Institution, FDI and the Gravity Model

by

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(Preliminary Version)

Abstract

This paper estimates the determinants of foreign direct investment flows using the gravity equation, controlling for the importance of both the traditional gravity variables (size, level of development, distance, common language) and other institutional variables such as shareholder protection (developed by Pagano and Volpin, 2004 on an expansion of La Porta et al.,1998) and openness to FDI flows (Shatz, 2000). The purpose of this research is to identify the factors determining the decision of multinational firms to establish new foreign affiliates abroad. Empirical results seem to validate the hypothesis that corporate governance is an important determinant of FDI flows.

Keywords: Foreign Direct Investment, Firm Location, Corporate Governance, Gravity Model.

JEL Codes: F2, F4, G3, R3

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1. Introduction

In recent years, one of the main objectives in the agenda of international organisations and local governments has been to identify policies that reduce poverty, improve the quality of life of citizens around the world and promote growth. In the light of this ambitious goal, globalization and technological innovations are considered critical issues because they create new and more investment opportunities for enterprises and at the same time increase the competition by countries to attract investments (i.e. foreign direct investment, FDI). Therefore, firms pursuing international business opportunities should analyse a number of factors regarding investment decisions. With respect to the debate on the determinants of FDI, recent empirical studies (IMF report, 2003, World Bank, 2000, Alesina and Dollar, 2000) suggest that the quality of domestic governance has a quantitatively important impact on a country's ability to attract foreign investors who prefer to invest in countries with good governance. In conclusion, better domestic quality of governance is generally associated with efficient financial integration and positive spillovers to domestic countries. However, foreign direct investment flows not always generate positive productive spillovers to domestic countries. In fact, positive spillovers are more likely to be detected from countries with a relatively high level of absorptive capacity (Borenzstein et al. 1998) (in terms of human capital, quality of governance etc.) which in turn allows countries to take advantage of financial globalization. On the other hand, 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 introduced to encourage multinational enterprises to invest in their markets. According to the UNCTAD (1996), as a consequence of the globalization of the world economy, investment incentives have become more significant determinants of foreign investments and few countries compete for foreign investment without any form of subsidy. It is a matter of debate, however, whether incentives and subsidies are really justified. Many authors (race to the bottom approach) remain cautious in considering positive the effect of incentives. A crucial problem relates, for example, to the competition between governments to attract direct investments by removing restrictions on the activities of multinational enterprises with potentially harmful consequences on the host economies.

In the light of this debate, governments, academic studies and international agreements have increasingly come to recognize that strong interrelationships exist between macro policies and micro

foundations. For example, corporate governance is considered in this context as a key element affecting countries' and firms' economic performance. Economists (La Porta, 1998, Kogut, 2003) and international organisations (OECD,2004, World Bank, 2002) tend to view corporate governance as one possible conduit for first attracting and then retaining FDI and therefore affecting countries' economic performance. In this context, corporate governance is expected to boost the development process in two crucial ways: raising the degree of transparency of internal financial markets, increasing a country's political credibility abroad (creating a secure, stable investment climate in these countries) and verifying whether corporate governance is a determinant of long-term growth. Corporate governance might be necessary not only to attract investments from abroad, but also – and perhaps more importantly – to retain them longer. The 1997 Asian financial crisis focused the institutional investor community's attention on corporate governance, as a lack of effective governance was considered as one of the causes. After the recent corporate accounting scandals in the US and Europe (Enron, Vivendi, Cirio, Parmalat), firms have started a new process of implementation of corporate governance strategy. The drive to implement corporate governance mechanisms considers the fact that companies should be more accountable to society and investors. Economic benefit occurs, because companies possessing efficient systems and practices of corporate governance are more likely to gain competitive advantages over their counterparts in local and foreign markets. Social benefit occurs because, improved corporate governance has a role to play for industries and plays a role, in terms of productivity improvement as well as powerful long term benefits of industrialization and growth which can positively impact overall corporate performance (OECD, 1999). Based on these conclusions, corporate governance mechanisms are improving worldwide and in particular in countries that must offer greater confidence to foreign investors. This raises the issue of whether corporate governance is a necessary requirement to attract foreign direct investments, thereby affecting countries' economic performance and firms' efficiency.

Despite the recent attempts to look at the determinants of FDI, a lot still needs to be said about the role of institutional quality in particular in order to allow a better assessment of the important pending policy implications. This paper attempts to fill this gap by running an empirical investigation on the nature of FDI flows. A popular and empirically successful stream of research has used a gravity approach to investigate the international flows of goods and capital. This model presents the amount of flows (of goods and factors of production) between two countries as directly proportional to the size of the two economies and inversely

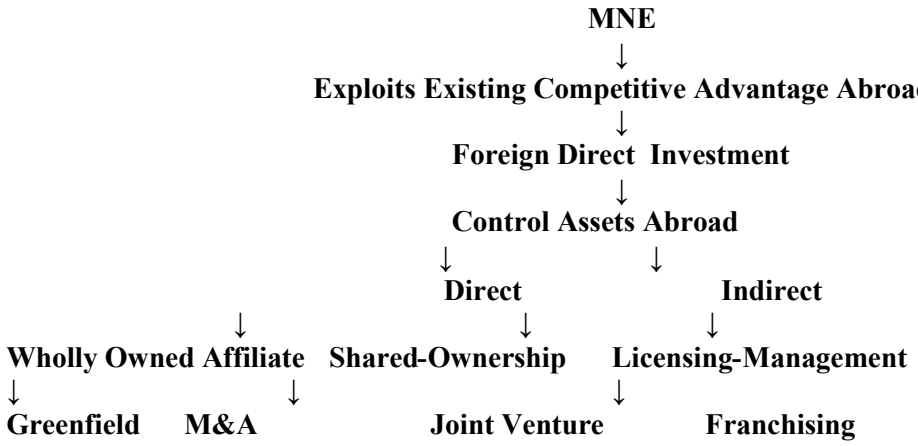
proportional to their geographical distance. Despite the lack of theoretical foundations, the empirical validity and applicability of the model to a wide array of experiments has made it the "workhorse" of international economics (Eichengreen and Irwin, 1997). In the literature, some authors () have claimed that foreign investment is used by firms as a means of overtaking the higher costs of transporting the home produced goods to the foreign market (horizontal FDI). Accordingly, I would expect a greater amount of flows accruing to farther away countries. If, on the other hand, the acquisition of direct ownership of capital in a foreign country were directed at the vertical integration of production (vertical FDI), I would expect investment to flow more greatly towards nearer countries with the same intent to reduce the cost of transportation, but with the opposite result on the expected relationship between distance and FDI. According to an alternative interpretation, geographic distance could capture the information costs involved in information gathering, affecting negatively the long term investment choices of investors in farther away countries. Clearly, the role of distance in determining FDI flows remains an elusive issue.

Following recent empirical work (Matyas, 2000, Cheng and Wall, 2001), in this paper, I rely in the use of the gravity model to investigate the determinants of foreign direct investment flows with special reference to the institutional factors. After controlling for a number of traditional variables I introduce a new set of determinants in account for the degree of shareholder protection and openness to foreign direct investments and analyse whether the role of corporate governance is associated with multinational investment

The rest of the paper is organised as follows: the next section presents a general discussion on the relationship between corporate governance and foreign direct investment; section 3 provides an overview of the gravity model and describes the model identification. Section 4 represents the empirical part of this research. It includes a discussion of methodology and provides a summary of the empirical findings. Policy implications of these findings are discussed in the conclusions.

2. Foreign Direct Investment and different mode of entry.

One of the most outstanding features of the trend toward globalization has been the increased importance of foreign direct investment (FDI) flows around the world. Foreign Direct Investment (FDI) is an international direct investment characterised by a long-term relationship and a significant degree of influence on the management of the enterprise in the host country. At the heart of the definition of FDI is the concept of control and ownership of another firm. Thus, FDI is one 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. Usually the terms "foreign direct investment" and "multinational enterprises" 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 enterprises works in a oligopolistic market and, through horizontal and vertical investment diversifies or fragment the foreign production of goods and services. Additionally, multinational enterprises can undertake economic activities independently of foreign direct investment, including licensing activities. Then, in this paper the terms "multinational enterprises" and "foreign direct investment" will be not use interchangeably.



Example: Walt Disney Co.'s mode of entry in Japan was through licensing, while in Europe it was through direct investment (owning 49% and the remaining 51% held publicly).

In general, in deciding whether to invest abroad, a multinational must develop a competitive advantage (i.e. economies of scale and scope, superior technology, managerial expertise etc.) 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, etc.). In addition, in order to successfully compete abroad, a multinational musts possess also some ownership-location (O, L) and internalisation (I) advantages, and it must combine these advantages in ways that maximise its market shares and growth (OLI paradigm, Dunning, 1997). 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 other mode of entry such as joint venture, merger and acquisition. Each different mode of entry in a foreign market may be more appropriate than the others under different circumstances and each is an important factor in the project's success. 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 merger and acquisitions rather than the form of greenfield investment, it involves a change in ownership without adding new capacity in the host country. As a consequence of that, host governments prefer local involvement in the production process, job creation and the transfer of knowledge as a means of imposing some ownership restrictions to multinationals (i.e. equal ownership, equal control over all decisions within the joint venture). Considering FDI as a transfer of technology, knowledge and ideas, the theory () argues that a firm in order to overcome the disadvantages of investing in foreign markets, must posses firm specific advantage over local firms. Typical example of firm specific advantage is superior technology. The reason why multinational enterprises might want to relocate production abroad rather than sell its 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 for themselves the economic benefit of the knowledge they created. On the other hand, host countries have interests in receiving knowledge spillovers from multinationals, because the multinational which owns the assets in the host country has been given the incentives to take its knowledge to the country. Strictly related to transfer of knowledge is the concept of spillovers. Many authors () include spillovers (the external effect of FDI) among the consequences of direct investment, concluding that a firm must possess some specific assets (management skills, technology) to be able to compete in foreign markets and to capture the positive effects of direct investment.

In recent years the view of FDI has been influenced by the effects of financial crises. Some authors (Krugman and Obstefeld, 1999) considers FDI inflow to a country as a positive sign, suggesting that this is a result of a correction of a domestic distortion (crony capitalism). In contrast, other authors (Hausman and Fernandez-Arias, 2000) consider high level of FDI inflow as a sign of a weakness of the host country (poor property rights, inefficient markets and weak legal and financial institutions), rather than its strength. Then, the share of FDI inflows in total capital flows is larger the when the legal and economic risks of doing business in a particular country are higher. Even though there is currently no exhaustive general theory explaining FDI flows, new research (Shatz, 2000) has recognised the importance of country-specific differences in political and institutional factors as determinants of direct investment. As a consequence, empirical studies claim that cross-country differences in growth and productivity may be related to differences in institutions, political stability, level of education and legal environment. Most of these studies conclude that the firm must design a strategy that will attract international investors. This requires improving the quality and level of firm's transparency: disclosure, i.e. , making its accounting and reporting standards more transparent to foreign potential investors.

Recent attitudes toward FDI have changed considerably, as most countries have liberalised their policies to attract investment from multinational enterprises. Indeed, FDI has actively been 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, more and better transparency in economic systems, internationalisation of capital markets and macroeconomic stabilisation policies have led to increasing market integration at a global level[1], making FDI more interesting for both advanced and less advanced industrial countries. Considerable efforts have been made by the advanced industrial countries to persuade developing countries and emerging economies of the benefits of removing the barriers on FDI based on the argument that direct investment flow can play a significant role in promoting economic growth (raising capital, labour and total factor productivity), creating new local employment, introducing new know-how and forcing local firms to improve their managerial systems. In this context, the key issues for both less developed countries and emerging economies is how to attract and retain foreign investments, how to maximise the benefits of the foreign presence within the domestic economy, and

[1] These policies are associated with the so-called New Economic Model (NEM).

choosing which policy to pursue? These questions assume a special importance in an era of increasing global economic liberalization in which it has been recognised that, in order to realize FDI's full benefits and to increase FDI inflow, it is necessary to pursue policies that allow host countries to open up the local market to foreign investors. As a result, an increasing number of host governments have provided different forms of measures and incentives to encourage foreign firms to invest in their countries: fiscal incentives, financial incentives, infrastructures and monopoly rights. There is a still open debate over the appropriate policies and the macroeconomic response to the above-mentioned questions. Consequently, the role and effect of multinational enterprises debated within international economics and multinational enterprises are characterised by the fact that their international operations can have significant effects on both source and host countries. 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 MNEs tend to invest in countries with a high absorption capacity, good infrastructure and an educated work force. On the other hand, the school of the "race to the bottom" theory asserts that MNEs induce countries to compete against each other (countries offer subsidies, tax reductions and remove restrictions on the activities of MNEs) to attract FDI, thereby worsening their living standards. Furthermore, the benefits of MNE activities in less developed and emerging economies are not always reflected in domestic firms' value added growth. When domestic firms lack the capacity to absorb and internalise spillovers, FDI is not the most effective tool to promote technological and industrial development. In such cases the advantages of FDI go solely to the multinationals who can pursue their interests: profit's maximization, protection of its patents, blueprints and technology.

In conclusion, multinational activities have been and still are the focus of hopes and disappointment. The spread of global production and multinational investments has been the main result of the globalization process. Countries such as China have experienced the success of multinational investments in expanding exports and gaining new technologies. In contrast, other developing countries have not experienced the positive effects of globalisation[2]. In the light of this debate, this study investigates whether multinational

[2] After the failure of globalisation's purposes such as decreasing poverty around the word, more economic integration, convergence between poor and rich countries and more regulated financial markets, a new view emerged as an valid alternative to the globalization approach. The so-called De-Globalisation approach, promotes several changes at the economic and political level and more integration and cooperation between countries. This process does not deny the importance of international economic development, but redesigns it with new rules: more cooperation between countries, active presence of less developed countries in making crucial decisions, less monopoly rights to multinational on patents, blueprints, and new economic strategies for a balanced

activities can improve the growth prospects of less advanced countries by improving corporate governance systems and practices. In this context, economists and international organisations tend to view corporate governance as one possible conduit for first attracting and then retaining direct investment, consequently affecting countries' economic performance.

2.2 Institutional Quality: Corporate Governance

The relationship between corporate governance and economic performance has been the object of one of the most controversial debates after the Asian financial crisis. As a World Bank (2000) report points out, poor corporate governance, lack of transparency and financial sector weakness could be considered one of the main causes of most financial crises. In addition, according to the World Bank (2001), the Asian crisis was due, among other factors, 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 emerges as a crucial element to increase the returns on investment and reduce their degree of risk. Hence, it is generally assumed that a poor system and practice of corporate governance can hinder efficiency and performance enhancements on the part of firms (CIPE, 2002). In sum, there is a widespread recognition that a weak international financial system potentially contributes to the propensity for global financial instability.

The recent attention to corporate governance issues is not exclusively concerned with advanced economies, but also with less developed, transition and emerging market economies. As far as less developed countries are concerned, 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. But, how important is corporate governance and why it is a dominant issue in developed and transition economies? In answering to these questions I consider two alternative views. For some (World Bank, IMF), corporate governance is one of the most important policy issues. On the other hand, others claim that corporate governance' effects are of second order, particularly in the case of transition economies. Case studies (OECD, 2001) suggest that an adequate system of corporate governance does help to increase the flow of financial capital to firms in less developed countries. In fact, evidence

development. The profitability considerations in deciding whether or not to invest abroad are substituted by an alternative view placing human life before multinational profits (i.e. less restriction on patents for HIV treatments).

(Prasad, Rogoff, Wei and Kose, 2003) exists that supports the hypothesis that financial markets develop the best in the presence of legal codes that provide protection to shareholders' rights (in particular minority shareholders rights), definition of ownership (insiders owners versus outsiders owners), and regulation of 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[3]. As a consequence of that, promoting clear legal rules has emerged as a crucial new priority in the global liberalisation process in order to give more guarantees to foreign investors and to encourage foreign and domestic investments. The reason is that 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 a sustained economic growth. The growing interest in corporate governance codes and rules among countries may reflects an understanding that equity investors (foreign or domestic), are considering 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) indicates that investors are willing to pay more for a company that is well governed, all other things being equal.

Recently, several researchers, have started to analyse corporate governance issues from a comparative perspective. By this approach, authors(La Porta et al. 1997, 1998; Shleifer and Vishny 1997), have empirically measured the impact of corporate governance on economic growth and have elaborated a more precise definition of corporate governance. Hence, starting by a comparative empirical perspective, much of

[3] 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.

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. La Porta et al (1997, 1998)[4] consider the interaction between law and finance[5] and in particular they consider 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 what the degree of involvement of the state in the economy was when business law was first introduced. Rajan and Zingales (1998) raise a similar point, even though they question the importance of the legal protection and focus on the development of the capital markets directly. Additionally, LLSV establish eight indicators for shareholder protection and six for creditor protection. LLSV argue that financial markets 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, the classification of countries by legal origins in common and civil law has been considered "particularly superficial" (Berglof and Thadden, 1999) because, for example, some differences exist between countries included 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. Stein and Daude (2001), find that the quality of institutions have 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 that want to attract foreign investor should improve the quality of their institutions.

[4] For simplicity we will refer to these authors as LLSV.
[5] These authors analyse Corporate governance in 49 countries, and they establish a distinction between countries characterised by civil and common law. Once it is established that legal differences exist across countries, these authors 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's protection and a proper accounting system.

However, despite these criticisms, LLSV's political approach to corporate governance has represented an important benchmark to comparative studies.

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 (2004) analyze the political determinants of the degree of investor and employment protection starting by 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 characterised by stronger worker protection (i.e. Germany) presents a weak shareholder protection level. Conversely, a system characterised by stronger shareholder protection will present a weaker worker protection (i.e. US, UK). Using a panel of 21 OECD countries, the LLSV shareholder protection index and other political variables, these authors find that the proportionality of the voting system is positively correlated with employment protection. In a panel of 45 countries, they find that the proportionality of the voting system is significantly and negatively correlated with shareholder protection (update data of LLSV).

Starting by 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 focused on the strategic importance of a good and efficient corporate governance mechanisms in attracting the foreign investor. Rossi and Volpin (2002), using a large sample of deals announced in the 1990s and completed by the end of 2001 in 49 countries, study the determinants of merger and acquisitions around the world, focusing their attention on differences in law and enforcement systems across countries. They find that the volume of merger and acquisitions and the premium 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 merger on industry value, instead of focusing on cross-country comparisons. They constructed a panel of 9,200 industry-country-year observations[6] 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

[6] 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.

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 merger and acquisitions. For example, the acquisition of firms in countries with low investor protection (civil law) by firms characterised by higher investor protection(common law) has a positive impact on the target industry in term of Tobin's Q. Conversely, target industries do not benefit from acquisition by firms from countries characterised 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.

3. Empirical Methodology

3.1 The Gravity Model

The Newtonian law of gravitation states that two celestial bodies are subjected to a force of attraction that is directly proportional to their mass and indirectly proportional to their distance. In the 1860s, H. Carey was the first to apply the Newton's law of universal gravitation to the study of human behaviour and subsequently the so-called "gravity equation or model" has been widely used in the social science. Later, social scholars have transferred the gravity equation to the empirical analysis of international trade flows. In particular, Tinbergen (1962), use a simple form of gravity model of bilateral trade in analyzing bilateral trade flows. Since then, the gravity equation has also been applied to flows of people and capital (direct and indirect).

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 and a set of variables that capture common institutional characteristics such as languages, culture, trade agreements, and law system. More specifically, the amount of trade between two countries is assumed to increase in their sizes, as measured by their national incomes, and decrease in the cost of transport, as measured by the distance between their capitals or economic centres. After the second half of the 1970s, several economists have tried to tie the gravity equation to a formal economic theory, in recognition of the lacked of strong theoretical background for the gravity model[7] (where for example empirical results depend on some not specified

[7] According to Deadorff (1984), most early papers were ad hoc rather than begin based on theoretical foundation.

variables). Since then, a large literature has been produced showing that the gravity equation can be derived from both the traditional (Ricardian and Hecksher-Ohlin models) and the "new theory" (increasing returns to scale and oligopolistic models) of international trade. For example, Anderson (1979) tries to derive the gravity equation assuming product differentiation. Bergstrand (1985) in exploring the theoretical determination of bilateral trade associates in gravity equations with simple monopolistic competition models. Helpman and Krugman (1985) use a differentiated product framework with increasing returns to scale. The differences in these theories help explaining the different specifications and results of empirical applications.

In analogy with the evolution of trade, the gravity model has been used to model the international pattern of foreign direct investment. Empirically, several modifications have contributed to the improvement of the gravity equation (see, for example, Mátyás (1997, 1998), Cheng and Wall (1999), and Egger (2000)). Other authors[8] contributed to the refinement of the definition of variables already considered in the analysis and adding new variables previously not considered.

Actually, according to Frankel (1998), "the gravity equation has gone from an embarrassment of poverty of theoretical foundations to and embarrassment of riches".

3.2 Model Specification

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

$$\mathbf{F_{ij} = A\, Y_i\, Y_j \,/\, D_{ij}} \qquad \mathbf{(1)}$$

where:

- **Fij** represents the flows (i.e. migration, tourism, trade, foreign direct investment) between the home country i and the host country j;
- **A** is a constant of proportionality.**;**
- **Yi** and **Yj**: are the relevant economic sizes (GDP, GDP per capita, Populatin) of countries (i,j);
- **Dij**: is the distance between countries' capitals or economic/financial centre.

[8] Berstrand (1985), Helpman (1987), Wei, (1996).

Equation (1) states that bilateral flows between country i and country j are directly related to the product of the countries' GDP (Yi and Yj) and inversely related to their distance (Dij).

Tinbergen (1962) was the first to apply this formula to analyse international trade flows. Later, Linneman (1966) included population[9] 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:

$$\ln X_{ij} = \alpha_0 + \beta_1 \ln Y_i + \beta_2 \ln POP_i + \beta_3 \ln Y_j + \beta_4 \ln POP_j + \beta_5 \ln D_{ij} + \varepsilon_{ij} \quad (2)$$

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 centre;
- 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.

$$\ln X_{ij} = \alpha_0 + \beta_1 \ln Y_i + \beta_2 \ln POP_i + \beta_3 \ln Y_j + \beta_4 \ln POP_j + \beta_5 \ln D_{ij} + \beta_6 \ln Language + \beta_6 Institutional + \varepsilon_{ij} \quad (3)$$ [10]

As discussed above, although the theoretical foundations of gravity model have been strengthened, the empirical specification is still rather basic. Whereas early empirical studies used cross-sectional data, in

[9] Population is normally used in the good trade literature to represent "openness".

[10] Equation 2 represents the benchmark in this study (see Table 1, column 1 and Table 2, column 2).

recent years authors (see Màtyàs (1998), Cheng and Wall (2002), Stein and Daude (2001)) have refined the specification to account for panel data.

In the simple cross-sectional regression, restrictions are imposed 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).

The next step was to use 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, etc. However, these factors are often difficult to observe and to quantify. Then, both models provide biased estimates and for this reason 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, Chen and Wall (2002) have argued that introducing fixed effects into the gravity model allows controlling for heterogeneous trading relationship. In particular, they estimate a general fixed[11] effects model to eliminate the heterogeneity bias inherent in standards methods. Although the fixed effects model has been considered as a solution to unobserved heterogeneity, there is little agreement about how to actually specify the fixed effects.

Cheng and Wall (2002) 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_t and $\alpha_{ij} \neq \alpha_{ji}$). Thus, α_{ij} is the "specific country pair effect" between countries.[12] This specific effect includes the effects of all omitted variables that are cross-sectionally specific but remain constant over time (i.e. 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_j). In particular, he suggests a tripled-

[11] From an econometrics point of view, it has been shown that fixed effects methodology has to be preferred to random effects models in the analysis of bilateral trade flows. (Egger, 2002).

[12] In Cheng and Wall (2002), $\ln X_{ijt} = \alpha_{ij} + \lambda_t + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln POP_{it} + \beta_4 \ln POP_{jt} + \varepsilon_{ijt}$

indexed gravity model, which includes time, source and host specific effects,[13] 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"* (Màtyàs, 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), who run an analysis similar to ours, include only source country dummies to capture all the relevant characteristics of the source countries, but estimate independently the host country characteristics.

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. The solution adopted by previous studies seems to depend basically on the goal of the analysis.

This study considers four possible specifications. Regression 1 is a benchmark that includes the traditional gravity variables, institutional variables, time effects, but excludes fixed effects. Regressions 2, 3, and 4, instead, consider different sets of fixed effects. In particular, we include host country fixed effects in regressions 3, as in Steine and Daude (2001) and fixed effects for both the country as an exporter and as an importer.

3.3 Data

Recall that this study wants to test the hypothesis that the lack of corporate governance mechanism, and ownership restrictions on business activities constrain direct investments flows in a country, or on the contrary foreign investors may be able to overcome and even gain from this apparent disadvantage making efficient investments.

In the following section, this study climbs the staircase of panel data specifications of the gravity model, starting from a static linear equation (Portès and Rey, 1999; Mody et al., 2003), and moves subsequently to a

[13] Màtyàs (1997, 1998): $\ln X_{ijt} = \alpha_0 + \lambda_t + \theta_i + \gamma_j + \beta' Z_{ijt} + \varepsilon_{ijt}$

static linear equation with fixed effects (Stein and Daude (2001); Màtyàs (1998)). In choosing the functional form, a standard functional form, used more frequently in the empirical trade literature and adapted to empirical foreign direct investment literature, has been chosen. The data of this study were obtained for a panel of countries over the period 1980-2001. The variables and their sources are summarised in Table1, and are discussed in more detail below. For some variables, data were available for the whole sample (FDI inflows, GDP per capita, Population, wage and corporate tax), but for others, including the measures of openness to foreign direct investment and shareholder protection, is only form the mid-1990s.

Table 1 Variables, definitions and data sources

Variable	Definition
Foreign Direct Investment Flows. Source: International Direct Investment Database of OECD, www.oecd.org	**FDI inflows, 1980-2001, measured as logarithm. Data are in local currency which are converted into US$ at constant 1995 prices.**
GDP per capita Source: World Bank Indicators 2003 CD-Rom	**Measured as logarithm. Data are converted into US$ at constant 1995 prices.**
Population Source: World Bank Indicators 2003 CD-Rom	**Measured as logarithm. Data are converted into US$ at constant 1995 prices.**
Distance Source: www.indo.com/distance	**Between financial capitals, measured in miles.**
Openess to FDI Source: Shatz, 2001	**It is an annual rating on a scale of 1 to 5 of a country's openness to FDI. The higher values**

	indicates that the country is the most open, liberal, without ownership restrictions on business activities. 1 value indicates that an activity such as greenfields or merger and acquisition are completely blocked in the host country.
Language **Source: CIA World Fact Book, 2003**	**Countries official language Dummy variable=1 if the two countries have the same language.**
Shareholder Protection **Source: Pagano-Volpin (2004)**	**An index aggregating the shareholder rights which we labelled as "anti-director rights." The index is formed by adding 1 when: (1) the country allows shareholders to mail their proxy vote to the firm; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10 percent (the sample median); or (6) shareholders have preemptive rights that can only be waved by a shareholders' vote. The index ranges from 0 to 6. (La Porta et al. 1998).**
Corporate Tax	Data on the tax systems for host countries, 1980-

Source: World Tax Database 2001

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3.4 Measurement of Explanatory Variables: Traditional Gravity Variables

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 the 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 by international trade literature, many empirical studies have tried to explain the determinants of FDI flows using different explanatory 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[14], this research considers the relative importance of Population and GDP per capita as determinants of FDI flows.[15]

- ***Gross Domestic Product Per Capita (source and host countries):*** is a variable that is expected to be positive, statistically significant and it is a measure of the country's economic development showing that high income countries have higher level of international investment flows. The GDP per capita data are given in US$ at constant 1995 prices.
- ***Population*** is used as a measure of country size. Authors, considering trade as dependent variable in the gravity equation, conclude that since larger countries have more diversified production and tend to be more self-sufficient, population is expected to be negatively related to

[14] Sometimes, authors consider in the gravity equation GDP of the source country measures productive capacity, while that of the host country measure 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, Portès 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 (2002) use only source country GDP.

[15] Mody et al (2003), Wheeler and Mody (1992), Trade SIM (2003), use the same combination.

trade. [16] Considering foreign direct investment flows as dependent variables and, for example, given the availability of micro-data for industrial sector, it is possible to distinguish, by considering the sign of the coefficient, whether FDI flows are associated with vertical or horizontal structure[17]. In sum, population is expected to be positively or negatively related to FDI whether FDI flows are horizontal or vertical structure.

– ***Distance*** is the variable representing the resistance to trade flow between source and host countries and it is expected to appear in the gravity equation with a negative and significant sign. Usually, distance is measured by considering the geographic or minimum distance between the centres (often assumed to be the capital cities)[18] of source and host countries. The problem related to this method is that considering bigger countries such as Canada and US, the capital cities are not always the main entry point (land or sea or air border point) and are not always used for economic, political or practical reasons. As results, the measure of the economic distance can bias the estimation of the coefficients on the other variables in the gravity model. Recent studies claim that physical distance between countries may be much more than a geography measure: it is history, culture, language, social relations (some of these aspects are captured by dummy variables), transport and transaction costs. For example, considering trade as dependent variable, authors[19] conclude that greater distance between source and host country could imply high transport costs which in turn should be associated with a reduced trade flow (because more expensive) and an increasing foreign direct investment flows, or that larger distance can be associated with higher information and search costs. Portès and Rey (1999) rely on the theory of the existence of asymmetric information between investors in different countries. They examine gross bilateral equity flows and use distance to capture information costs. They also find that geography of information heavily determines the pattern of international transactions. Introducing a measure of bilateral telephone traffic to proxy for transactional distance between countries they find that informational asymmetries have a key role in the gravity model. Loungani et al (2002), investigate alternative ways of modelling

[16] Considering this conclusion, Bergstrand (1986), argues that larger population allow for economies of scale which are translated into higher exports, then the coefficient's sign of the source country would be indeterminate.
[17] Shatz, 2000
[18] Haversine formula. Coordinates from the CIA.
[19] Brainard, 1997.

transaction and transport costs. Instead of considering physical distance they consider the concept of transactional distance as a measure that encompasses the ability to communicate and undertake transactions. They argue that "distance captures more than transport costs and large distance may be associated with greater information and search costs".[20] They introduce two variables in the gravity equation: bilateral telephone traffic and telephone density. The result demonstrates that trade and FDI flows increase as transactional distance falls.[21] In this research, we calculated distance considering the geographic distance between the financial centres.

- ***Language*** is a dummy variable that equals to one if the two countries have the same language. Common language is expected to facilitate FDI flows. It is typically positive and statistically significant.

3.5 Measurement of Explanatory Variables: Institutional Gravity Variables

Country size and distance are not the only variables that can explain foreign direct investment flows, and for this reason this study investigates other control variables which are considered to be crucial to attract foreign investors. To the traditional variables, institutional variables are introduced in order to test the main hypothesis: "whether the lack of corporate governance systems and ownership restrictions constrain direct investments flows in a country, or on the contrary foreign direct investors may be able to overcome and even gain from this apparent disadvantage making efficient investments". In particular, this study considers those variables that can affect the attractiveness of a country as location of FDI: level of corporate taxes on foreign direct investment activities, openness to foreign direct investment and shareholder protection.

- ***Openness to foreign direct investment*** is an annual rating on a scale of 1 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.

[20] Loungani et al. 2002, "The Global Disconnect: the role of transactional distance and scale economies in gravity equations", pg., 530, Scottish Journal of Political Economy, vol. 49, n.5.
[21] Still, enough remain to allow conclusions about the relationship between FDI and distance.

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.[22].

- ***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 attract more foreign investors. In Stein and Daude (2002) the coefficient of this variable is positive and quite large, indicating that better and 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 (2004). 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 percent, shareholders have pre-emptive rights at new equity offerings. The value of this variables varies between 1-5. Higher is the value more is the investor protection in the country legal system. These authors extend the indicator constructed by LLSV (1998) to the entire interval between 1993 and 2001, relying on the answers 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, Israel.
- **Corporate Tax:** refers to corporate tax for all OECD and non-OECD countries and is measured as percentage of income.

This analysis expects to find that improvements in corporate governance, openness to FDI flows, lower ownership restrictions and better corporate tax policies will make countries more attractive to foreign investors, not all of these dimension are expected to have similar effects

[22] Shatz (2000) concludes that FDI openness attract more horizontal investment than vertical

4. Estimation and Results

Following the gravity approach for international trade, FDI flows are expected to be greater between countries with greater development, proxied by GDP per capita, with linguistic similarity, 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.

The logarithmic form for the estimated equation is as follows:

(1) $$ln\ FDI_{ijt} = \alpha_0 + \lambda_t + \beta_1\ ln\ (GDP_{it}) + \beta_2\ ln\ (GDP_{jt}) + \beta_3\ ln\ (POP_{it}) + \beta_4 ln\ (POP_{jt}) + \beta_5 ln\ (D_{ij}) + \beta_6\ Lang_{ij} + \beta_7\ CTax + \beta_8 Openness_{jt} + \beta_9 Shp_{jt} + \varepsilon_{ijt}$$

where i = 1, 2, 3,. .29 are the source countries; j = 1,2,3,…60 are the destination countries; t = 1980, …2001 is the time span.

- **FDI** $_{ijt}$: foreign direct investment outflow from source country (i) in host country (j) at the time (t);
- **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 financial centre of country i and j.
- **LANG$_{ij}$:**dummy variable for languages similarities that takes value 1 if the source and host pattern country share a common language. and 0 otherwise;
- **Corporate Tax$_{jt}$**: variable for corporate tax for host countries;
- **Openness$_{jt}$:** variable for openness to foreign direct investment;
- **Shareholder Protection$_{jt}$:** variable for anti-director rights;
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$ are the slope parameters
- λ_t : time effect.
- 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 I column 1, and Table 2 column 1), and secondly adding a set of different country fixed effects (see Table 1 and 2 regressions 2, 3,4).

Table 1 and 2 show four sets of regressions, all analysing the natural logarithm of the level of foreign direct investment flows by all industrialised OECD countries in 61 host countries (OECD and non-OECD). Taking FDI flows as dependent variables, a linear regression model is estimated.

In these regressions (**Table 1 and 2, columns 1)** the present study attempts to measure the impact of common language and institutional variables on foreign direct investment flows. All the coefficients have the expected signs, and most are statistically significant. The main findings are easily summarised. First, FDI flows increase with host and source country per capita incomes. The signs of the GDPs per capita are positive and significant, showing that high income countries present higher level of international investment flows. The coefficient for GDP per capita for host countries, for example, suggest that a 1 percent increase in this variable results in a 0.51 (Table 1) and 0.47 (Table 2) increase in FDI flows. The size of the coefficients for the log of source country GDP per capita is always significant and higher than one. Thus, there is evidence of scale economies in FDI flows, reflecting in part the fact that many country pairs (source - host countries) have no FDI transactions and thus FDI is more concentrated in higher income countries.[23] As expected, the coefficient for population is positive and significant. The elasticity of FDI flows with respect to distance is negative and almost -0.60 (table 1, regression 1) in the first regression. The interpretation of this coefficient is that a 1 per cent increase in the distance between financial centres is associated with more than a 0.60 per cent decrease in FDI flows, in the first regression. To account for the observed geographical concentration of FDI flows, other control variables, such as dummy variable indicating whether the host and source countries share, for example, a common language, are also taken into account. The two sets of regressions show that common language is always positive and significant. This means that foreign direct investments flow more between countries that have common language. Regressions 1 also consider λ_t which

[23] Loungani et al, 2002.

denotes time dummy as an indicator of the extent of globalization. Time dummy is always positive and often significant showing that globalization is an important factor in increasing FDI flows over the period.

Taking equation (1) as a starting point, we add source country fixed effects (column 2),

$$\textbf{(2)} \qquad ln\ FDI_{ijt} = \alpha_0 + \lambda_t + \theta_i + \beta_1\, ln\ (GDP_{it}) + \beta_2\, ln\ (GDP_{jt}) + \beta_3\, ln\ (POP_{it}) + \beta_4\, ln\ (POP_{jt}) + \beta_5\, ln\ (D_{ij}) + \beta_6\, Lang_{ij} + \beta_7\, CTax + \beta_8 Openness_{jt} + \beta_9 Shp_{jt} + \varepsilon_{ijt}$$

where θ_i: is the source country fixed effects (Stein and Daude, 2001)

According to Stein and Daude (2001), source countries fixed effects is preferred because capture all the relevant characteristics of the source countries. In **regressions 2** (Table 1 and 2) the log of FDI flows is regressed on the traditional gravity variables, on institutional variables and source country effects is introduced. Most of the coefficients have the expected sign and most are statistically significant at conventional levels. Notice that the coefficient for source country's Population appears to have the expected sign, but loses significance. One possible explanation maybe that bigger countries get more FDI flows not because their size, bur because they, for example, do not restrict foreign ownership of local business or offer a more efficient shareholder protection to foreign investors. It is important to notice also that the coefficient of corporate tax is still 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. In sum, the obtained results from regressions 2 suggest that once introduced source country fixed effects in the benchmark equation, all the coefficients remain with the expected sign and 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 and this maybe is due to the fact that foreign investors are more attracted from those countries that offer less ownership restrictions, more open markets and higher level of shareholder protection. The sign of host country population suggests that FDI flows to the receiving countries more as horizontal than vertical.

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 large effect on the level of multinational activity, as shown in all four regressions. A one-step increase in the openness indicator is associated with a (39, 41, 37, 35 percent) increase in FDI flows. Additionally, we also attempt to measure the effect of efficient corporate governance's mechanism to FDI flows using as explanatory variable a "shareholder protection" measure as measured by Pagano and Volpin (2004). The shareholder protection coefficient is always positive and significant (in columns 3 and 4 the coefficient is significant at 10 percent level). A one percent increase in the shareholder protection measure is associated with about (15, 19, 14 percent) higher levels of FDI flows. This result suggests that FDI flows are attracted from countries which offer higher shareholder protection and thus a more efficient corporate governance's mechanism. In conclusion, taken together, the results of table 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 are more likely to be attracted in countries whose governments do not restrict foreign ownership of local business, in countries where governments offer corporate tax policies, and in countries offering higher level of shareholder protection. Then, this empirical test shows that countries' attractiveness to foreign investors is quite closely linked to the degree of openness and shareholder protection of their policy.

This analysis also investigates that, not only the relationship between openness, shareholder protection and FDI flows is positive but this relationship is quite strong in countries which offer higher level of openness. This second relationship is measured by introducing a set of new dummies in **Table 2**.

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

These five dummies capture the link between changes in openness patterns and shareholder protection measures. 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 less ownership restrictions associated to a more efficient corporate governance's 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 lower level of openness, shareholder protection is also low. Thus, this result confirm the economic theory that less open countries are characterised by stronger ownership' restrictions and a weak corporate governance's mechanism. Conversely, the coefficient of the interacted variable becomes positive once countries present higher level of openness and less ownership restrictions. Additionally, these results suggest that foreign firms are more likely to establish joint ventures with domestic investors when these impose ownership restrictions, higher barrier to entry and at the same time can provide information about and access to local distribution channels. This mode of entry characterises, for example, less developed countries which present all of the above mentioned characteristics. On the contrary, less restrictions and protection of investors facilitates FDI flows and positively influences business attitudes. Open market and investment regimes are particularly powerful instruments to attract investment in general and FDI in particular.

5. Preliminary Conclusions

What can host countries do to become more attractive to foreign investors, and benefit from their activities? We have investigated the determinants of bilateral foreign direct investment flows across countries. In particular, it explores the role played by institutional variables on FDI location and mode of entry into a foreign market. It finds that the quality of corporate governance institutions and mechanisms have positive effects on FDI flows. The impact of shareholder protection and openness to FDI variables are always positive, statistically significant and economically very important. Thus, this result confirms the economic theory that fewer ownership restrictions, greater openness to foreign investors and efficient

investor protection facilitate the access to foreign direct investment flows. In particular, foreign investors will prefer merger - acquisition or greenfield projects as effective modes of entry into a foreign market.

Table I - Corporate Tax, Shareholder Protection and Openness to Foreign Direct Investment Flows.

Dependent Variable: Log Foreign Direct Investment Flows				
Equation	**(1)**	**(2)**	**(3)**	**(4)**
	POLS	**With Source CTY FE**	**With Host CTY FE**	**With CTY Imp and Exp FE**
Log Distance	**-0.603***	**-0.712***	**-0.737***	**-0.899***
	(0.068)	**(0.058)**	**(0.084)**	**(0.083)**
Log host	**0.576***	**0.577***	**-2.854****	**-3.208***
Population	**(0.055)**	**(0.045)**	**(1.246)**	**(1.113)**
Log source	**0.946***	**3.087**	**0.972***	**2.594**
Population	**(0.045)**	**(2.739)**	**(0.040)**	**(2.581)**
Log host per	**0.512***	**0.470***	**1.600***	**1.505***
capita income	**(0.074)**	**(0.067)**	**(0.487)**	**(0.441)**
Log source per	**1.582***	**2.578***	**1.625***	**2.903***
capita incombe	**(0.126)**	**(0.734)**	**(0.110)**	**(0.700)**
Common	**1.381***	**0.823***	**1.310***	**0.646***
Language	**(0.234)**	**(0.175)**	**(0.205)**	**(0.178)**
Host Corporate	**-2.229***	**-2.182***	**-2.016**	**-1.222**
Tax	**(0.748)**	**(0.605)**	**(1.539)**	**(1.405)**
Shareholder	**0.154***	**0.194***	**0.152*****	**0.136*****
Protection	**(0.043)**	**(0.036)**	**(0.090)**	**(0.075)**
Openness to FDI	**0.395***	**0.413***	**0.369***	**0.346***
	(0.079)	**(0.068)**	**(0.083)**	**(0.073)**
Constant	**-39.727***	**-76.823****	**3.055**	**-23.707**
	(2.310)	**(35.747)**	**(18.051)**	**(36.556)**

Observations	**3666**	**3666**	**3666**	**3666**
R-squared	**0.520**	**0.609**	**0.595**	**0.688**

Robust standard errors in parentheses *** significant at 10%; ** significant at 5%; * significant at 1%

TABLE II - Corporate Tax, Shareholder Protection, Openness to Foreign Direct Investment Flows and Interacted Variables.

Dependent Variable: Log Foreign Direct Investment Flows

Equation	(1) Benchmark	(2) With Source CTY FE	(3) With Host CTY FE	(4) With CTY Imp and Exp FE
Log Distance	-0.643*	-0.757*	-0.737*	-0.899*
	(0.069)	(0.060)	(0.084)	(0.083)
Log host	0.623*	0.626*	-3.294*	-3.650*
Population	(0.056)	(0.046)	(1.247)	(1.122)
Log source	0.950*	3.041	0.971*	2.667
Population	(0.044)	(2.825)	(0.040)	(2.581)
Log host per capita	0.472*	0.432*	1.327*	1.250*
income	(0.074)	(0.067)	(0.502)	(0.455)
Log source per	1.598*	2.647*	1.627*	2.930*
capita income	(0.121)	(0.743)	(0.110)	(0.688)
Common Language	1.427*	0.872*	1.312*	0.647*
	(0.234)	(0.180)	(0.205)	(0.178)
Host Corporate	-2.204*	-2.133*	-1.998	-1.199
Tax	(0.752)	(0.616)	(1.530)	(1.396)
Openness to FDI	0.200***	0.217**	0.322**	0.326*
	(0.103)	(0.092)	(0.135)	(0.119)
Shareholder	-0.279*	-0.251*	-0.070	-0.071
protection if	(0.084)	(0.073)	(0.176)	(0.144)
openness ≤1				

Shareholder	**-0.105**	**-0.061**	**0.045**	**0.043**
protection if	**(0.083)**	**(0.070)**	**(0.156)**	**(0.128)**
1≤openness ≤ 2				
Shareholder	**0.175***	**0.225***	**0.128**	**0.124**
protection if	**(0.061)**	**(0.053)**	**(0.103)**	**(0.084)**
2≤openness ≤ 3)				
Shareholder	**0.157***	**0.195***	**0.171*****	**0.148*****
protection if	**(0.052)**	**(0.044)**	**(0.096)**	**(0.081)**
3≤openness ≤ 4)				
Shareholder	**0.223***	**0.266***	**0.125**	**0.096**
protection if	**(0.047)**	**(0.037)**	**(0.100)**	**(0.086)**
4≤openness ≤ 5)				
Constant	**-39.259***	**-76.263****	**12.552**	**9.695**
	(2.304)	**(36.702)**	**(18.381)**	**(39.549)**
Observations	**3666**	**3666**	**3666**	**3666**
R-squared	**0.530**	**0.619**	**0.595**	**0.689**

Robust standard errors in parentheses *** significant at 10%; ** significant at 5%; * significant at 1%

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