala to 2.11% ($3.9 million) in Nicaragua.

Nicaragua was the least responsive to each of the investment climate variables. A 10% decrease in the corporate tax rate had the effect of increasing FDI in Nicaragua by only 1.93%. It is interesting to note that from 1997 to 2001 FDI averaged 9.0% of the country’s GDP, the third highest of the countries in the sample. Nicaragua is similar to the cases of Guyana and Trinidad and Tobago in that FDI accounted for a large share of GDP and was relatively unresponsive to changes in the investment climate.
Table 5-9. Investment Climate Variables – CACM

<table>
<thead>
<tr>
<th></th>
<th>Investment Profile Score</th>
<th>Government Stability Score</th>
<th>Corruption Score</th>
<th>Corporate Tax Rate</th>
<th>Exchange Rate Variability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guatemala</td>
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<td>1.5</td>
<td>0.25</td>
<td>0.04340</td>
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<td>9.5</td>
<td>3.0</td>
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<td>0.07294</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>5.5</td>
<td>11.0</td>
<td>2.0</td>
<td>0.25</td>
<td>0.06416</td>
</tr>
</tbody>
</table>

Table 5-10. FDI Responsiveness – CACM

<table>
<thead>
<tr>
<th></th>
<th>Investment Profile Score (1-unit increase)</th>
<th>Government Stability Score (1-unit increase)</th>
<th>Corruption Score (1-unit increase)</th>
<th>Corporate Tax Rate (10% decrease)</th>
<th>Exchange Rate (fix to US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guatemala</td>
<td>30,868,514</td>
<td>52,489,345</td>
<td>-4,084,730</td>
<td>34,937,134</td>
<td>16,097</td>
</tr>
<tr>
<td>El Salvador</td>
<td>20,691,608</td>
<td>35,184,361</td>
<td>-2,738,053</td>
<td>18,886,179</td>
<td>97</td>
</tr>
<tr>
<td>Honduras</td>
<td>9,617,406</td>
<td>16,353,600</td>
<td>-1,272,640</td>
<td>8,778,247</td>
<td>6,865</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>24,259,981</td>
<td>41,252,084</td>
<td>-3,210,244</td>
<td>26,571,836</td>
<td>29,103</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>3,857,020</td>
<td>6,558,542</td>
<td>-510,387</td>
<td>3,520,479</td>
<td>4,070</td>
</tr>
</tbody>
</table>

|                | 5.44%                                     | 9.26%                                       | -0.72%                           | 6.16%                            | 0.00%                     |
| El Salvador    | 3.40%                                     | 5.78%                                       | -0.45%                           | 3.10%                            | 0.00%                     |
| Costa Rica     | 2.52%                                     | 4.28%                                       | -0.33%                           | 2.76%                            | 0.00%                     |
| Honduras       | 2.46%                                     | 4.19%                                       | -0.33%                           | 2.25%                            | 0.00%                     |
| Nicaragua      | 2.11%                                     | 3.59%                                       | -0.28%                           | 1.93%                            | 0.00%                     |

Privatization of Nicaragua’s state-controlled industries, coupled with major reform in foreign investment legislation, was met with large inflows of FDI during the 1990s. However, problems with dispute settlement, corruption and a lack of transparency within the regulatory system remained as major deterrents to FDI in Nicaragua in 2002. The ICRG investment profile score for Nicaragua reflected these conditions. In fact, Nicaragua and Haiti had score of 5.5 in 2001, the lowest score in the sample in that year.

Regardless of the low investment profile score, investment in Nicaragua’s telecommunications and energy industries boosted FDI to over 10% of GDP in both 1999 and 2000. Thus, both the empirical evidence and the regression results indicate that foreign direct investors in Nicaragua were attracted by something other than the investment climate. As mentioned in a previous section, perhaps the most obvious factor
is the high level of official development assistance (ODA) flowing into the country. As was the case with Guyana, inflows of ODA averaged more than 32% of Nicaragua’s GDP during the period 1989-2001. It is also true that Guyana and Nicaragua were the smallest and most trade-dependent economies in the sample. In addition, comparable results were observed for the two with regard to the percentage change in FDI from a change in the investment climate variables. These similarities are explored in further detail in Chapter 6, as are the comparable aspects of several other countries included in the analysis.

Costa Rica, although geographically smaller than Nicaragua, was nearly eight-times larger in terms of economic size in 2001. Over time, Costa Rica evolved from an economy dominated by agriculture to one that included a diverse mix of manufacturing (including high technology), financial services and tourism. At least part of the economic development observed in Costa Rica was financed by foreign investment, as can be witnessed by the fact that FDI averaged nearly 3.5% of GDP from the late 1990s to 2001.

The electronic equipment manufacturing sector accounted for 15% of all FDI in Costa Rica over the period 1985-2001. Although this is a larger amount than the level of FDI any other industry, it is by no means an overwhelming majority, as investment was spread among a number of other sectors. Nevertheless, the economic impact of foreign involvement (specifically in the manufacture of computer processors) has led some experts to distinguish between two types of economic growth in Costa Rica: “Intel-” and “non-Intel” led growth (EIU 2003).

The results of the analysis indicate that FDI in Costa Rica was only moderately responsive to changes in the investment climate. A one-unit improvement in the
investment profile score had the effect of increasing FDI by 2.52%, while an equivalent change in the government stability score increased investment by 4.28%. Table 5-10 shows the effect of these changes as well as the impact of the other three investment climate variables on the level of FDI in Costa Rica.

The results for Honduras were very similar to those observed for Costa Rica. The Honduran government remained committed to privatizing state-controlled industries and liberalizing the foreign investment regime throughout the 1990s. However, some important sales of government-owned entities were slowed by bureaucratic considerations and had yet to be resolved by the end of 2001 (EIU 2003). Thus, FDI in Honduras accounted for just over 3% of GDP in that year. The Honduran economy was dominated by the industrial and service sectors; strong textile and tourism industries led economic growth to an annual average of 2.7% from 1997 to 2001.

Substantial inflows of official development assistance also contributed to Honduras’ economic expansion. In fact, inflows of ODA were more than 3-times the magnitude of FDI in 2001. This can be compared to the cases of Nicaragua and Guyana, where official inflows were 7-times and 2-times larger than inflows of FDI, respectively. These three countries were the only in which receipts of official aid consistently exceeded inflows of FDI. Thus, it is interesting to note that, across the entire sample, they were also the countries in which FDI was the least responsive to changes in the investment climate.

From 1970 to 1997, civil war and unrest kept FDI flows into El Salvador to an average of only 0.33% of GDP. However, the political and economic environment improved rapidly once an official peace accord ending 12 years of civil war was signed in
1992, and inflows of FDI increased from zero in 1994 to nearly 2% of GDP in 2001. Foreign direct investment increased to nearly 9.2% of GDP in 1998 and much of this investment was attracted by major privatizations in the telecommunications and electric utilities sectors. Although that level of investment ultimately proved unsustainable, the adoption of an investment promotion program by the government kept inflows of FDI positive from 1999 to 2001.

The results of the analysis suggest that although investment conditions were generally favorable in El Salvador during the late 1990s, other factors may have kept investors from entering the country on a large scale. One-unit improvements in the investment profile and government stability scores caused FDI in El Salvador to increase by 3.4% and 5.8%, respectively. Meanwhile, a 10% decrease in the corporate tax rate increased FDI by 3.1%. Given that the US dollar was adopted by the government of El Salvador as the legal tender in January 2001, the elimination of any variability in the exchange rate had no impact on the level of FDI.

The case of El Salvador is interesting for two reasons. First, despite being what the EIU (2003) called one of the most stable economies in Latin America, the ICRG investment profile score for El Salvador fell from 10.0 in 1999 to 7.5 in 2001. In contrast to most of the countries in the sample, there seems no obvious foundation for the observed decline in the investment profile rating.

The second interesting thing about El Salvador is that, even with such an open economy, inflows of FDI showed only a moderate response to improvements in the investment climate. In this regard, the EIU (2003) points to the country’s high rate of crime as a potential explanation for why El Salvador lagged behind other Central
American countries like Costa Rica, Nicaragua and Honduras in its ability to attract foreign investment. However, given an improvement in the investment climate, the results indicate that FDI in El Salvador would be more responsive to changes in the investment climate than in all but one of the other CACM countries.

The only CACM country in which FDI was more responsive than in El Salvador was Guatemala, the largest CACM economy. Guatemala’s investment profile score was also the highest among the CACM countries in 2001. Nonetheless, inflows of FDI remained low. Investment during the period 1998-2001 was almost solely driven by privatization-related inflows.

One explanation for the lack of widespread FDI is that the confidence of foreign investors in Guatemala has, from time to time, been shaken by major political and macroeconomic disturbances. In fact, the EIU (2003) indicates that the political uncertainty associated with Mr. Jorge Serrano Elias’ attempted dissolution of Guatemala’s government in 1993 was primarily reason for the lack of FDI. The EIU (2003) also states that the negative impact of an expansionary monetary policy was the primary reason FDI inflows remained subdued during the 1990s. However, monetary discipline during 2000 and 2001 restored confidence and FDI increased by nearly 1.5% of GDP.

Overall, FDI in the CACM countries was not particularly responsive to changes in the investment climate. While Guatemala had the largest response in the group, it was still well below the most responsive countries in other groups. In that regard, the results for CACM are similar to those observed for the countries within CARICOM; 4 out of 5
countries in each group had very low responses while the size of the response in the fifth country was almost double that of any other in the group.

**Mexico and Chile**

When compared to other countries in Latin America, FDI flows to Mexico and Chile were much more consistent throughout the period 1995-2001. In fact, Chile is an interesting case in terms of both the quickness of its recovery from the Latin American debt crisis and its level of integration with the global economy since the crisis. Inflows of FDI in Chile averaged 7.6% of GDP during the period 1996-2001, which was well above other comparably-sized countries in Latin America.

Chile’s relative success at creating a favorable investment climate can be witnessed by examining Table 5-11. Following the debt crisis, the government took a series of well-thought-out steps (the details of which are discussed below) aimed at maintaining investor confidence. As the table shows, a low tax rate and high ratings for the investment profile, government stability and corruption scores continued to provide incentive for foreign investors in 2001.

<table>
<thead>
<tr>
<th>Table 5-11. Investment Climate Variables – Mexico and Chile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment Profile Score</strong></td>
</tr>
<tr>
<td>Mexico</td>
</tr>
<tr>
<td>Chile</td>
</tr>
</tbody>
</table>

However, the results show that FDI in Chile was only moderately responsive to changes in the investment climate when compared to other countries in the sample. In fact, the response of FDI in Chile (shown in Table 5-12) was comparable to the responses measured in Nicaragua’s FDI. For instance, a one-unit increase in the investment profile rating resulted in a 2.49% increase in FDI in Chile, and the same change in the
government stability score increased FDI by 4.24%. Chile also recorded the lowest response to a decrease in the corporate tax rate.

Table 5-12. FDI Responsiveness – Mexico and Chile

<table>
<thead>
<tr>
<th>Responsiveness of FDI to a Change in:</th>
<th>Investment Profile Score (1-unit increase)</th>
<th>Government Stability Score (1-unit increase)</th>
<th>Corruption Score (1-unit increase)</th>
<th>Corporate Tax Rate (10% decrease)</th>
<th>Exchange Rate (fix to US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>4.27%</td>
<td>7.26%</td>
<td>-0.56%</td>
<td>5.45%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Chile</td>
<td>2.49%</td>
<td>4.24%</td>
<td>-0.33%</td>
<td>1.36%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

The empirical evidence seems to suggest that the results of the analysis are valid. While the investment climate in Chile was highly rated by the ICRG in 2001 (and for that matter, much of the late 1990s), the ratings were much lower in 1988. Nonetheless, inflows of FDI accounted for 4% of GDP in 1988, compared to 6.7% in 2001. Such a small change – 2.7 percentage points – in FDI over that 13-year period was uncharacteristic for most of the countries in the sample. In fact, a large majority of the countries in the region attracted much less FDI during the late 1980s than in 2001.

The fact that Chile began to recover from the Latin American debt crisis and attract large inflows of FDI before other countries in South America is largely a product of two actions taken in the 1980s. Following the crisis, the government of Chile assumed responsibility for over $6 billion worth of private debt and enacted a system of debt-to-equity swaps that were successful in restoring the confidence of foreign investors (EIU 2003). As a result, FDI flows to Chile recovered quickly following the crisis (reaching 4% of GDP by 1987) and generally trended upward during the subsequent 15-year period. Although the ICRG ratings for Chile followed the same general trend, year-to-
year fluctuations in the independent variables had a small impact on the level of FDI. This is consistent with what the results of the analysis suggest.

Among the developing countries in the Western Hemisphere, Mexico was the second largest recipient of FDI flows during the 1984-2001 period (Brazil was the largest). As the investment profile score for Mexico improved over time, FDI flows began to account for a greater percentage of GDP. The most noticeable increase in FDI came during the period immediately following the establishment of NAFTA. As might be expected, investors from the United States accounted for the bulk of FDI in Mexico.

However, Mexico’s openness to foreign investment had been established prior to NAFTA by the Foreign Investment Act of 1993. In fact, FDI jumped from $4.39 million in 1993 to $10.72 million in 1994 and never fell back below $9.0 million after that. Interestingly, inflows of FDI remained strong during the 1994-1995 Mexican Peso crisis despite a deterioration in both the investment profile and government stability ratings7.

Foreign direct investment in Mexico was not particularly responsive to small changes in the investment climate. For example, a one-unit improvement in the investment profile score increased FDI in Mexico by 4.27%. A one-unit change in the government stability score had the effect of a 7.26% change in FDI, and decreasing the corporate tax rate by 10% led to a 5.45% increase in FDI. As a point of reference, the level of response in Mexico was most comparable to the countries of Uruguay and Paraguay.

7 The poor state of Mexico’s political environment in 1994 was exemplified by the assassination of both Lois Donaldo Colosio and José Francisco Ruiz Massieu, the new presidential candidate and secretary general of the ruling party at that time, respectively.
The results of the analysis show that the level of response in Mexican FDI was also close to the median response across the sample. Mexico and Brazil were comparable in terms of economic size and dollar level of FDI in 2001, although FDI in Mexico was much less responsive to changes in the investment climate. Within the data, there are no obvious differences in the two countries that would account for the difference in FDI response.

It is with this last point that the next chapter is concerned. That is, there are many differences and similarities between the countries in this analysis in terms of FDI response. Some of the corollaries were explicitly pointed out above, while others were perhaps only alluded to. The countries were segmented according to their respective regional integration groups in this chapter, but there are other ways in which the countries might be segmented. The most obvious segmentation is into two groups: (i) countries in which the response of FDI to changes in the investment climate was high and (ii) countries in which the estimated response was low. Chapter 6 discusses some of the traits shared by the most responsive countries in the analysis, and likewise, the traits shared by the least responsive countries.
The purpose of this study was to provide insight into the nature of the relationship between foreign direct investment (FDI) and the investment climates of developing host countries in the Western Hemisphere. While it was expected from the outset of the study that the foreign investment policies adopted by these countries indeed impact the extent to which foreign investors find them to be either suitable or unsuitable locations for direct investment, the results indicate that the importance of investment climate often depends on the country being examined. That is to say, in some countries, changes in the investment climate resulted in large changes in the level of FDI, while in other cases, the impact of a similar change appeared to be, in effect, dampened by other factors.

The responsiveness of FDI was defined as the percentage change in FDI resulting from hypothetical changes in each investment climate variable. The most recent data available was used to create a benchmarking scenario in order to examine the effect of a hypothetical change in each of the right hand side (RHS) variables, independently. The results obtained from the empirical analysis make it possible to characterize the countries according to their level of FDI response. However, it is useful to revisit the cases of several specific countries before providing some broad conclusions on the nature of the observed responses in FDI across the entire sample.

The Least Responsive Countries

Guyana had one of the highest levels of trade (as a percentage of GDP), one of the highest levels of FDI (also as a percentage of GDP), and the lowest level of FDI
responsiveness in the sample; the results for Nicaragua were similar. Although there were few other likenesses between these two countries, inflows of official development assistance (ODA) to both Nicaragua and Guyana accounted for a higher percentage of GDP than in any of the other sample countries. Honduras, another country in which FDI was minimally responsive to changes in the investment climate, also received a large amount of ODA in the benchmark year.

Together, the three cases mentioned above seem to suggest that flows of FDI and ODA to developing countries are complementary to one another, and that this relationship may overshadow the effect of changes in the investment climate. In fact, there is support for this conclusion in the existing literature. Specifically, Dasgupta and Ratha (2000) found that FDI responds positively to official capital inflows (including World Bank lending). They also found that this effect dominated any relationship between FDI and the “real and financial variables” (Dasgupta and Ratha 2000, p16) included in their model.

Another factor that appears to be linked with a smaller response in FDI is the concentration of foreign interest in a single industrial sector of the economy. Some countries that fit this mold are Jamaica, Trinidad and Tobago, and Ecuador. As pointed out in Chapter 5, the tourism industry accounted for over 50% of FDI and roughly 15% of total economic production in Jamaica. In both Ecuador and Trinidad and Tobago, a majority of FDI was directed at the petrochemical industry. In fact, in most, if not all of the developing countries of the Western Hemisphere, FDI accounts for a majority of investment in the tourism and petrochemical industries. From the results of this analysis, it is again plausible to conclude that a factor not accounted for in the regression equation
caused FDI to be less responsive to changes in the investment climate. For example, it could be that the demand for suitable vacation resorts on the north coast of Jamaica is so great that international resort developers may place less of an emphasis on the overall investment climate as a result of their interest in capitalizing on opportunities in the tourism industry. A similar analogy could be made for both Ecuador and Trinidad with regard to international demand for oil and natural gas.

Finally, the least responsive countries in the sample had a history of maintaining government-owned monopolies in a number of industries. For example, while Paraguay and Uruguay had the highest average investment profile ratings among both MERCOSUR and Andean Community countries, FDI accounted for less than 2% of GDP in each. Additionally, the results indicate that improvements in the investment climates of these countries would lead to only moderate increases in FDI. However, this is not surprising given the tradition of limitation on FDI that persists in these countries.

The Most Responsive Countries

Within both the Andean Community and MERCOSUR, countries that were more open to privatization tended to be the most responsive to changes in the investment climate. For instance, Argentina and Columbia each initiated extensive privatization programs in the early 1990s and Brazil followed suit in the latter years of the decade. As such, direct investment in these countries from 1997-2001 tended to be spread across a variety of economic sectors. In the case of Venezuela, FDI was also encouraged in some industries throughout the 1990s. However, economic uncertainty and extensive limitation on foreign investment was the norm in most industries in that country throughout the 1990s. Although foreign interest in Venezuela’s petrochemical reserves was high, the underlying state of the overall investment climate served as a deterrent to
FDI. In both Argentina and Columbia, conditions were somewhat similar in the sense that domestic instability was cited as a major problem for foreign investors.

The results suggest that any improvement in the investment climates of Venezuela, Argentina or Brazil would lead to relatively large increases in the amount of FDI that these countries attract. One possible conclusion is that, regardless of whether these countries may have the desired natural resources and consumer base to be a suitable location for FDI, investment has been negatively affected by the unfavorable state of their investment climates. This is perhaps also true in the second largest Caribbean market in terms of population, Haiti, which also showed one of the highest levels of FDI response in the sample.

The idea that FDI is more responsive to small improvements in the investment climate in countries where economic and political conditions are at their worst is very interesting. Is it that foreign investors are optimistic with respect to the possibility of improved fortunes in those countries? Alternatively, it could be that a history of instability has left the countries with so little investment that a vast amount of opportunities open themselves once the investment climate starts to improve.

Policy-Related Conclusions

One of the goals of this study was to provide a model for analyzing the investment climate that, in the end, had some relevance for policymakers in developing countries of the Western Hemisphere. While it is difficult to provide specific guidance on national foreign investment policy by examining a group of countries as a whole, the empirical analysis in Chapter 5 does yield some interesting information for those who are charged with designing these policies. The first important inference is that the state of the investment climate is, in some cases, not the principal concern of foreign direct investors
when choosing among potential locations for investment. This is particularly important for policymakers who have been successful at creating a favorable investment climate in their respective country, but have not reaped the benefit of increases in inward FDI.

For countries in which the investment climate was favorably rated yet FDI was relatively unresponsive in comparison to other countries in the sample, the results suggest the need to develop a stronger industrial base for FDI activity. Paraguay and Uruguay serve as examples of countries for which this is true. While the investment climate in these countries ranked favorably, historical restrictions on private commerce have limited the development of an economic infrastructure that is capable of absorbing large inflows of FDI. Thus, these countries attract a very small amount of FDI, and improvements in the investment climate have done little to change this. However, the inference is no less relevant for countries that historically received a large amount of FDI. In these countries, one or two industries tend to attract a significant amount of FDI, while the lack of development in other industries limits the potential effect of further improvements in the investment climate. Overall, each of the two aforementioned instances highlight the importance of fostering industries that lend themselves to FDI activity.

On the contrary, the investment climate was shown to be of acute importance to foreign direct investors in some of the most developed countries in the sample. This result supports the conclusion that while the level of industrial development in these countries may be suitable for direct investment, changes in the investment climate can substantially affect the amount of FDI received by these countries. Thus, the implementation of policies that are considered by foreign direct investors to be more favorable is an area worthy of attention.
The data presented in Chapter 5 also show that the most underdeveloped countries in the Western Hemisphere attracted substantial flows of FDI in relation to their economic size. Additionally, neither improvements nor deteriorations in the investment climates of these countries had a large impact on their ability to attract FDI. As previously mentioned, this finding is consistent with the contentions of other researchers who purport a complementary relationship between ODA and FDI. The primary conclusion here is that the policies that must be enacted for a country to qualify for official assistance also have the potential to spur foreign investment in the private sector.

The broadest conclusion that can be drawn from the results of this study is that the responsiveness of FDI to changes in the investment climate varies widely across countries. For policymakers, this might suggest that the level of priority given to reforming the foreign investment policy regime should be determined on a country-by-country basis. While in some countries the state of the investment climate appears to be a pressing issue, other countries might do well to devote their resources to other areas of concern, as outlined above.

**Considerations for Future Research**

Panel data were used in this study to expose similarities and differences in the response of FDI across a large group of countries. However, it would be interesting to conduct more in-depth analysis on a country-by-country basis. It is likely that doing so would enable future researchers to provide insight into the relationship between the responsiveness of FDI (as defined in this study) and the factors not fully accounted for in this analysis, such as industrial concentration and economic stability.

Testing for causality between changes in the investment climate variables and changes in FDI would also be a worthwhile exercise. Tests for causality between the
independent variables might uncover feedback effects that the tests conducted in Chapter 5 did not detect. Additionally, testing for causality between FDI and the independent variables could provide further evidence of the importance of foreign investment policy.

Finally, one of the major problems associated with examining the relationship between foreign investment policy and FDI has been the difficulty of measuring the data. To a great extent, foreign investment policy consists of legal provisions and considerations that, while easily elucidated with legal jargon, are nearly impossible to account for numerically. As a result, empirical literature on the subject is abundant with proxies for policy-related variables. The World Bank recognized this void in the available data and recently established the Doing Business Database\(^1\) in an effort to provide more objective criteria for measuring business regulations and the extent to which they are enforced. The Database includes numerical measures of business regulations in 145 countries. Seven aspects of the regulatory environment are covered, including: (i) starting a business; (ii) hiring and firing workers; (iii) registering property; (iv) getting credit; (v) protecting investors; (vi) enforcing contract; and, (vii) closing a business. Although the lack of historical coverage prevented the Database from being useful for this study, its potential value to future researchers is clear.

APPENDIX
DEFINITIONS OF SELECTED VARIABLES

World Bank Data

Foreign Direct Investment, Net Inflows (% of GDP)

Foreign direct investment is defined as investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series is measured as net inflows in the reporting economy.

Trade (% of GDP)

Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.

GDP Per Capita (Constant 1995 US$)

GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. GDP per capita is measured as gross domestic product divided by midyear population. Data are in constant U.S. dollars.

International Country Risk Guide Data

Investment Profile

A measure of the government's attitude toward inward investment as determined by four components: the risk to operations, taxation, repatriation, and labor costs.
Corruption

A measure of corruption within the political system that is a threat to foreign investment by distorting the economic and financial environment, reducing the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability, and introducing inherent instability into the political process.

Government Stability

A measure of the government's ability to stay in office and carry out its declared program(s), depending upon such factors as the type of governance, cohesion of the government and governing parties, approach of an election, and command of the legislature.
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BIOGRAPHICAL SKETCH

Eric Bonnett was born in Bradenton, Florida, on December 17, 1976, and is a fifth-generation Floridian. His wife, Rita, is also a Florida native. Eric holds both a Bachelor of Science degree and a Master of Agribusiness degree from the University of Florida. In August 2001, he was awarded the University of Florida Alumni Fellowship and subsequently received his Doctor of Philosophy degree in December 2004.