

2. FDI, mode of entry and corporate governance

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2.1. INTRODUCTION

Global foreign direct investment (FDI) flows have grown substantially in recent years, despite a dramatic downturn in 2001. According to the World Investment Report (UNCTAD, 2002, 2006), the downturn in FDI was concentrated mainly in developed countries, with modest declines in the developing world and a slight increase in transition economies. It shows that, despite the slowdown, the significance of multinational enterprises' (MNEs)¹ production continues to grow and the global activities of multinationals keep expanding. In particular, this growth was spurred by the share of cross-border capital flows accounted for by multinationals' FDI. Indeed, in recent decades cross-border flows of FDI have grown at much faster rates than have those of goods and services (UNCTAD, 2001, 2006). The crucial role of multinationals represents the distinguishing feature of the current phase of globalization compared to historical periods (Eichengreen and Irwin, 1999).

It is important to emphasise that recent attitudes toward FDI have changed considerably, as most countries have liberalised their policies to attract investment from multinational enterprises. Indeed, FDI has been actively promoted by the Washington consensus as a panacea for economic development. In particular, structural adjustment programmes such as privatisation, trade liberalisation, reduction in state ownership, increased and improved transparency in economic systems, internationalisation of capital markets and macroeconomic stabilisation policies have led to increasing market integration at a global level,² making FDI more attractive to both advanced and less advanced industrial countries. Considerable efforts have been made by the advanced industrial countries to convince developing countries and emerging economies of the benefits of removing the barriers on FDI. Their primary argument is that direct investment flow can play a significant role in promoting economic growth (raising capital, expanding labour and total factor productivity), creating new local employment,

introducing innovation and forcing local firms to improve their managerial systems. As a result, an increasing number of host governments have provided attractive opportunities for multinationals in terms of cost advantages, economies of scales and multi-plant economies. Given the extensive financial resources and technical know-how of MNEs and other positive effects on the host economies, many countries compete to have these firms establish a presence in their countries. Would-be host countries attempt to attract MNEs by offering, among other things, a favourable business environment, low corporate tax rate, financial incentives, access to infrastructure and monopoly rights. Strong arguments can be made that international investment incentives in a host country should attract more foreign investors. This view is focused on the importance of international investment incentives and subsidies that host governments often introduce to encourage multinational enterprises to invest in their markets. It is a matter of debate, however, whether incentives or subsidies are really justified. The school of the 'race to the bottom' theory asserts that MNEs induce countries to compete against each other (that is by relaxing labour standards) to attract FDI, thereby worsening their living standards. Hausmann and Fernandez-Arias (2000a, 2000b) consider high levels of FDI inflows as a signal of the host country's weakness (poor property rights, inefficient markets and weak legal and financial institutions), rather than its strength. Typically, the share of FDI inflows in total capital flows is larger when the legal and economic risks of doing business in a particular country are higher. Advocates of the 'climb to the top' approach consider that MNEs provide the best option for achieving efficient international financial markets and allocation of international capital flows. The theory suggests that the beneficial effects of FDI flows are more likely to be detected when the receiving country has a certain amount of absorptive capacity in terms of human capital, quality of governance and macroeconomic policies (Borensztein and De Gregorio, 1998). Some authors (Krugman and Obstfeld, 1999) consider FDI inflow to a country as a positive signal, suggesting that this is a result of the correction of a domestic distortion (crony capitalism).

In the light of this debate, governmental bodies, academic studies and international agreements have increasingly come to recognise a strong relationship between quality of institutions and investment flows. According to Chang (1999) and Stiglitz (1994), the benefits of FDI for the host countries may depend on the manner in which the FDI is attracted. For example, in a context where countries compete aggressively by offering subsidies to potential investors, any potential net benefits generated by FDI may well be competed away and accrue to the foreign investors. As an alternative way to attract FDI, countries could compete by improving their governance, education levels, and the quality of their labour force or

infrastructure. It is widely claimed (Wei, 1997 and 2000; La Porta et al., 1998; Alesina and Dollar, 2000; Hausmann and Fernandez-Arias, 2000b; Shatz, 2000) that efficient legal systems, low levels of corruption, high degrees of transparency and good corporate governance may have a quantitatively significant impact on a country's ability to attract foreign direct investment.

Beginning with a review of the existing literature which claims that institutional factors play an essential role in attracting investments, this chapter analyses the impact of shareholder protection (as a measure of quality of corporate governance) and openness to investment (as a measure of administrative openness to FDI) on FDI flows. Following recent empirical works, this chapter relies on the use of the gravity model to investigate the determinants of FDI flows and examines the question of why multinationals go abroad and what host countries can do to make themselves more attractive to foreign investors. I rely on these variables because the recent literature (La Porta et al., 1998; Oman, 2001; Shatz, 2000; Stein and Daude, 2001; Prasad et al., 2003) suggests that a suitable system of corporate governance, definition of ownership (inside-ownership versus outside-ownership) and more open markets encourage an increase in the flow of financial capital to firms in less developed countries and emerging economies.

The rest of the chapter is organised as follows: the next section presents a general discussion on FDI flows and the different modes of entry. Section 2.3 discusses the relationship between corporate governance and foreign direct investment; Section 2.4 provides an overview of the gravity model and describes the model identification. Sections 2.5 and 2.6 represent the empirical part of this research, including a discussion of methodology and providing a summary of the empirical findings. The policy implications of these findings are discussed in the conclusions.

2.2. REVIEW OF FDI LITERATURE AND DIFFERENT MODES OF ENTRY IN A HOST COUNTRY

Foreign direct investment is an investment option firms choose when expanding into international markets. By definition, a firm becomes multinational when, through direct investment, it establishes business enterprises abroad in which it exercises some level of ownership and control. Therefore, in the light of the internationalisation of business, when a firm wishes to control its assets abroad, it can choose between direct or indirect levels of involvement: wholly-owned affiliates that could be either a greenfield investment (GF) or an acquisition of a foreign enterprise (mergers and acquisitions, M&As); joint ventures (JV) between a multinational and a

host country partner; licensing agreements, management contracts, franchising or other situations in which foreign companies supply some assets but do not completely own the business entity. For example, through merger and acquisition, parent firms have direct control of the acquired enterprises, and through joint venture, parent firms share control with local partners rather than letting other entities use it. In contrast, in the case of licensing, parent firms supply some tangible or intangible asset but do not own it.

What mode of entry does the firm use to penetrate the foreign market?

<p>Internal Route (direct or indirect ownership and control)</p>	<p>→ Greenfield → M&As → Joint Venture (49% of voting shares)</p>
<p>External Route (no control, partial ownership, non-equity agreement)</p>	<p>→ Licensing, Franchising</p>

The ownership structure is particularly important when a multinational decides to invest abroad. In some cases multinationals voluntarily agree to share ownership. One possible reason for this is that the full return of the intangible assets or of the superior technology cannot be achieved because the multinational lacks local experience. Moreover, direct investments are subject to sovereign risks. This issue is particularly important in developing countries and transition economies. A government can, for example, choose to indirectly expropriate the assets of a direct investment through excessive taxation. A central issue in economic theory concerns the appropriate ownership structure for when a multinational enterprise decides to invest in a foreign market and then to establish an affiliate. Until the second half of the 20th century, most of the mainstream theories regarding FDI explained only partial aspects of the internationalisation process of production. Some theories focused on the countries' characteristics (factor endowments) and others concentrated only on the role of firms (neoclassical approach). In the latter half of the last century there was a valid attempt by Dunning (OLI paradigm, 1988, 1998), the New Trade Theory (Markusen, 1995; Markusen and Venables, 1995, 1999; Markusen and Maskus, 2001) and other approaches to consider both the theory of firms and the international trade theory that explains the determinants of FDI and the role of multinational enterprises.

In general, when deciding whether to invest abroad, a multinational must develop a competitive advantage (that is economies of scale and scope,

superior technology, managerial expertise, and so on) powerful enough to compensate the firm for the potential disadvantages of operating abroad (higher agency costs, political risks, cultural and linguistic differences, unknown market, foreign exchange risks, and so on). The Heckscher–Ohlin (H-O hereafter) theorem³ appears to give a sound theoretical analysis for the early form of FDI where investment flows were from industrialised countries toward less developed countries. In fact, in this case, a country's characteristics in terms of factor endowments seem to drive the FDI pattern. Capital generally moves from capital-abundant countries which are scarce in natural resources towards capital-scarce countries abundant in natural resources (resource-based FDI). The H-O framework also seems to explain a more recent form of integrated FDI where MNEs move towards countries characterised by abundant and cheap labour. Much of the New Classical and New Trade Theory (NTT) has expended efforts on providing support for the increased importance of trade between industrialised countries and the prevalence of intra-industry specialization (horizontal and vertical patterns) between them, rather than the growing importance of multinationals relative to trade (Markusen and Venables, 1995, 1999). Usually, multinational enterprise is based in one country (the home or source country) and establishes new activities in other countries (the host or receiving country). As a consequence, production is geographically divided between different countries. As described by Markusen et al. (1995), there are two ways a firm can divide its production and become multinational. The first is to duplicate some of its activities, building a plant in a foreign country (the 'host' economy) in addition to that installed in the country where the multinational firm is based (the 'home' economy). Thus, FDI can act as a substitute for trade under horizontal multinational activities, patterns in which countries are similar in size and factor endowments, firms economise on trade costs due to transportation, trade barriers and tariffs, and the multinational company produces the same goods or services in multiple countries. The second way considers direct investments that are driven by factor considerations and complementarity exists between direct investment and trade. Thus, FDI acts as a complement⁴ to trade in the vertical approach where countries differ in relative factor endowments. The vertical approach predicts that firms fragment the production process by stages and the whole process of production is completed through the international network of the multinational enterprises. Generally, the headquarters (the core) is intensive in physical or human capital, while the plant (the periphery) is intensive in manual labour. In this case, the production process is geographically fragmented (for example FIAT). The fact that multinational activities are more likely to arise between countries with similar factor endowments contrasts with Helpman (1985, 1987), where multinational activity is

possible only if countries differ sufficiently in their relative endowments⁵ (multinational activity arises between different countries). On the other hand, some claim (Markusen and Maskus, 2001; Markusen and Venables, 1999) that most direct investment flows from rich countries to other rich, capital-abundant countries. Therefore, multinational enterprises locate production plants in similar, high-wage countries, which is consistent with the view that FDI is driven more by market access than by wage differences.⁶

In addition, according to the 'convergence hypothesis' (Markusen and Venables, 1999) multinational companies will tend to displace national firms and trade as total market size increases and as countries converge in relative size, factor endowments and production costs. Markusen and Maskus (1999, 2001)⁷ seeks to explain why larger and higher-income developing countries, such as Brazil and China, receive large amounts of FDI. The motivation for this approach comes from the fact that affiliates in developing countries export a large share of production back to the multinational's parent country. This is in part related to direct cost and factor requirements. Multinational enterprises need local skilled labour as well as reasonable infrastructure to build a final product, and these requirements are only found in high-income developing countries. A country's size matters because not all of the final production needs to be shipped back to the parent country and is instead consumed by the local market. In particular, analysis of the choice of entry mode of multinational enterprises into a foreign market is largely based on two analytical paradigms, namely, the eclectic paradigm of Dunning, especially the internalisation approach, and the transaction cost approach. Buckley and Casson (1976) present the first comprehensive research devoted to internalisation theory as it applies to multinational enterprises, developing a theory of multinationals based on the concept of internalisation, particularly with regard to knowledge, transaction cost and market imperfections. This work differs from its antecedents which mainly explored ownership and location frameworks, and concentrates its analysis on internalisation, giving a more dynamic approach to multinational enterprises. This study has had a considerable influence on the literature on multinational enterprises and particularly on international business. International business economists believe that firm-specific assets are better exploited internally (internal route, wholly-owned subsidiaries) rather than through markets by licence (arm's length, external route). In fact, although transaction costs of a foreign subsidiary are high, the cost of licensing, for example, can be higher.

The starting point of this analysis is that a multinational owns the firm's specific asset that can generate economic rents. These rents can be earned by simply exporting the product (for example through trade) or licensing a foreign firm (licensee) to distribute the product (examples of the so-called external route). However, these modes of entry, licensing in particular, have

high costs and risks, such as opportunistic behaviour by the licensee. Opportunistic behaviour, transaction costs in the external market, lack of knowledge in a foreign market, risk and uncertainty, asymmetric information, moral hazard, adverse selection, incomplete contracting and market failures are some of the main topics analysed in internalisation theory. Hence, internalisation within a multinational is designed to reduce transaction costs and market failures by replacing imperfect 'external' markets with the hierarchy (horizontal or vertical) of the multinational enterprises. In particular, the presence of internalisation advantages induces multinationals to retain the control of their asset located abroad (wholly-owned subsidiaries) since it gives improved guarantees in terms of protecting intangible assets, particularly when the legal environment in the host country is weak (this is an example of the internal route pursued by a multinational when deciding to invest abroad). The first reason for internalisation is linked to characteristics of knowledge: the non-excludability property of new knowledge. In fact, a firm does not want to reveal, for example, product technology to potential licensees since they could reject a deal and copy the technology at lower cost. A second reason concerns information asymmetry problems related to new or complex products. For example, licensees recognise that a firm lacks incentives to reveal real product quality. In this case, it is possible to envisage the problem of incomplete contracts. Another problem is when the new knowledge transferred to a foreign subsidiary is easily learned by the new licensees, who can, in turn, start a new domestic firm in competition with the multinational enterprise. Therefore, multinational firms have strong incentives to internalise the advantages by choosing FDI, rather than giving licenses or selling firm-specific assets, such as patents, to other firms.⁸ For this reason the internalisation theory predicts, and empirical evidence confirms, that multinationals prefer wholly-owned subsidiaries over minority ownership (that is joint venture) or arm's length transactions.⁹

In Dunning's OLI paradigm (1998)¹⁰ MNEs are seen as firms which internalise a specific ownership advantage that provides them with some market power. Firms are willing to exploit this through FDI instead of exports in order to benefit from some location advantage and to avoid the possible asset dissipation that may occur, for example, with licensing. Additionally, it is important to note that the distinguishing features of direct investment are both control and transfer of knowledge. Producing abroad can be accomplished through subsidiary production or licensing, franchising, or another mode of entry such as joint venture or merger and acquisition. Some modes of entry in a foreign market may be more appropriate than others under different circumstances and each is an important factor in the project's success.

The transaction cost approach argues that a rational firm chooses the alternative that minimises the cost of operations subsequent to entry. For example, the acquisition of a firm in the host country enables a multinational to retain control of its 'technology', reduces or eliminates the cost of pulling resources together to build a firm, and endows it with both business relationships and knowledge about the local markets and institutions. However, it then has to bear the cost of integrating the production structure, organizational structure and corporate culture of the acquired firm into its own.

The issue of control and foreign ownership has become so crucial because many less developed countries and emerging economies feel that multinationals gain economic control in their countries without providing the benefits of development. For example, when FDI takes the form of mergers and acquisitions rather than Greenfield investment, it involves a change in ownership without adding new capacity in the host country. As a consequence, host governments prefer local involvement in the production process, job creation and the transfer of knowledge as a means of imposing some ownership restrictions upon multinationals (for example equal ownership, equal control over all decisions within the joint venture). The reason why multinational enterprises might want to relocate production abroad rather than sell their technology to a local firm is that in the latter case it loses control over its knowledge of technology. In other words, multinational enterprises want to enter the country in order to secure the economic benefit of the knowledge they created. At the same time, host countries have an interest in receiving knowledge spillovers from multinationals, because the multinational, which owns the assets in the host country, has the incentives to transfer its knowledge to the host country.

This brief review of the literature reveals that full understanding of the definition and role of FDI and of the different modes of entry in a host country is required in order to analyse the extent and sources of international linkages between good corporate governance mechanisms, ownership restrictions and openness. In the next section, I will define the two main variables of interest.

2.3. INSTITUTIONAL DETERMINANTS OF FDI: CORPORATE GOVERNANCE AND OPENNESS TO FDI

Firms pursuing international business opportunities should analyse a number of factors regarding investment decisions. Two factors receiving increasing

attention in international business are a country's corporate governance mechanism and openness to investments.

As pointed out by a World Bank (2001) report, the Asian crisis was primarily due to a weak banking and financial sector as well as poor corporate governance mechanisms, a lack of transparency, widespread corruption, a weak legal and judicial system and inadequate corporate accounting systems. In this context, corporate governance mechanisms and a more open market emerge as crucial elements to increase the returns on investment and reduce the degree of risk. In sum, there is widespread recognition that a weak international financial system and less open market potentially contribute to the propensity for global financial instability.

The recent attention being paid to corporate governance issues has not only concerned advanced economies, but also less developed, transition and emerging market economies. As regards less developed countries, corporate governance is supposed to boost the development process in two crucial ways: by raising the degree of transparency of internal financial markets and by increasing the country's political credibility abroad. Case studies (Oman, 2001) suggest that an appropriate system of corporate governance does help to increase the flow of financial capital to firms in less developed countries. Evidence (Prasad et al., 2003) exists to support the hypothesis that financial markets develop best in the presence of legal codes that provide protection to shareholders' rights (in particular minority shareholders' rights), definition of ownership (inside-ownership versus outside-ownership) and regulation of the banking sector.

However, improving or establishing an adequate system of corporate governance cannot be considered in isolation. As the experience of transition or emerging market economies has clearly shown, a reform of the financial system does not help the development process without a more general reform of market institutions. Among the factors to consider and worth mentioning are: the origin of the legal system, the socio-political and economic systems and the country's stage of development.

All these factors make the problems raised by the establishment and enforcement of efficient mechanisms of corporate governance in emerging market economies very different from those experienced in advanced economies.¹¹ As a consequence, promoting clear legal rules has emerged as a crucial new priority in the global liberalisation process in order to give better guarantees to foreign investors and encourage foreign and domestic investments. This is because each country must establish a fair and transparent legal and judicial system in order to attract foreign direct investment. After the financial crises of the second half of the 1990s, these requirements have become the major policy priority in many countries. In countries such as Brazil and Korea, the adoption of corporate governance

codes have become an unavoidable requirement for the creation of an efficient and internationally competitive market-based corporate sector, which could serve as the engine of a well-regulated financial market and sustained economic growth. The growing interest in corporate governance codes and rules among countries may reflect a realisation that equity investors, whether foreign or domestic, consider the quality of corporate governance along with financial performance and other factors when deciding whether to invest in a company. For example, a McKinsey survey of investor perception (2000–2006) indicates that investors are willing to pay more for a company that is well governed, all other things being equal.

But how can we define corporate governance? The available literature provides no one specific definition of corporate governance. Rather, there exist different definitions that analyse specific aspects of corporate governance mechanisms. The majority of the definitions articulated in national and international codes relate corporate governance to control of the company, of corporate management, or of company or managerial conduct. The traditional definition of corporate governance given in the Cadbury Report (1992) states that ‘Corporate governance is the system by which businesses are directed and controlled’.

In this traditional definition, corporate governance¹² is also considered as a cornerstone of ethical conduct within accounting practices such as the integrity and objectivity of accountants and auditors. These were central issues in the Enron scandal where ‘Enron’s accountants acted as both external and internal auditors and also as consultants’ (*The Economist*, 2002), thus calling into question their integrity and the reliability and transparency of the information they provided to the shareholder and to regulators/government. Recently, several researchers have started to analyse corporate governance issues from a comparative perspective. Under this approach, La Porta et al. (1997, 1998) and Shleifer and Vishny (1997) empirically measured the impact of corporate governance on economic growth and elaborated a more precise definition of the term: ‘Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment’ (Shleifer and Vishny, 1997, p. 737).

Hence, starting with a comparative empirical perspective, much of the research raises a range of important issues concerning the difference between corporate governance systems, the interaction between law and finance, the role of financial markets in promoting growth and the role of governance-related institutions in enhancing economic development.¹³

Starting with the consideration that after the global liberalisation of capital flows, corporate governance has emerged as a crucial element in increasing the returns on investments, reducing the degree of risk and promoting

financial development, researchers have focused on the strategic importance of good, efficient corporate governance mechanisms in attracting the foreign investor. La Porta et al. (1997, 1998; in the following LLSV) consider the interaction between law and finance¹⁴ and view the international differences in investor legal protection as a key determinant for financial development. They classify country legal origins as: Anglo-Saxon (common law), French, German and Scandinavian (civil law), and attribute the differences between the Anglo-Saxon and Continental European system to the countries' legal systems and to the role of the State. This is because the degree of investor protection determined by the country's legal origin is negatively related to the degree of state involvement in the economy when business law was first introduced. Rajan and Zingales (1998) raise a similar point, even though they question the importance of legal protection and focus directly on the development of capital markets. Additionally, LLSV establish eight indicators for shareholder protection and six for creditor protection, arguing that financial market interaction with the legal framework may affect corporate performance. Additionally, they establish a strong correlation between legal origin, investor protection and ownership concentration. When they control for investor protection, the significance of legal origin disappears, indicating that legal origin affects finance through investor protection. However, LLSV indicators and country legal origin classification have been strongly criticised. For example, classification of countries by their legal origins in common and civil law has been considered 'particularly superficial' (Berglof and von Thadden, 1999, p. 8) because, for example, differences exist between countries in the same groups. Another criticism concerns the biased or misleading measures of the quality of corporate law and the low level of variability of the results. However, despite these criticisms, LLSV's political approach to corporate governance represents an important benchmark to comparative studies.¹⁵ Pagano and Volpin (2001), using the approach of the new political economy, analyse the role of institutions and in particular how the political decisions to set legal rules are based not only on ideology, but on economic interests as well. They find that this approach allows a better understanding of the existing international differences in financial regulation. Pagano and Volpin (2005)¹⁶ analyse the political determinants of the degree of investor and employment protection starting with the assumption that under proportional voting, the political outcome is a low degree of shareholder protection and a high degree of employment protection. Thus, a system with stronger worker protection (for example Germany) presents a weak shareholder protection level. Conversely, a system with stronger shareholder protection will enjoy weaker worker protection (for example US, UK). Using a panel of 21 OECD countries, the LLSV shareholder protection index and other political variables, Pagano and

Volpin find that the proportionality of the voting system is positively correlated with employment protection, while in a panel of 45 countries the proportionality of the voting system is significantly and negatively correlated with shareholder protection (updated data of LLSV). Rossi and Volpin (2003), using a large sample of deals announced in the 1990s and completed by the end of 2001 in 49 countries, study the determinants of mergers and acquisitions around the world, focusing their attention on differences in law and enforcement systems across countries. They find that the volume of mergers and acquisitions and the premiums paid are significantly greater in countries with better investor protection. Bris and Cabolis (2002) analyse the effect of change in corporate governance induced by cross-border mergers on industry value, instead of focusing on cross-country comparisons. They constructed a panel of 9,200 industry-country-year observations¹⁷ and also used LLSV indicators of investor protection. They found that the Tobin's Q of an industry increases when firms within the industry are acquired by foreign firms with better and more efficient corporate governance. In particular they found that legal origin represented a key variable in determining the amount of value created in the case of mergers and acquisitions. For example, the acquisition of firms in countries with low investor protection (civil law) by firms with higher investor protection (common law) has a positive impact on the target industry in terms of Tobin's Q . Conversely, target industries do not benefit from acquisition by firms from countries with low investor protection (civil law). In sum, all these studies suggest that investor protection strongly influences a country's economic performance, a firm's performance and probably growth.

Finally, the authors raise a range of important issues analysing the effect of the interaction between law and finance, the quality of the legal system, the role of institutions in economic development, the ownership structure and the rules and codes that protect investors. For example, Stein and Daude (2001), find that the quality of institutions has a positive effect on foreign direct investment flows. Using a panel of 63 host countries and 28 OECD source countries, they analyse the impact of institutional variables on bilateral foreign direct investment flows for 1996. The result suggests that countries seeking to attract foreign investors should improve the quality of their institutions. These authors use, among other explanatory variables, the index of shareholder rights developed by LLSV. The positive and significant coefficient indicates that shareholder protection matters for the location of foreign direct investment. Wei (1997, 2000) finds that corruption, as well as uncertainty regarding corruption, has significant and negative effects on FDI location. Hausmann and Fernandez-Arias (2000b) study the effects of institutional variables compiled by Kaufmann et al. (1999), as well as indices of creditor and shareholder rights from La Porta et al. (1998). They find that

better institutions lead to a reduction in share of FDI inflows. They conclude that, in comparison to FDI, other forms of capital flows are more sensitive to the quality of institutions. Alesina and Dollar (2000) consider the traditional explanatory variables (market size: GDP, population) and, in addition, they test for the impact on FDI of trade openness, the level of democracy and a set of dummy variables including common religion and political alliances with the source country, the rule of law and the number of years as a colony of the host country. They used a panel of countries (1970–1994) and found that FDI responds more to economic incentives, such as the trade regime and the system of property rights in the host country, than to political incentives (for example colonial past and political links).

In the FDI literature the most widely used measure of openness is the share of trade in GDP. Thus the positive relationship between trade volumes and FDI implies that countries seeking to attract more FDI should increase trade. However, several authors (including Rodriguez and Rodrik, 2000) have strongly criticised this type of policy recommendation, arguing that policymakers do not directly control the volume of trade. Since one of the objectives of this research is to examine institutional factors that attract FDI flows, I consider a measure of openness that can be directly influenced by policymakers: openness to FDI (Shatz, 2000).

Shatz (2000) reviews the changes in investment policy of 57 countries receiving US investments and creates a new rating system for administrative investment openness. The author finds that countries that reformed their investment policies attract more foreign investment flows. The index (openness to FDI) ranges from 0 to 5 and is determined by three components with a focus on administrative openness: approval processes, ownership limits and sectors in which foreigners can invest; acquisition rights; and capital and profit repatriation rights. The first rates a country on the simplicity of its approval process, the ability of foreigners to invest in a wide variety of sectors and the level of ownership foreigners may take. The second rates a country on the ability of foreigners to acquire domestically owned firms. The third component rates a country on the freedom to remit profits and repatriate capital.¹⁸

In this respect, this present research appears as a complement to the existing literature. In particular, in order to explore the role of institutional determinants in attracting FDI flows, this study considers variables drawn from different sources. The first is an index of shareholder protection developed by Pagano and Volpin (2005) on an expansion of La Porta et al. (1998), used as a measure of corporate governance. This variable is an index which varies from 1 to 5, with higher values indicating stronger shareholder protection. The measure of openness refers to a country's openness to FDI, as measured by Shatz (2000), and it takes values from 0 to 5, with 0

indicating that foreign direct investment is just allowed and 5 indicating that nearly all sectors are open.¹⁹

2.4. THE GRAVITY MODEL: LITERATURE REVIEW

According to the gravity model for international trade, the amount of trade between two countries is explained by their economic size (GDP), population (openness), geographical distance (physical distance and border effects) and a set of variables that capture common institutional characteristics such as languages, culture, trade agreements and the legal system. More specifically, the amount of trade between two countries is assumed to increase with the respective size of their national incomes, and decrease with the cost of transport, as measured by the distance between their capitals or economic centres.

The most simple form of the gravity model of bilateral trade is:

$$F_{ij} = \frac{AY_i Y_j}{D_{ij}} \quad (2.1)$$

where F_{ij} represents the flows (that is migration, tourism, trade, foreign direct investment) between the home country i and the host country j ; A is a constant of proportionality. Y_i and Y_j are the relevant economic sizes (GDP, GDP per capita, population) of countries (i, j); D_{ij} is the distance between countries' capitals or economic/financial centres. Equation (2.1) states that bilateral flows between country i and country j are directly related to the product of the countries' GDP (Y_i and Y_j) and inversely related to their distance (D_{ij}). Tinbergen (1962) was the first to apply this formula to analyse international trade flows. Later, Linneman (1966) included population²⁰ as an additional measure of country size, defining the augmented gravity model. This model is generally estimated in a log linear form which provides elasticity of bilateral trade to income (GDP: Y_i, Y_j), country size (Population: POP_i, POP_j) and distance (D_{ij}).

Augmented Gravity Equation:

$$\ln X_{ij} = \alpha_0 + \beta_1 \ln Y_i + \beta_2 \ln POP_i + \beta_3 \ln Y_j + \beta_4 \ln POP_j + \beta_5 \ln D_{ij} + \varepsilon_{ij} \quad (2.2)$$

where, $\ln X_{ij}$ is log of trade or foreign direct investment flows; $\ln Y_i, Y_j$, $\ln POP_i$, $\ln POP_j$ are logs of the relevant economic size; $\ln D_{ij}$ is the distance between countries' capitals or economic/financial centres; ε_{ijt} : normal error terms with mean zero and variance σ_ε^2 .

Usually other variables are introduced to expand the basic gravity model. For instance, variables are added to control, for linguistic, cultural and historical similarities, regional integration, common financial development and structure, and common currency.

$$\ln X_{ij} = \alpha_0 + \beta_1 \ln Y_i + \beta_2 \ln POP_i + \beta_3 \ln Y_j + \beta_4 \ln POP_j + \beta_5 \ln D_{ij} + \beta_6 \ln Language + \beta_7 Institutional + \varepsilon_{ij} \quad (2.3)^{21}$$

Analogous to the evolution of trade, the gravity model has been used to model the international pattern of foreign direct investment (see Portes and Rey, 1999; Stein and Daude, 2001). Empirically, several modifications have contributed to the improvement of the gravity equation, such as Mátyás (1997, 1998), Egger (2000) and Cheng and Wall (2004), and other authors (Bergstrand, 1985; Helpman, 1987; Wei, 1996) have contributed to refining the definition of variables already considered in the analysis and added variables previously not considered. Actually, according to Frankel (1998, p. 2), ‘the gravity equation has gone from an embarrassment of poverty of theoretical foundations to an embarrassment of riches’.

As discussed above, although the theoretical foundations of the gravity model have been strengthened, the empirical specification is still rather basic. Gravity models have often been used to analyse trade flows between countries and trading blocs. Previously, however, these models were only applied to either cross-section data or to single country time-series data, which imposed several explicit restrictions on the specification of the model. In the simple cross-sectional regression, restrictions are imposed such that the slopes and the intercepts are the same across country pairs. This approach clearly does not account for the heterogeneous nature of the trade relationship that may arise from country-specific institutional, cultural, and political variables that affect the level of trade, and are correlated with other country-specific traditional gravity variables (GDP, population, distance). Whereas early empirical studies used cross-sectional data, in recent years the specification has been refined to account for panel data (see Mátyás, 1998; Stein and Daude, 1999, 2001; Cheng and Wall, 2004, 2005). The next step was to use a pooled cross-section model (PCS) which imposes further restrictions on the general model to control for this heterogeneity, by including variables such as common language, common legal origin, and so on. However, these factors are often difficult to observe and to quantify. Then both models provide biased estimates and, as a consequence, some authors have recently used the fixed-effects model assuming that there are fixed-pair-specific factors that may be correlated with levels of bilateral trade and with the explanatory variables.

For example, Cheng and Wall (2004) assume that the gravity equation for a country pair may have a unique intercept, and that it may be different for each direction of trade (i.e. λ_i and $\alpha_{ij} \neq \alpha_{ji}$). Thus, α_{ij} is the ‘specific country pair effect’ between countries.²² This specific effect includes the effects of all omitted variables that are cross-sectionally specific but remain constant over time (for example distance, language). Using this approach, these authors eliminate the need to include distance in the model, as it controls for all variables that do not change over time. Mátyás (1997, 1998) proposes an alternative specification of the gravity model where each country has two fixed effects, one as an exporter and one as an importer (θ_i and γ_i). In particular, he suggests a tripled-indexed gravity model, which includes time, source and host-specific effects,²³ insofar as ‘without these effects the parameter estimates of the model can lead to incorrect inference as their values may artificially be inflated or deflated by this misspecification’ (Mátyás, 1998). In this specification, however, all country-specific time-invariant effects drop out of the estimation. Since most of the institutional variables are time-invariant or show a small degree of variability, this specification is not well suited for the purpose at hand. For this reason, Stein and Daude (2001) include only source country dummies to capture all the relevant characteristics of the source countries, but estimate independently the host country characteristics. Finally, Cheng and Wall (2005) suggest estimating the additional regression of the (estimated) individual effects on individual-specific variables by OLS.

Although the fixed-effects model has been considered a solution to unobserved heterogeneity, there is little agreement about how to actually specify the fixed effects.

In conclusion, the above-mentioned approach clearly suffers from the potential bias stemming from the correlation between individual specific variables and individual effects. In order to properly address the issue of such a correlation we should employ the Hausman and Taylor (1981) instrumental variable estimation, which provides consistent estimation of the coefficients (see Serlenga and Shin, 2007).

From the above discussion, it emerges clearly that the issue of the correct specification for a gravity model of FDI is still a matter of open debate. In this respect, this present work appears as a complement to the existing literature and considers four possible specifications. Regression 2.4 is a benchmark that includes the traditional gravity variables, institutional variables and time effects, but excludes fixed effects. Regressions 2.5 and 2.6, instead, consider different sets of fixed effects. In particular, host country fixed effects are included in regressions 2.5, as in Stein and Daude (2001), and fixed effects for both the country as an exporter and as an importer.

2.5. VARIABLES, DEFINITION AND DATA SOURCES

The choice of traditional explanatory variables was based on the existing theoretical and empirical literature on the gravity model. In general, the gravity models claim that bilateral direct investment flows between any two economies are positively related to the size of the two economies and negatively related to distance and population. Distance between home and host markets, size of markets (GDP, population) and the development level of countries have long been known to be major determinants of global trade flows. Starting with international trade literature, many empirical studies have sought to explain the determinants of FDI flows using different variables such as GDP or population for measuring market size, and GDP per capita in measuring development level. Hence, as to the determinants of FDI flows, while different studies use different combinations of explanatory variables,²⁴ this research considers the relative importance of population, GDP in US\$ and GDP per capita as determinants of FDI flows.²⁵

Variables Description

The data of this study were obtained for a panel of countries over the period 1980–2001. We use bilateral FDI flows taken from the International Direct Investment Database of the OECD. FDI flows are the inflows from the host country perspective. We compile data for 61 OECD and non-OECD countries, of which 29 were suppliers (source country) of FDI flows and 32 were recipients (host country) of FDI flows in at least one year. Australia, Austria, Belgium-Luxembourg, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Mexico, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, Czech Republic, New Zealand, Slovak Republic, United Kingdom and United States. The remaining are the previous 29 source countries plus other OECD and non-OECD countries, all defined host countries: Algeria, Argentina, Australia, Austria, Belgium-Luxembourg, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Korea, Kuwait, Libya, Malaysia, Mexico, Morocco, Netherlands, Netherlands Antilles, New Zealand, Norway, Panama, Philippines, Poland, Portugal, Romania, Russian Federation, Saudi Arabia, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, Ukraine, United Arab Emirates, United Kingdom, United States and Venezuela.

FDI flows: these are inflows from the host country's perspective, measured as logarithm (see Loungani et al. 2002). Bilateral FDI flows are only available for OECD countries.

Gross Domestic Product Per Capita and GDP in real US\$ (source and host countries); Source: World Bank Indicators, 2003.

Population; Source: World Bank Indicators, 2003.

Distance: geographic distance between the financial capitals, measured in miles. The bilateral distance is the 'great circle distance' used in Frankel et al. (1995).

Common language: countries' official language. Dummy variables = 1 if the two countries have the same language. Source: CIA World Fact Book, 2003.

Regional Trade Agreements: Dummy variables = 1 if countries are in a preferential trade agreement. Source: World Bank.

Openness to foreign direct investment (Shatz, 2001) is an annual rating on a scale of 0 to 5 of a country's openness to FDI with an emphasis on administrative openness. The rating has three components. The first rates a country on the simplicity of its approval process, the ability of foreigners to invest in a wide variety of sectors and the level of ownership foreigners may take. The second rates a country on the ability of foreigners to acquire domestically owned firms. The final component rates a country on the freedom to remit profits and repatriate capital.²⁶

Shareholder Protection is the variable representing the level of shareholder protection in 47 countries and it is expected to appear in the gravity equation with a positive and significant sign, suggesting that higher protection attracts more foreign investors. In Stein and Daude (2002) the coefficient of this variable is positive and quite large, indicating that better and more efficient institutions attract more foreign direct investment. This variable is the La Porta et al. (LLSV, 1998) anti-director rights index (shareholder rights around the world, panel A) updated by Pagano and Volpin (2005). This is the sum of six dummy variables, capturing whether: proxy by mail is allowed; shares are not blocked before a shareholder meeting; cumulative voting for directors is allowed; oppressed minorities are protected; the share capital required to call an extraordinary shareholder meeting is less than 10 per cent; shareholders have pre-emptive rights at new equity offerings. The value of this variable varies between 1 and 5. The higher the value, the greater is investor protection in the country's legal system. Pagano and Volpin extend the indicator constructed by LLSV (1998) to the entire interval between 1993 and 2001, relying on the responses to questionnaires sent to legal experts and business practitioners around the world. Their panel includes 47 of the original 49 countries studied by LLSV (1998), since for Jordan and Sri Lanka there were no responses to the

questionnaire. In their research the authors assume that the data for anti-director rights reported and used by LLSV (1998) refer to 1993, and their data differ slightly from LLSV (1998) for the following five countries: Belgium, Brazil, Egypt, Germany and Israel.

Corporate Tax: refers to corporate tax for all OECD and non-OECD countries and is measured as a percentage of income. Source, Office for Tax Policy Research.

2.6. EMPIRICAL RESULTS

The empirical strategy used in the present work is based on the gravity model that is considered the standard model in the empirical literature on the determinants of bilateral trade. Following this approach for international trade, FDI flows are expected to be greater between countries with greater development and openness markets, proxied by GDP per capita, population and GDP in real US\$, with linguistic similarity, with regional trade agreements between countries, with higher shareholder protection and with greater openness to foreign investors. On the other hand, bilateral FDI flows are expected to be negatively correlated with higher geographical distance and higher corporate tax rates.

Along the line of the traditional gravity approach, I begin by estimating an equation on bilateral FDI outflows. I estimate this equation by a Pooled OLS estimator, with a White heteroskedasticity correction. The estimated coefficients are statistically significant and the signs are as expected.

The logarithmic form for the estimates equation is as follows:

$$\begin{aligned} \ln FDI_{ijt} = & \alpha_0 + \lambda_t + \beta_1 \ln GDP_{pc_{it}} + \beta_2 \ln GDP_{pc_{jt}} + \beta_3 \ln GDP_{it} + \beta_4 \ln GDP_{jt} + \\ & + \beta_5 \ln POP_{it} + \beta_6 \ln POP_{jt} + \beta_7 D_{ij} + \beta_8 \text{Language}_{ij} + \beta_9 \text{RTA}_{ij} + \\ & + \beta_{10} \text{ctax}_{it} + \beta_{11} \text{Shp}_{jt} + \beta_{12} \text{Openness}_{jt} + u_{ijt} \end{aligned} \quad (2.4)$$

where $i = 1, 2, 3, \dots, 29$ are the source countries; $j = 1, 2, 3, \dots, 61$ are the destination countries; $t = 1980, \dots, 2001$ is the time span; α_0 is the portion of intercept that is common to all years and countries; λ_t denotes year-specific effect common to all countries; FDI_{ijt} : foreign direct investment outflow from source country (i) into host country (j) at the time (t); GDP_{pc_i} : source country i 's GDP in real US\$; GDP_{pc_j} : host country j 's GDP in real US\$; GDP_i : source country i 's GDP per capita; GDP_j : host country j 's GDP per capita; POP_i : source country i 's population; POP_j : host country j 's population; D_{ij} : the geographical distance between the financial centres of countries i and j . $LANG_{ij}$: dummy variable for language similarity that takes the value 1 if the source and host pattern country share a common language,

and 0 otherwise; *RTAs*: dummy variable that takes the value 1 if the source and host country are in a preferential trade agreement, and 0 otherwise. *Corporate Tax_{jt}*: variable for corporate tax for host countries; *Shareholder Protection_{jt}*: variable for anti-director rights; *Openness_{jt}*: variable for openness to foreign direct investment; $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$ are the slope parameters; ε_{ijt} : normal error terms with mean zero and variance σ_ε^2 .

The gravity equation is first estimated using a Pooled OLS model adding year dummies (see Table 2.1 column 1, and Table 2.2 column 1), and secondly adding a set of different country fixed effects (see Tables 2.1 and 2.2 regressions 2.4, 2.5, 2.6).

The regression results for Pooled OLS are reported in Table 2.1. In this regression the present study attempts to measure the impact of common language, corporate tax, openness to investment and shareholder protection on foreign direct investment flows. The signs of the coefficients on distance, common language, preferential trade agreements and the countries' GDP are as expected, and are statistically significant. According to the estimates of the Pooled OLS model, FDI flows increase with host and source country per capita income. The signs of the GDPs per capita are positive and significant, showing that high-income countries present higher levels of international investment flows. The coefficient for GDP per capita for host countries, for example, suggests that a 1 per cent increase in this variable results in a 1.15 increase in FDI flows. This would mean that, other things being equal, an increase in the host country's GDP leads to a more than proportional increase in FDI flows. Additionally, the size of the coefficient for the log of source country GDP per capita is significant and higher than one. Thus, there is evidence of scale economies in FDI flows, reflecting in part the fact that many countries (source–host countries) have no FDI transactions and FDI is more concentrated in higher income countries (Loungani et al., 2002). Note that source countries' GDP is significant and negative. This suggests that wealthier countries attract more FDI not because they are rich, but because they offer a better business environment. The positive and statistically significant coefficients for population for both source and host countries generally suggest that the increasing size of the domestic market is a great incentive for FDI flows (see Bergstrand, 1998). The coefficient for distance suggests that a 1 per cent increase in the distance between financial centres is associated with a 0.61 per cent reduction in FDI flows. This variable can be considered not just as transportation costs, as in the case of trade, but as a proxy for transaction and information costs, which tend to increase with distance. The effect of the dummy is also important economically. Common language and preferential trade agreements are positive and significant,

Table 2.1. Gravity model of outflows of FDI with $\theta_i, \delta_j, (\theta_i, \delta_j)$

Equation	(1)	(2)	(3)	(4)
	POLS	With Source CTY FE θ_i	With Host CTY FE δ_j	With CTY IMP and EXP FE θ_i, δ_j
	IFDI	IFDI	IFDI	IFDI
ID	-0.609* (0.068)	-0.710* (0.058)	-0.751* (0.083)	-0.898* (0.083)
IPopin	1.304* (0.276)	1.323* (0.302)	-10.056 (7.363)	-11.456 (8.166)
IPopout	0.416* (0.137)	3.230 (2.739)	0.439* (0.134)	2.625 (2.585)
lgdpin	1.205* (0.239)	1.192* (0.275)	-5.710 (7.411)	-6.821 (8.183)
lgdpout	1.148* (0.135)	2.605* (0.740)	1.180* (0.134)	2.881* (0.704)
lgdpusc_in	-0.717* (0.259)	-0.741** (0.290)	7.209 (7.388)	8.252 (8.165)
lgdpusc_out	0.526* (0.131)	0.072 (0.120)	0.530* (0.125)	0.010 (0.116)
Language	1.366* (0.237)	0.816* (0.176)	1.293* (0.204)	0.644* (0.178)
rta	0.462* (0.159)	0.375* (0.160)	0.041 (0.110)	0.081 (0.099)
ctax2	-2.456* (0.765)	-2.420* (0.624)	-1.920 (1.522)	-1.244 (1.405)
Shpllsv	0.162* (0.044)	0.200* (0.037)	0.159*** (0.090)	0.126*** (0.076)
Openness	0.420* (0.078)	0.430* (0.069)	0.363* (0.083)	0.336* (0.073)
Constant	-40.425* (2.413)	-80.451** (36.199)	24.653 (25.190)	-0.477 (40.281)
Observations	3656	3656	3656	3656
R-squared	0.524	0.608	0.598	0.687

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

Table 2.2. Gravity model of outflow of FDI with interacted variables

Equation	(1) POLS	(2) With Source CTY FE θ_i	(3) With Host CTY FE δ_j	(4) With CTY IMP and EXP FE θ_i, δ_j
	IFDI	IFDI	IFDI	IFDI
ID	-0.653* (0.069)	-0.758* (0.061)	-0.751* (0.083)	-0.899* (0.083)
lPopin	1.582* (0.297)	1.591* (0.319)	-10.718 (7.380)	-12.071 (8.182)
lPopout	0.411* (0.133)	3.174 (2.818)	0.437* (0.134)	2.699 (2.585)
lgdpin	1.377* (0.252)	1.356* (0.287)	-6.245 (7.427)	-7.252 (8.198)
lgdpout	1.158* (0.133)	2.684* (0.746)	1.181* (0.134)	2.907* (0.692)
lgdpusc_in	-0.943* (0.277)	-0.955* (0.305)	7.442 (7.400)	8.423 (8.177)
lgdpusc_out	0.533* (0.126)	0.054 (0.116)	0.532* (0.125)	0.015 (0.116)
language	1.417* (0.236)	0.869* (0.180)	1.294* (0.204)	0.645* (0.178)
rta	0.125 (0.112)	0.167 (0.102)	0.223 (0.172)	0.111 (0.175)
ctax2	-2.519* (0.776)	-2.449* (0.642)	-1.906 (1.510)	-1.220 (1.395)
Openness	0.213** (0.102)	0.224** (0.093)	0.305** (0.134)	0.311* (0.119)
LP1	-0.297* (0.085)	-0.267* (0.075)	-0.101 (0.174)	-0.085 (0.144)
LP2	-0.121 (0.084)	-0.072 (0.071)	0.009 (0.154)	0.030 (0.128)
LP3	0.172* (0.060)	0.223* (0.054)	0.096 (0.101)	0.112 (0.084)
LP4	0.171* (0.052)	0.207* (0.045)	0.152 (0.096)	0.138** (0.082)
LP5	0.237* (0.047)	0.277* (0.038)	0.104 (0.101)	0.088 (0.087)
yr2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant	-39.803* (2.394)	-79.307** (37.002)	36.160 (25.419)	9.654 (40.145)
Observations	3656	3656	3656	3656
R-squared	0.535	0.620	0.599	0.688

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

meaning that there are greater FDI flows between countries that have a common language and share the same agreements. The coefficient of corporate tax is negative and significant. This result suggests that countries with higher corporate tax rates experience both low net inflows of FDI and a decline in corporate tax revenue. The positive and significant estimated coefficients of openness and shareholder protection indicate that FDI flows are more likely to be established in countries whose governments do not restrict foreign ownership of local business. A 1 per cent increase in shareholder protection measures is associated with about 16 per cent higher levels of FDI flows. This suggests that FDI flows are attracted by countries which offer higher shareholder protection and thus a more efficient corporate governance mechanism. Regression 2.4 also considers λ_t which denotes a time dummy as an indicator of the extent of globalisation. The time dummy is always positive and often significant, showing that globalisation is an important factor in increasing FDI flows over the period.

In order to improve the specification, recent empirical studies (Matyàs, 1997, 1998; Wei, 2000; Stein and Daude, 2001; Cheng and Wall, 2005) introduced into the gravity model country fixed-effect terms. This present work follows recent development in panel data studies by introducing source country, host country and both fixed effects.

Taking Equation (2.4) as a starting point, I add source-country fixed effects (column 2),

$$\begin{aligned} \ln FDI_{ijt} = & \alpha_0 + \lambda_t + \theta_i + \beta_1 \ln(GDP_{it}) + \beta_2 \ln(GDP_{jt}) + \beta_3 \ln(POP_{it}) + \\ & + \beta_4 \ln(POP_{jt}) + \beta_5 \ln(D_{ij}) + \beta_6 Lang_{ij} + \beta_8 RTA_{ij} + \beta_7 CTax + \\ & + \beta_8 Openness_{jt} + \beta_9 Shp_{jt} + \varepsilon_{ijt} \end{aligned} \quad (2.5)$$

where θ_i is the source-country fixed effects (Stein and Daude, 2001). According to Stein and Daude (2001), source-country fixed effects are preferred because they capture all the main characteristics of the source countries.

In regressions 2.5 (Tables 2.1 and 2.2) the log of FDI flows is regressed on the traditional gravity variables, on openness to FDI, on shareholder protection and corporate tax, and source country effects are introduced (θ_i). Most of the coefficients have the expected sign and most are statistically significant at conventional levels. Notice that the coefficient for the source country's population and GDP appears to have the expected sign, but loses significance. One possible explanation is that bigger countries get more FDI flows not because of their size, but because they do not, for example, restrict foreign ownership of local business or offer more efficient shareholder protection to foreign investors. It is also important to note that the coefficient of corporate tax is still negative and significant. This suggests that countries

with higher corporate tax rates experience both low net inflows of FDI and a decline in corporate tax revenue. Shareholder protection and openness to foreign investors are still positive and significant, meaning that countries with better shareholder protection and openness to foreign investors attract more FDI flows.

In sum, the obtained results from regressions 2.5 suggest that once source-country fixed effects are introduced into the benchmark equation, all the coefficients remain with the expected sign and are significant.

Different conclusions can be drawn when host-country fixed effects and importer–exporter country fixed effects are introduced into the main equation. For example, corporate tax loses significance, possibly due to the fact that foreign investors are more attracted to those countries that offer better shareholder protection and fewer ownership restrictions.

The results obtained for openness to FDI flows are consistent with economic theory and with our expectations. The positive and significant estimated coefficients indicate that FDI flows are more likely to be established in countries whose governments do not restrict foreign ownership of local business. Thus, this variable has a significant effect on the level of multinational activity, as shown in all four regressions. A one-step increase in the openness indicator is associated with respective 42 per cent, 43 per cent, 36 per cent and 34 per cent increases in FDI flows. Additionally, we also attempt to measure the effect of efficient corporate governance mechanisms on FDI flows using a ‘shareholder protection’ measure as measured by Pagano and Volpin (2005) as an explanatory variable. The shareholder protection coefficient is always positive and significant (in columns 3 and 4 the coefficient is significant at the 10 per cent level). A 1 per cent increase in the shareholder protection measure is associated with about (16, 20, 13 per cent) higher levels of FDI flows. This result suggests that FDI flows are attracted by countries which offer higher shareholder protection and thus a more efficient corporate governance mechanism.

In conclusion, taken together, the results of Table 2.1 show that the estimated coefficients on openness to FDI, corporate tax and shareholder protection are often significant and have the expected signs, indicating that FDI is more likely to be attracted to countries where governments do not restrict foreign ownership of local business, offer more accommodating corporate tax policies, and in countries offering higher level of shareholder protection. This empirical test therefore shows that a country’s attractiveness to foreign investors is quite closely linked to its degree of openness and its shareholder protection policy.

It also emerged that not only is the relationship between openness, shareholder protection and FDI flows positive, but this relationship is quite strong in countries which offer a higher level of openness. This second

relationship is measured by introducing a set of new dummies. These five dummies capture the link between changes in openness patterns and shareholder protection measures. The regression results are reported in Table 2.2.

This second relationship is measured by introducing a set of new dummies in Table 2.2.

$$\begin{aligned} \ln FDI_{ijt} = & \alpha_0 + \lambda_t + \beta_1 \ln(GDP_{it}) + \beta_2 \ln(GDP_{jt}) + \beta_3 \ln(POP_{it}) + \\ & + \beta_4 \ln(POP_{jt}) + \beta_5 \ln(D_{ij}) + \beta_6 Lang_{ij} + \beta_7 RTA_{ij} + \beta_8 CTax + \\ & + \beta_9 Openness_{jt} + \beta_{10} Shp_{jt} + \beta_{11} (Shp \text{ if } Openness \leq 1) + \\ & + \beta_{12} (Shp \text{ if } 1 \leq Openness \leq 2) + \beta_{13} (Shp \text{ if } 2 \leq Openness \leq 3) + \\ & + \beta_{14} (Shp \text{ if } 3 \leq Openness \leq 4) + \beta_{15} (Shp \text{ if } 4 \leq Openness \leq 5) + \varepsilon_{ijt} \end{aligned} \quad (2.6)$$

The signs of the coefficients of all explanatory variables and dummy variables are as expected and are statistically significant. The positive and significant coefficients on the interaction of shareholder protection and different level of openness to FDI flows indicate that foreign investors are more attracted by countries that impose fewer ownership restrictions associated to a more efficient corporate governance mechanism. Thus, a high degree of openness and better investor protection should facilitate the access of foreign investors. The negative and significant coefficients of the interacted variables indicate that for a lower level of openness, shareholder protection is also lower.

Thus, less open countries are characterised by stronger ownership restrictions and a weak corporate governance mechanism. Conversely, the coefficient of the interacted variable becomes positive once countries present a higher level of openness and fewer ownership restrictions. Additionally, these results suggest that foreign firms are more likely to establish joint ventures with domestic investors when ownership restrictions are imposed, barriers to entry are raised and at the same time information about, and access to, local distribution channels can be provided. This mode of entry characterises, for example, less developed countries which present all of the above-mentioned characteristics. By contrast, fewer restrictions and protection of investors facilitates FDI flows and positively influences business attitudes.

However, the approach used 'clearly suffers from the potential bias stemming from the correlation between individual specific variables and individual effects. In order to properly address the issue of such a correlation we should employ the instrumental variable estimation' (Serlenga and Shin, 2007, p. 5). Tables 2.3–2.8 report sensitivity analysis with respect to the set

Table 2.3. IV estimates (1 lag)

Equation	(1)	(2)
	With CTY IMP and EXP FE	With host CTY FE
	IFDI	IFDI
shp11sv	0.266** (0.113)	0.280** (0.109)
openness	0.456* (0.116)	0.419* (0.100)
ID	-0.741* (0.084)	-0.885* (0.084)
IPopin	-5.835 (15.569)	-10.471 (17.814)
IPopout	0.449* (0.136)	1.366 (3.033)
lgdpin	-0.722 (16.122)	-5.107 (18.143)
lgdpout	1.161* (0.138)	2.840* (0.757)
lgdpsc_in	2.496 (16.035)	6.776 (18.099)
lgdpsc_out	0.521* (0.127)	-0.011 (0.120)
language	1.314* (0.206)	0.655* (0.180)
rta	0.292 (0.270)	0.229 (0.295)
ctax2	-1.695 (1.614)	-1.219 (1.461)
Constant	21.279 (.)	23.800 (45.940)
Observations	3361	3361
R-squared	0.595	0.688

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

Table 2.4. IV estimates (1 lag)

Equation	(1) With CTY IMP and EXP FE	(2) With host CTY FE
	IFDI	IFDI
openness	0.546** (0.217)	0.544* (0.201)
ID	-0.743* (0.084)	-0.887* (0.084)
IPopin	-11.186 (7.385)	-12.085 (8.183)
IPopout	0.441* (0.136)	1.328 (3.005)
lgdpin	-6.099 (7.469)	-6.645 (8.238)
lgdpout	1.160* (0.138)	2.864* (0.752)
lgdpusc_in	7.714 (7.432)	8.229 (8.209)
lgdpusc_out	0.528* (0.127)	-0.004 (0.121)
language	1.314* (0.206)	0.654* (0.181)
rta	0.285 (0.276)	0.222 (0.302)
ctax2	-1.717 (1.643)	-1.236 (1.501)
LP1	0.018 (0.206)	0.022 (0.181)
LP2	0.118 (0.174)	0.129 (0.154)
LP3	0.152 (0.106)	0.167*** (0.092)
LP4	0.141 (0.097)	0.124 (0.083)
LP5	0.070 (0.106)	0.053 (0.094)
Constant	11.183 (19.849)	27.142 (63.658)
Observations	3375	3375
R-squared	0.597	0.689

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

Table 2.5. IV estimates (2 lags)

Equation	With host CTY FE and 2l
shp11sv	0.199*** (0.116)
openness	0.417* (0.124)
ID	-0.757* (0.086)
lPopin	-23.314 (14.833)
lPopout	0.400* (0.138)
lgdpin	-21.482 (15.600)
lgdpout	1.093* (0.144)
lgdpusc_in	22.806 (15.492)
lgdpusc_out	0.572* (0.129)
language	1.305* (0.207)
rta	0.229 (0.295)
ctax2	-1.640 (1.688)
Constant	-23.502 (34.009)
Observations	3040
R-squared	0.597

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

Table 2.6. IV Estimates (2 lags)

Equation	With host source CTY FE and 2l
	IFDI
shplsv	0.201*** (0.113)
openness	0.411* (0.108)
ID	-0.893* (0.088)
IPopin	-22.768 (17.111)
IPopout	1.357 (3.180)
lgdpin	-20.579 (17.637)
lgdpout	2.664* (0.789)
lgdpusc_in	21.860 (17.582)
lgdpusc_out	0.059 (0.121)
language	0.679* (0.185)
rta	0.177 (0.305)
ctax2	-1.229 (1.543)
Constant	-35.388 (62.643)
Observations	3040
R-squared	0.691

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

Table 2.7. IV estimates (2 lags)

Equation	With source CTY FE and 2l
	IFDI
shplsv	0.107 (0.176)
openness	0.494** (0.234)
ID	-0.757* (0.086)
lPopin	-24.093*** (14.614)
lPopout	0.396* (0.137)
lgdpin	-21.997 (15.271)
lgdpout	1.092* (0.144)
lgdpusc_in	23.126 (15.173)
lgdpusc_out	0.576* (0.129)
language	1.304* (0.207)
yr2	0.204 (0.283)
ctax2	-1.654 (1.710)
LP1	-0.132 (0.081)
LP2	0.000 (0.000)
LP3	0.022 (0.100)
LP4	0.034 (0.158)
LP5	-0.043 (0.193)
Constant	-11.535 (33.444)
Observations	3040
R-squared	0.598

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

Table 2.8. IV estimates (2 lags)

Equation	With host source CTY FE and 2l
	IFDI
shplsv	0.120* (0.754)
openness	0.532** (0.215)
ID	-0.893* (0.088)
IPopin	-23.658 (16.972)
IPopout	1.371 (3.164)
lgdpin	-21.217 (17.421)
lgdpout	2.679* (0.780)
lgdpusc_in	22.355 (17.367)
lgdpusc_out	0.068 (0.122)
language	0.679* (0.185)
rta	0.156 (0.301)
ctax2	-1.241 (1.571)
LP1	-0.133*** (0.071)
LP2	0.000 (0.000)
LP3	0.017 (0.088)
LP4	-0.003 (0.142)
LP5	-0.086
Constant	-21.213 (62.937)
Observations	3040
R-squared	0.692

Notes:

Robust standard errors in parentheses

*** significant at 10%; ** significant at 5%; * significant at 1%

of instrumental variables. I use two variables whose coefficients are positive and significant in OLS estimates of Equation (2.5): shareholder protection and openness to FDI flows. I will consider only the case of host-country fixed effects and source and host country fixed effects. In the case of trade there is empirical and theoretical support that trade can affect income. If an endogeneity problem exists, the effect of income on trade may be misleading. The same can be applied in analysing FDI flows. To solve this problem alternative instrumental variable (IV) estimations (as suggested by Anderson, 1979) were attempted using lagged values of our variables of interest (shareholder protection and openness to FDI) as instruments. This alternative estimation does not change the coefficient of any of the variables to any significant extent. This implies that the endogeneity of these two variables, if it exists at all, does not create any significant distortion on the initially postulated relationship in the gravity model. Therefore, all traditional gravity variables are treated as exogenous variables in the estimation.

The estimates seem economically and statistically significant. It may be concluded that the hypothesis that FDI flows can be attracted by countries which offer higher levels of openness and good corporate governance mechanisms is corroborated.

2.7. CONCLUSIONS

What can host countries do to become more attractive to foreign investors and benefit from their activities? This work investigated the determinants of bilateral foreign direct investment flows across countries. In particular, it explored the role played by corporate governance mechanisms and openness on FDI location and mode of entry into a foreign market. Empirical findings show that the impact of shareholder protection and openness to FDI variables is always positive, statistically significant and economically very important. In particular, the positive and significant coefficients on the interaction of shareholder protection and different levels of openness to FDI flows indicate that foreign investors are more attracted to countries that impose fewer ownership restrictions associated with more efficient corporate governance mechanisms. Thus, fewer ownership restrictions, greater openness to foreign investors and efficient investor protection should facilitate access to foreign direct investment flows.

Although the globalisation process suggests that international alliances (merger and acquisition, joint ventures) are essential to the success and survival of multinational enterprises in a foreign market, recent research has focused on the internalisation approach which offers only a partial

explanation of the ownership preferences of multinational for other than wholly-owned affiliates. The major limitation of this approach in its current form is that it focuses on one mode of entry: the establishment of a wholly-owned affiliate. Globalisation has diminished, rather than accelerated, the share-ownership mode of entry and has created more opportunities for wholly-owned foreign affiliates. In general, firms have a strong economic incentive to avoid joint-venture arrangements, since they are regarded as being inferior to wholly-owned affiliates in allowing the firm to maximise the returns available on its firm-specific advantage. Thus, internalisation theory focuses primarily on the situation where total ownership or direct mode of entry are the only alternatives available to deal with market imperfections. According to the World Bank report (2001) in developed countries FDI through mergers and acquisitions predominated over green-field in the late 1990s; the reverse holds in developing countries where joint ventures have emerged as an important form of international alliances.

NOTES

1. Usually the terms 'foreign direct investment' and 'multinational enterprises' (MNEs) are used interchangeably. In reality these are characterised by some differences. International economic literature claims that a firm becomes multinational when it engages in foreign direct investment acquiring a substantial controlling interest (ownership, control) of a foreign firm in two or more countries. For example, a multinational enterprise works in an oligopolistic market and, through horizontal and vertical investment, diversifies or fragments the foreign production of goods and services. Additionally, multinational enterprises can undertake economic activities independently of foreign direct investment, including licensing activities.
2. These policies are associated with the so-called New Economic Model (NEM).
3. This theorem considers the concepts of factor intensity and factor endowment, which have been traditionally used to analyse international trade. Factor endowments are defined in terms of ratios between physical capital stocks and labour forces in a country. Factor intensities are also defined in terms of capita-labour ratios, although this concept relates to the ratios for industries or goods. These concepts can be used in analysing determinants of FDI by relaxing an assumption of the H-O theorem: factors are immobile internationally. If this assumption is removed, factors move to countries that offer them higher returns. In the case of FDI, it will flow into countries where returns to capital are higher – in other words, countries endowed with scarce capital.
4. In service, for example, FDI and trade can be expected to be largely complementary, because establishing a commercial presence abroad generally leads to a stronger services trade.
5. Helpman (1985) considers a sector (X), two activities (core and periphery) and a geographically fragmented production process, zero trade costs, different relative endowments in different countries, no factor price equalisation, costs split geographically since firms have an incentive to separate the core (headquarters) from plant. Multinational activity emerges following the horizontal model where different goods are produced in

different countries and sold in both countries. In this case it is possible to recognise a trade model rather than a direct investment model. Markusen and Maskus (2001) criticise Helpman concluding that its theory is similar to outdated literature which emphasises technical equivalence between portfolio capital movement and direct investment. In addition, they underline the difference between vertical and horizontal multinational activity concluding that it arises also between countries that are very similar in their relative endowments.

6. Yeaple (2001), using US firms as examples, shows that firms serve foreign markets more through FDI than through export. He then concludes that multinationals arise when scale economies in headquarter activities are stronger than scale economies in production.
7. Markusen and Maskus (1999, 2001) also developed a model to explain trade and its relationship to affiliate production: the 'knowledge-capital' model, which is created around the key idea that firms have high knowledge-based assets and fixed costs, creating firm-level economies of scale. The reduction in trade costs tends to reduce affiliate production when it is of the horizontal type, but increase it when it is of the vertical type. One result of the model is that vertical production arises when one country is small and skilled labour is abundant relative to the other country, creating an incentive for firms with several stages and different factor intensities to separate production. On the other hand, horizontal production arises when two countries are similar in size, creating an incentive to endow both markets with different plants. The type of production – horizontal or vertical – will determine the effect of multinational activities on trade. FDI is a substitute for trade when a horizontal affiliate is built in a host country to directly supply this market. The idea is that products previously imported from the home nation are now produced in the host economy, replacing imports. However, if the host nation's affiliate is vertically linked to the multinational's home operations, its production is going to complement trade because there will be an increased exchange of intermediate and final goods between the home and host economies. It is important to note that, because the pattern of production is determined by the difference between the two countries, trade and affiliate production will tend to be substitutes for similar countries and complements for dissimilar countries.
8. A recent example: Pepsi set up a joint venture factory in order to be the partner of a big project in China. Although initially good returns were expected from this long-term investment, the company has recently realised that the local partners have stolen its technologies and installed an identical factory in the same country. A possible solution to this problem could be to establish a more efficient enforcement and legal system.
9. In the past decade, wholly-owned enterprises have increasingly become the dominant form of foreign direct investment: '... most of the growth in international production has been, for example, via cross-border merger and acquisition' (UNCTAD, 2000).
10. This is the so-called OLI paradigm developed by Dunning to explain the existence of multinationals and why these rely on FDI rather than other modes of serving foreign markets such as licensing, strategic alliances and exporting. Dunning's theory focuses on different questions: why does the firm go abroad? (O); where is the investment made? (L); what is the mode of entry that the firm uses to penetrate the foreign market? (I).
11. However, we argue that an adequate mechanism of corporate governance might be more important in some developmental stages of a country, or of a firm's life cycle, than in others.
12. The Cadbury Report was issued after a series of financial scandals and related failures of listed companies in the UK: 'the country's economy depends on the drive and efficiency of its company. Thus the effectiveness with which their boards discharge their responsibilities determines Britain's competitive position' (Cadbury Report, p. 11).
13. Corporate governance practices differ among firms and organisational forms and include the determination of ownership structure, accounting rules, protection of minority shareholders,

board of directors powers and so on. In particular, it aims at regulating the separation between ownership and control and at balancing limits on managerial discretion and minority shareholders' protection. Imposing regulations – specifically efficient corporate governance systems and rules – is considered necessary to overcome the conflicts between manager (or controlling shareholders) and (non-controlling) shareholders, thus insuring that the latter's interests are protected. The archetypal corporate governance problem arises from a conflict of interest between manager and shareholders, based on imperfect information. This creates a principal–agent problem, generally compounded by the collective action problems inherent to widely dispersed ownership by non-controlling shareholders. For example, when corporate ownership is widely dispersed and ownership and control of management are separated, dispersed shareholders may lack capacity, incentives and power to monitor the corporate managers. In theory, one solution is represented by a supervisory body monitoring management. For this reason, where equity markets are highly liquid and shareholders are widely dispersed, corporate governance codes tend to focus on supervisory body structures and practices. This insures that the supervisory body is a distinct entity, capable of acting separately from management, as well as to encouraging shareholder participation in voting. This view is in contrast with the standard neo-classical assumption that managers act in the best interest of shareholders, namely by maximising the firm's value, without any conflict of interest.

14. These authors analyse corporate governance in 49 countries, and establish a distinction between countries characterised by civil and common law. Once it is established that legal differences exist across countries, they consider: shareholders' rights and voting procedures; creditors' rights; ownership structure and legal enforcement rules. Their conclusion is that ownership concentration characterised small economies, poor investor protection and an inefficient accounting system. In contrast, larger economies are characterised by dispersed ownership, higher investor protection and a proper accounting system.
15. Recently, Pagano and Volpin (2005) have updated the shareholder protection variable which is the LLSV anti-director rights index.
16. Pagano and Volpin (2005) suggest a political economy approach to investor protection. Their analysis considers the link between political decisions and economic interests. Moreover, they consider the distinction between corporatist and non-corporatist countries.
17. Bris and Cabolis (2002) analyse 39 industries in 49 countries in the period 1985–2000 and they construct measures of corporate governance quality of industry by considering cross-border mergers by and of firms in that industry.
18. A number of systems exist for rating openness to FDI, such as the Heritage Foundation's Index of Economic Freedom series and the Fraser Institute's Economic Freedom of the World series. They present some problems that make them less useful than the ratings presented here. The Economic Freedom of the World series dates back to 1975, but it gives a single rating based on the freedom of both inward and outward flows. Furthermore, the ratings are at five-year intervals, and so do not capture annual changes.
19. I will use this variable to avoid the data problem concerning the impossibility of finding data on M&As and joint venture for all countries analysed in this panel.
20. Population is normally used in the good trade literature to represent 'openness'.
21. Equation (2.3) represents the benchmark in this study (see Table 2.1, column 1 and Table 2.2, column 2).
22. In Cheng and Wall (2002),

$$\ln X_{ijt} = \alpha_{ij} + \lambda_i \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln POP_{it} + \beta_4 \ln POP_{jt} + \varepsilon_{ijt}.$$

23. Mátyás (1997, 1998): $\ln X_{ijt} = \alpha_0 + \lambda_i + \theta_i + \gamma_j + \beta Z_{ijt} + \varepsilon_{ijt}.$

24. Sometimes, authors consider in the gravity equation that GDP of the source country measures productive capacity, while that of the host country measures absorptive capacity. This is a variable that is consistently statistically significant and it is a measure of the country's economic size (home and host country). Large market size is expected to attract FDI because of economies of scale. In addition, large markets may be associated with agglomeration economies that lower costs for all producers in the host market. For example, Portes and Rey (1999) use GDP and population and substitute market capitalisation for GDP, arguing that equity market capitalisation is a more plausible determinant of investment flow; Shatz (2000) uses only source country GDP.
25. Wheeler and Mody (1992), Mody et al. (2003) and UNCTAD–WTO (2003) all use the same combination.
26. Shatz (2000) concludes that FDI openness attracts more horizontal investment than vertical.

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