The Effects of Host Country Governance on Long Term Investment by Foreign Owned Establishments

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Abstract
This paper investigates the relationship between the ‘time horizon’ of establishment level investments and governance in the context of Foreign Direct Investment. At the national level, the structure and flow pattern of FDI has been the subject of much research, partially due to the effects FDI may have on the host country. The duration of firm-level investments has been potentially linked to the nature of these effects. Furthermore, the governance of the host country has been connected to the overall level of FDI the country receives although the empirical results have been mixed. This paper uses micro-level datasets to estimate the possible effects of host country governance on specific long-term investments by establishments. Measures of long-term investment are used from the labor and capital input sides of production. The labor variable is a binary measure of firm provided training. The establishment’s capital-labor ratio serves as the capital variable for investment. Both country level measures of governance and the surveyed perceptions of establishments are used to provide a comprehensive description of governance. Additionally, the relationship between investment and the host country’s illiteracy rate is examined. The results of the probit and linear regression models yielded negative relationships between the measures of the governance and investment in almost all cases. The illiteracy rate was shown to have a strong negative relationship with training programs but a weaker positive relationship with capital-labor ratios. The conclusion of this paper provides a discussion of the results and their implications.

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Introduction

Renewed academic interest in the possibilities of Foreign Direct Investment surged in the 1990s along with an actual surge of these flows. However, despite this aggregate increase in FDI, the proportion of FDI going to developing countries decreased. There was little change in the amount of direct investment going to countries classified as Least Developed by the United Nations, but a steady increase in the amount to the top 10 recipients (China, Brazil, Mexico, Argentina, Malaysia, Poland, Chile, the Republic of Korea, Thailand, and the Republica Bolivariana de Venezuela). According to the World Bank's 2001 *Global Development Finance* report, the major challenge for developing country governments in attracting FDI is the establishment and maintenance of a favorable, business-friendly, climate for investment. There have been various attempts to document patterns of FDI both in terms of popular investment sectors and general models of investment strategy. The 1990s outburst of FDI leads to several questions about the nature of FDI and why it occurs more often and in different ways in certain areas. A particular facet of investment is the time length over which it is carried out. Whether or not the direct investment indicates a position of long-termism or short-termism by the investor seems to be linked to the effects it has the potential to generate within the host country. In this paper, I will investigate the potential choice of FDI establishment investors to invest for the short or long term as a function of perceptions of host country policy.

Firms Impact the Areas in which they Operate

Due to the firm's basic nature as an engine of production underlying market economies some people think that production facilities (plants/factories) can impact the economies in which they operate. On a simple level these proposed effects, which can be both positive and negative may be seen in a number of ways. Possible effects may be on employment, taxed revenue, physical production, and human capital development, among others. In the case of productivity gains, market (allocation) enhancement, increased research and product development, externalities, intra-industry spillovers and overall growth, the potential effects of establishments are less understood and need longer periods of observation to determine if they exist. Of course, the effects wrought by plants differ based on the condition of the country in which they operate as well as on their individual characteristics. For example, a 500-person assembly plant opening in a country with little industrial development and high unemployment would have proportionately more impact on the local economy than the same scale plant opening in a heavily industrialized area that is already close to full employment. Generally, it seems that plant/
factory openings should have more noticeable effects in developing economies than they do in already developed (OECD) nations. There are fewer such establishments to begin with and usually fewer opportunities to start an operation in less developed countries (LDCs).

Foreign Owned versus Domestic Owned Firm: Plant Effects

FDI plants have been of special interest in developing economies because they are usually structured differently than domestic firms and often have other distinguishing features such as sources of finance, technology etc. Some posit that these differences may lead to different effects on the host country’s economy and people. In terms of effects such as revenue generated, there is little to differentiate foreign-owned establishments from domestically owned ones. However, there appears to be significant variation among the more indirect and longer term effects such as technology transfer, created by these two types of establishments. Several studies have found that domestic LDC enterprises are likely to be small, relatively weak, and technologically behind their international counterparts (Blomstrom and Kokko 1997). There may also be vast differences in markets served, degree of protection and availability of skills accessible to domestic firms (Blomstrom and Kokko 1997). Foreign owned firms/plants often have corresponding advantages (particularly if they are a subsidiary of a multinational) such as outside funding, tested production techniques, new technology, and proven managerial know-how (Ramstetter 1999). The indirect effects of these foreign owned establishments are thought to stem largely from these advantages and from their acceptance of the market environments of their home countries. Despite being thought of as mostly positive, these effects may be negative when they are a result of plant owners/operators taking advantage of lax host country policies and insufficient enforcement or existence of law. Examples of such negative effects could be damage to the environment and relatively poor working conditions.

Technological, wage, and knowledge spillovers are a few of the most commonly referenced effects of foreign owned firm and plant operation in LDCs, and are thus the most common targets of scholarly investigation. The operation of a Multinational Corporation (MNC) or foreign owned plant has the potential to sped technological development by making it easier for domestic firms to copy/observe technology (or technique), by direct sharing of information with local component suppliers, and through the training of local workers who can later get jobs at domestic firms (Campbell and Vousden 2003). Wage spillovers have also been the subject of several studies and the model case is one in which the relatively high wage paid by the foreign-owned components of the industry filters into other sectors of the economy (Saggi 2000). Spillovers of
managerial or marketing knowledge have no precise scope but do seem to be particularly evident in the operation of foreign owned plants within LDCs (Saggi 2000). Unfortunately, it is sometimes the case that with such spillovers come processes and technologies that are harmful in some way, particularly to the environment, with which the frail systems of the country cannot cope. The potential alone that these effects may be real in practice provides motivation for further inquiry into the investment practices of FDI establishments.

Some of the other effects that are often uniquely associated with foreign owned operations are related to the standard business and market environments of developed nations and to common international business practices. Improvement in the credibility and feasibility of contracts is one example outcome of foreign owned plant participation in specific segments of domestic markets (Gow and Swinnen 2001). The theory behind this improvement is based on studies of up versus downstream effects of foreign owned plants. In these models there are several potential domestic suppliers of inputs (ex. agricultural processing) and each must adhere to their contractual obligations to the FDI firm in order not to lose business, despite the weakness of the legal system. The extension of credit to local suppliers or customers is also specific to foreign owned operations because they are, normally, much more financially stable and can often exert more pressure on borrowers than can smaller domestic firms in the unstable institutional/political environment of most LDCs (Foster 1999). Since international standards of training and production are not met by many industries in LDCs, there is also the possibility that training and information may be provided along the production chain by foreign owned operations (Foster 1999, Gow and Swinnen 1999). These intangible effects are merely examples of some of the ways in which foreign controlled operations are sometimes based on a different set of operating principles than domestic ones, and that these differences can potentially be seen at the plant level.

Other features of the entrance of foreign owned operations into developing countries prompts interesting questions about the structure of the establishment’s investments because, according to some, their entry can have much broader effects on the overall economy than the simple multiplication of those already described. Entrance into the host country market could radically alter the structure of the relevant domestic industry making it more or less competitive. Much of this body of theory supposes that entrance will increase competition in the domestic market, including purely export markets (Helleiner 1989). It is presumably the case that resources within the country are allocated more efficiently with the entrance of a foreign owned firm because resources would potentially be re-allocated to more efficient uses possibly provided or spurred by the entering FDI firm (Helleiner 1989). The host country’s government may also acquire a reputation from its dealings with foreign owned firms. The firm owner’s (investor’s) perceptions of the conditions in the country and how well the plant
operation proceeds may have enormous influence on the decisions of other international investors (Akhigbe and Martin 2000).

Effects Driven by Foreign Firms can be Measured

While it has been difficult to quantify the effects purported to be driven by FDI firms, empirical studies of the effects generated by foreign owned operations have used data gathered from a variety of sources, and continue to provide fuel for those studying more specific situations. Case studies of individual firms, industries and countries have been frequently used to determine supplier/customer effects of FDI. Types of contract/credit relationships and information about training etc. was gathered and used successfully by Lall (1980) to look at forward and backward linkages in Indian truck manufacturing, and by Foster (1999) to look at credit in the CIS-CEE countries. Similar types of information were used by Gow and Swinnen (1999, 2001), among others, to look at downstream effects of FDI in Agriculture. Survey data collected by institutions, such as the World Bank, has helped establish findings about spillover effects, productivity, and human capital development. These surveys are generally assessed to be reliable sources of information and are often the only means of generating data about such indirect effects. More direct measures drawn from officially reported numbers, such as census data, wage, and export amounts have been relied upon to support and compare survey information. Sources from the government of the country are usually assumed to be trustworthy; however, the political situation of the country and non-officially stated reasons for requiring the information to be gathered must be kept in mind. Such concerns are helpful when analyzing the soundness of conclusions reached about the effects of foreign owned operations.

Criteria for Investment Decisions

The investment decision made about the operations of foreign owned establishments have been studied relatively less then the overall flows and determinates of FDI mostly because of data constraints. To more fully appreciate the complexity of foreign owned plants it is necessary to assess the reasons investors (owners) may make decisions regarding plant location and specific operational investments. For this discussion I assume that operating abroad is more profitable than operating in the home country at the margin; since otherwise the question about the determinants of foreign investment would be misleading. In other words, the decision to go abroad with the plant has been made. Where exactly to locate, what types of production process to use, and how
long to operate are the main decisions of interest for this question. However, it must be acknowledged that the two aspects of the total decision set, to expand abroad and where to locate are often inextricably linked.

Standard Determinants of Overseas Investment

Models utilizing general characteristics of investment decisions have been used for a variety of applications including trade flows and have explanatory power that goes beyond an analysis of multinational affiliate locations (Anderson and Wincoop 2001). Many of the single plant decisions faced by multinationals, and their affiliates, are the same as those faced by foreign investors when considering beginning plant operation or the formation of a joint venture. When considering physical investment there are several factors that account for a high proportion of plant location decisions. Standard factors such as host country size, transport costs, distance from investor country, and host country ‘remoteness’ were used by Shatz in a study of Multinational affiliate locations. He found that about two-thirds of the variation in location was explained by these factors (Shatz 2003). Another set of decision factors are ‘border barriers’ which may include differences in language, culture, customs and business regulation between the investor country (home) and the host country under consideration (Anderson and Wincoop 2001). Most of the gravity-model factors, barring great variation in specific ‘border barriers,’ are similar for countries within the same region and can be given different weight based on specific firm/investor considerations. While these factors explain a great deal of the variation in plant decisions, they have less power to explain why some investments can be classified as long-term while other types as short-term.

Production Level Considerations

Additional decision factors include those directly related to operational inputs that can further influence decisions once entry into a certain market has been decided. Examples of such factors are the level of labor force education, prevailing wage rate, and market structure of the domestic industry. There have been two general theories about the impact of the overall education level on investment decisions. Proponents of one theory assume that lower wages make up for lower productivity, and assert that Multinational Enterprises (MNEs) seek low education levels to escape paying higher compensation (Shatz 2003). However, the alternate theory, which was substantiated by Shatz is that businesses can more easily train educated workers (if that is necessary) and that better educated workers can also perform a larger variety of tasks (possibly reducing unit costs) and so MNEs desire a better educated labor pool from which to draw. The wage rate of the industry and the potential of the new operation to increase the general wage level must also be weighed in the decision making process (Lipsey and
Sjoholm 2004). In addition, there are a number of ‘soft’ factors which are suspected of continued involvement with the decisions even after the country and market have been chosen.

**Country Specific Environment Criteria**

‘Soft’ factors in the decisions are comprised of qualitative judgments about the investing/operating environment of the countries and are not easily measured. ‘Soft’ factors are those that are usually left out of the gravity model, and are centered on issues of host country governance. Given the wide variety of policy, especially toward business in developing countries, it seems that these types of factors may influence investment decisions. Governance includes the aspects of developing countries that often highlight their distance from developed countries. The term governance can include aspects of intent, such as policy quality, and of implementation/enforcement. While having an independent judiciary on paper is helpful, it means next to nothing if laws are not enforced or the government does not exert the control needed to maintain basic order. One train of thought emphasizes the need for stability in order to attract productive investment, leading to a situation where already developed countries become the best locations for investment. However, as can be this picture cannot be entirely correct since it does not explain why there is so much investment in LDCs. Another train of thought draws on the real limitations of these developed markets to absorb all possible investment to explain the investments made outside of these markets. Investors also have varying projects and differ based on their acceptable level of risk. So, the question remains, to what extent do issues of governance affect the decisions of investors? The evidence presented about this question has been mixed, but there have been several recent studies that do affirm the importance of institutional factors. It seems that foreign direct investment should flow to countries that have better governance, that are more stable. Although there are several ways in which to subdivide issues of governance, taken as a whole, the results have been somewhat inconclusive. Singh Jun found in his 1995 paper that a qualitative index of political risk factors was a significant determinant of FDI flows for countries that have historically attracted FDI flows. A similar conclusion was found when Morisset looked at African countries (2000) and noted the success of countries’ governance image-building in attracting FDI. At a micro level most of the country indicators rely on the perceptions of governance held individuals and businesses within the country.
Do ‘soft’ factors influence the “time horizon” of investment?

**How Factor Measures Change**

The country specific ‘soft’ factors described change relatively slowly and, like gravity model factors, are ordinarily similar for countries within certain regions. Over the last several years there have been only incremental changes in the relative rankings of countries by indices like those compiled by the World Bank. Despite similarities within regions there are important variations between individual countries that may or may not be greater than the variation between gravity variables within the specific region. While there is of course some doubt about the legitimacy of exact numerical scores given to countries, since they are based on perceptions, the relation of countries and meanings of the scales do have established parameters for use. The direction or consistency of a country’s rating remains important in judging medium to long term outcomes. Though disputable, it seems intuitive that backsliding into worse ratings and perceptions hardly makes investments look attractive and may scare away capital. Likewise, consistently improving and or maintaining a high rating has not been shown to have negative effects. Predictability of conditions seems to be crucial to those making direct investments as it affects the expected return of those investments issues of governance, will likely impact the specific decisions of investors, as these ‘soft’ factors measure the risk and so the expected return of investing. Also, given that the intangibles measured by governance indicators cannot be themselves directly measured, perception takes on a much greater role as a real variable than it would if the actual amount of, for example corruption, could be accurately measured.

**Implications of ‘Soft’ Factors for Investment Decisions**

Poor governance, especially in relation to the rule of law, corruption, and violence can have very dire consequences for operations, including the death of employees and total loss of all invested money in the worst cases. At another level, the attitude of the Country’s government toward business could impact the profitability and ease of operation of a plant so that exact regulations are important as well. Chances that the political tide would become unstable or the government could change to a less market/foreign friendly policy one seem to be additional criteria considered by investors. Such disruptions would likely cause damage and or simply increase uncertainty about the duration of the establishment’s profitable operation. It seems then that the more precarious or hostile to business the investment environment of a country is the less foreign owners/investors would want to be exposed to that risk, if they decide to invest at all. There is a corresponding possibility that investments will be structured differently so as to minimize this risk. This paper will seek to understand the nature of the
relationship between ‘soft’ factors and the investment strategies followed by foreign firms/owners of establishments in developing nations.

Specifically, the time horizon, or how long the plant owners expect to operate, will be the investment choice of interest. The suggestion is that in a more volatile country with poorer governance, it is possible that the ‘time horizon’ of operation may be shorter than those of establishments operating in stable environments. It is also possible that expectations of operational feasibility and risk level may be adjusted after the initial investment is made when the owners/operators of the plant have a more refined idea of the exact political/governance situation of the country.

Literature Review

There was a resurgence of interest in Foreign Direct Investment in the 1980s and 90s after commercial bank lending to developing countries fell precipitously (Harrison 1996). According to the Handbook of Development Economics, the benefits of FDI for host countries may include better access to scarce inputs (including skills), a more efficient domestic allocation of resources, favorable changes in the structure of domestic competition, increased government revenue, and increased employment. Alternatively, the effects of entry on the domestic market structure may not be favorable, government revenue and employment need not increase, and the country may be forced to absorb negative externalities like pollution (Helleiner 1989). Despite the range of possible outcomes of foreign direct investment, it is now fairly well accepted by several institutions, including the World Bank, that if pursued and regulated correctly, FDI can have a positive impact on the host country. For large investments, or for relatively closed economies, the bargaining position of both parties, the host country government and foreign firm, is very important as the set up of the investment arrangement can greatly alter the effects felt by the host country (Helleiner 1989). Countries in some areas “compete” for FDI by offering advantages for would-be international investors (Harrison 1996). The literature surrounding the determinants of FDI on both a national and investor basis will be discussed presently.

The major choices facing investors are whether or not to produce abroad and what model of operational control to follow. Kamal Saggi discusses possible issues surrounding each choice in his survey of technology transfer in the contexts of FDI and trade (Saggi 2000). The decision to invest abroad is based on largely the same kinds of calculations that would be used to determine the necessity of building a new domestic establishment with a few differences reflecting the special nature of overseas investments, such as increased transportation costs.
and the possibility of a market in the host country. For this thesis, the decision of the investors to make an investment is taken as given; the specific nature and local determinants of the plant-level decision are the analyzed components. With respect to the type of operational control, the question becomes more involved and the value of choices such as having an affiliate partner, changes with the nature, sophistication and rarity of the technology involved. It seems plausible in this context that the nature of later plant-specific investments may be partially dependent on the type of ownership structure governing the plant.

Ann Harrison uses various measures to explain the level of foreign direct investment in Côte d’Ivoire, Morocco, and Venezuela in her paper “The Determinants and Effects of Direct Foreign Investment” (Roberts & Tybout 1996). Harrison developed a model to show the contribution of various factors to the FDI in a particular sector. She uses two measures of foreign direct investment, the share of foreign investment in total assets within each sector and the log of the total stock of foreign investment in a particular sector. The independent variables in her regression are; import penetration (proxy for trade protection), Herfindahl index, regulation, sector labor-capital ratio, market size, wages, and cost of pollution abatement. Import penetration and market size were found to have statistically significant coefficients. Coefficients for the costs of pollution abatement and the Herfindahl index were also found to be significant; showing a positive relationship for greater cost and less concentration respectively. The measure to capture the effect of entry regulation was on a scale from 0 to 2 with 0 indicating no restrictions on FDI and 2 indicating that FDI is prohibited. Harrison suggests that the measure might have lacked significance because restrictions on entry are usually only erected once there is a large amount of foreign investment, complicating the relationship between the variables. However, the paper does not justify the usefulness of such a broad and simple measure of regulation to explain variation in foreign investment, particularly when the depth and breadth of regulation to discourage or encourage foreign investment in developing countries is so great.

The general results reached about the total determinants of FDI flows should also hold for decisions made by foreign investors in plants/factories since the situations are very similar. In the largely unsettled debate regarding the determinants of FDI one can make a distinction between hard and soft determinants, as previously mentioned. ‘Hard’ will refer to those determinants that are more commonly accepted as such, partially derived from trade theory and that are static. Distance between source and host country and common language are examples of such determinants. ‘Soft’ determinants will be those that have the potential to change and that are subject to interpretation. They are the main points of controversy in the debate about the reliability of determinants. For the most part they are intangible. Aspects of the quality of host country governance fall into
this category. Hard determinants are peripheral once a country for investment has been decided upon, whereas soft determinants may continue to play a role in future plant level decisions after the country or region has been determined. Most of the literature on the determinants of FDI is based on the determinants with regards to multinational enterprise affiliate locations.

Howard Shatz uses the standard gravity model as derived by Deardorff (1998) and used by Anderson and Wincoop (2001) as the basis for determining the location of multinational affiliates (2003). Despite the slight indications that the determinants of horizontal production, when products are produced for sale in the host country, and vertical production, when products are produced for export can be different, Shatz adapts the gravity model commonly used for trade to explain multinational affiliate locations using the following form to begin his analysis:

\[
X_{ij} = \frac{Y_i Y_j}{Y_w t_{ij}} R_j
\]

\(X = \text{Level of Exports from country } i \text{ to country } j\)
\(Y_{ij} = \text{Income in country } (i,j)\)
\(Y_w = \text{World income}\)
\(t_{ij} = \text{Transport cost from country } i \text{ to country } j\)
\(R_j = \text{Host country } (j) \text{ remoteness}\)

In this the standard model, the volume of exports is negatively related to both transportation costs and the remoteness, meaning there is less export competition. Exports are positively related to the size of the two countries relative to world income.

While there is reason to believe the gravity variables will work in the same direction for both horizontal and vertical production models, Shatz points out some areas in which the direction of effect is open to question. The cost of transportation may differ depending on the need of the affiliate to trade with the parent company and on other factors related to the type of production. Exports may also serve as a proxy measure for the costs of coordination between the main company and the affiliate location. These costs can include infrastructure difficulties such as inefficient ports and customs operations. Shatz’s final equation took the form:

\[
\ln(S_{ij}) = \alpha + \beta_1 \ln(Y_j) - \beta_2 \ln(t_{ij}) + \beta_3 \ln(R_j) + \epsilon_{ij}
\]

\(S_{ij} = \text{the sales of the affiliate in country } j\). The other variables have the same representation as they did in the standard model. Shatz uses the GDP-weighted distance of each host country from the rest of the world as the measure or remoteness. In his study of US multinational affiliates Shatz finds that the costs of trade and
 remoteness variables are economically and statistically significant in explaining the level of sales of the affiliate. Taken as a whole, Shatz’s gravity model explains two-thirds of the variation in location of the sample affiliates.

What differentiates Shatz’s evaluation of location determinants in addition to his data source (BEA) is the use of education to test the hypothesis that multinationals locate affiliates in low-skill areas, ostensibly to avoid the higher compensation costs of a better educated workforce. Since higher education levels are associated with “high levels of other aspects of economic and human development, including income, health, infrastructure, and sound economic policy making” they are difficult to isolate (Shatz 2003, 118). Upon testing this hypothesis in the context of the gravity model, Shatz finds that the low-skill hypothesis does not hold true and that businesses actually locate in places with better education. This is possibly because training educated workers is easier and because better-educated workers are often more flexible; they are able to “handle” a variety of tasks. Under the hard/soft distinction education is classified as a soft determinant of investment.

Avik Chakrabaiti (2003) also uses the standard gravity model but adds exchange rates and a different ‘soft’ determinant, political risk. The analytical model he develops uses a single source country and two host countries, allowing for product differentiation. Political stability in the model is given by the probability that the revenue generated is retained by the multinational. This probability lowers the potential “mark up” value, making the kinds of products produced more competitive, thus motivating further FDI in the host country.

Other evidence that soft determinants matter for investment at a global level is considerably mixed. Part of the problem in establishing the scope of effect for soft determinants lies in the various definitions and methods used to measure and test their effects. An early study of US direct foreign investments in the marketing sector conducted by Peter Bennett and Robert Green (1972) used the Feierabend index as a measure of political instability. The result of their statistical analysis was that the soft factor of instability was not a major determinant of investment unless considered within the context of both region and level of economic development. In 1985 Friedrich Schneider and Bruno Frey did find evidence of a negative correlation between political violence (strikes and riots) and FDI inflows. Conversely, the soft measure used by David Wheeler and Ashoka Mody was found to have no appreciable impact on the level of FDI. The Mody and Wheeler soft factor was a broad combination of indicators meant to measure the administrative efficiency and political risk of each host country. Their study also covered only manufacturing investments made by US multinationals during the 1980s.
More recent studies focusing on specific soft factors, such as corruption have more consistently shown their relationship with foreign direct investment. In 1995 James Hines determined that Americans invest relatively less in more corrupt countries and that this behavior may be attributable to the Foreign Corrupt Practices Act. Shang-Jin Wei came to the same conclusion for investors from the major FDI source countries in papers published in 1997 and 2000. In “Corruption and Composition of FDI: Firm Level Evidence,” Wei and Smarzynska discuss the possible preferences that foreign investors (and multinationals) might have regarding the ownership structure, joint venture as opposed to wholly-owned subsidiary. Their results indicate that the increased presence of corruption corresponds to a decrease in foreign direct investment. They also found that the preferred ownership structure tilted toward joint ventures in the presence of more corruption, presumably because corruption makes the local bureaucracy less transparent thereby increasing the value of a local partner who ‘knows the ropes’ and can smooth the way for business.

Harinder Singh and Kwang Jun examined the effects of political risk, business conditions, and macroeconomic variables on foreign direct investment, and found significant relations for some subsets of countries (1995). The strongest variable for explaining why a given country attracted foreign direct investment was export orientation, especially with regard to manufacturing. In measuring sociopolitical instability Jun and Singh first used the Business Environment Risk Intelligence’s Political Risk Index. This index includes the following components:

- fractionalization of the political spectrum
- linguistic, ethnic, and religious fractionalization
- coercive political risk
- societal conflict involving demonstrations and street violence
- other symptoms of political risk

The second measure of political risk used was drawn from the annual report of the Industrial Labor Organization and expressed the number of work hours lost in industrial disputes per year. For a subset of countries that did not have a history of attracting relatively large flows of FDI, this measure exhibited a negative impact on the flow of investment. Political risk was also a significant determinant of FDI flows for countries that had historically attracted high levels of FDI.
It is part of the hypothesis of this paper that the soft determinants of governance also influence the time horizon of plant specific investment. Evidence of the ‘time horizon’ of investment can take different forms in different industries. Types of production processes may vary depending on the length of time, the irreversibility, the investors plan to operate in the host country. As a result, general measures of investment intention are needed to make comparisons between plants without taking into consideration the specific function and products of each plant. Training provided to workers and the plant’s capital-labor ratios are two such measures that can serve as indicators for the time horizon of the plant investment.

Worker training can serve a few purposes. Controlling for the gender, marital status, education, and job grade level, Karen Gaertner and Stanley Nollen found that training and experience can influence employee skill levels (1991). Their results were notably strong where factory employees were concerned and showed that those with more experience and more “on-the-job” training received better performance ratings than their counterparts with less experience and no training (1991). Despite their use of only US plants, the results of the paper are sufficient to be generalized and similar claims have been shown in other studies. If a hypothetical firm planned to operate for only a short time, it would seem to be a waste of resources to train workers and then not collect on the improvements wrought by the training.

Albert Zeufrack, in his study of worker training in Thailand using World Bank firm-level survey data, explained the country’s unexpectedly high training equilibrium. Thailand’s high level of training was unexpected because standard human capital theory (as developed by Gary Becker, 1964) would predict an outcome where no training would be provided for workers under the existing market conditions. To establish his claim Zeufrack relies on the literature of the 1990s, the models of which show “that, contrary to the human capital theory, labor market frictions and imperfections like unions, minimum wage policy, [and] asymmetric information could lead firms to invest more in general training” (Zeufrack 1999, 2). Essentially, the possibility of unemployment confers some level of monopsony power on the firm, allowing it to retain some of the benefits accrued to workers through training. In the case of Thailand in 1996, however, the market was characterized by low unemployment and a shortage of skilled labor. Zeufrack goes on to argue that even in Thailand’s extreme oligopolistic setting, one common to many developing or newly industrialized nations, firms can still find training to be an optimal investment.

Zeufrack’s model demonstrates that shifts in the slopes of the wage and marginal productivity curves, induced by labor market imperfections, will lead to a high training equilibrium through Nash bargaining. Wage compression due to an increased minimum wage, labor market segmentation, and high turnover costs are a few
frictions that provide insight into the result of the model. In the empirical estimations of the paper, Zeufrack determines some significant associations. He found that plant level investments in formal training were positively associated with firm size, level of worker education, research and development expenditures, quality control, labor productivity and joint programs with other firms. There was a negative association uncovered between formal training and both the age of the firm and a measure reflecting the proportion of female workers. The empirical results do support Zeufrack’s model and explain why firm may opt for training even in an oligopolistic setting.

\[
L_S^E - L_S^D = 2 \sqrt{\frac{F_0}{\beta}} - \frac{4F_0(2-\rho)}{A}
\]
\[
A = 2(2-\rho) \sqrt{F_S \beta}
\]
\[
L_S^E - L_S^D = 2 \sqrt{\frac{F_0}{\beta}} \left(1 - \sqrt{\frac{F_0}{F_S}}\right) > 0 \text{ since } F_0 < F_S
\]

\(L_S\) is the pool of skilled workers trained by the MNC
\(L_S^E, L_S^D\) are the amount of LS under Entry and Deterrence
\(F_0, F_S\) are the fixed entry costs of the local firm \((F_0 < F_S)\) and \(F_0 > 0\)
\(\beta\) is the slope of the inverse demand function faced by the MNC in the first period
\(\rho\) is a discount factor

(Campbell & Vousden 2003, 37 - 40)

In an article detailing the process of technology transfer from foreign owned to domestic firms, Neil Campbell and Neil Vousden develop a model where a multinational would pay for worker training. Their critical assumption is that the government of the host country is “prohibited from discriminating in favor of the local entrant” (Campbell & Vousden, 2003, 37). In the two-period model, the multinational is first a monopolist facing possible entry. The choice that the monopolist faces is between accommodating and deterring entry of the local firm. Using the Cournot model for the algebraic results, Campbell and Vousden arrive at the following equation representing the difference in training under the different multinational response strategies.

\[
L_S^E - L_S^D = 2 \sqrt{\frac{F_0}{\beta}} \left(1 - \sqrt{\frac{F_0}{F_S}}\right) > 0 \text{ since } F_0 < F_S
\]

\(L_S^E = \text{Value of Skilled Workers under entry accommodation}\)
\(L_S^D = \text{Value of Skilled Workers under deterrence}\)
\(F_0 = \text{Fixed entry cost of local firm (deterrence point)}\)
\(F_S = \text{Fixed cost of local firm at maximum monopolist profit from deterrence}\)
Their equations, at the point of indifference between MNC strategies, show that the level of training under the entry accommodation strategy is greater than the level of training under the deterrence strategy. This surprising result makes logical sense when the deterrence strategy is such that the MNC uses the restriction of worker training to increase the price of skilled labor, thus increasing the entry costs of the local firm to the point where entry would be unprofitable. Other results of the model are increased number of workers trained in the presence of a government subsidy for that purpose and an ambiguous result about whether the socially optimal level of training would be met by the multinational. The strategy of accommodating entry seems to apply to those firms with a long-run position. In the longer term it is unlikely that the firm could continuously deter entry, given the fluid nature of developing economies. Corruption, while possibly providing an avenue for non-training deterrence, and nepotism, both of which are present in the bureaucracy of many countries may make accommodation the most reliable strategy to pursue.

Alternatively, some foreign investment firms may rely more heavily on low-skill labor and greater capital. Capital investment, a “commitment of resources today in order to secure positive cash flows in the future,” can be seen by investments in real assets (e.g. machinery, buildings and land) (Gandemo 1992, 39). Although the line between capital investment expenditures and operating expenses is sometimes difficult to define, common alternatives to capital investment include leasing machines and equipment, hiring office space, and in the difference between leasing and buying land (Gandemo 1992). These distinctions fit well with the common theory that foreign investors will move locations should the conditions of operation become unfavorable. Light machinery may often be moved but large capital items may lose value if liquidated. It should be much less costly to drop a lease than to abandon or sell land in a quick response to unfavorable local conditions.

Virtually all of the literature involving capital investment is based either on the evaluations of specific projects or is particular to the markets of highly industrialized and advanced economies. There is also a significant body of literature that connects aggregate investment levels to economic growth with very mixed results. Uncertainty has been shown to affect investment in a significantly negative way (Dixit and Pindyck, 1994). In a 2002 paper, David Stasavage finds evidence that suggests institutional checks and balances can improve commitment possibilities; a question derived from the demonstration of a negative link between macroeconomic/political uncertainty and private investment. Using survey data for Ghana from 1991-1993, Catherine Pattillo attempted to distinguish whether firms were not undertaking investment because of uncertainty and/or financial constraints (Pattillo and Collier 2000). Though Pattillo did not specify, the financial constraint is one faced almost purely by domestic firms. Foreign owned firms necessarily have better access to finance.
Pattillo’s model did confirm her hypothesis that investment would be more negatively affected by uncertainty when the specific capital expenditures were more irreversible.

**Method**

The purpose of this paper is to explore the relationship between host country governance and the time horizon of investment for foreign owned business establishments. In Michel Camdessus’s, IMF Managing Director, 1997 address “Good Governance: The IMF’s Role,” one part of the definition of ‘good governance’ was given to be “the stability and transparency of the economic and regulatory environment for private sector activity.” Signs of ‘good governance’ from the standpoint of private sector development are included in the establishment level World Bank surveys to be used in this thesis under the name of “core” variables.

There have been many studies about location and Foreign Direct Investment because of the potential benefits/costs for the locations chosen. The usual argument in favor of pro-market policies stresses the need for the host country to attract long-term FDI in order to absorb benefits such as technological transfer. I have a direct way to study this type of FDI based on micro data from establishments that will be used in this paper. Foreign owned firms may pursue different time horizons of investment based on local conditions. Also, it seems likely that pro-private sector or business friendly policies will be weighed heavily in the investment decisions of foreign owners because they may opt for short or long term strategies. However, good for investment as a characteristic of ‘good governance’ in itself is clearly too broad to be addressed in a detailed manner. This paper will focus empirically on governance aspects such as rule of law, corruption, violence (including political), central control and stability. These aspects of governance are additionally important because they can arguably be altered, albeit slowly, by the host country’s government.

‘Governance’ not only refers to the de jure positions and form of government, but also to the de facto level of control exerted over the country. Thus governance includes appraisals of realities for doing business such as how well laws are enforced, the level of bureaucratic corruption, the possibility of political upheaval, and the likelihood of large swings in government doctrine. The empirically tested evidence for the ability of differences
in governance to affect overall flows of FDI has been mixed. There are several well-known indices that measure various aspects of country governance, many of them highly correlated. Clearly though, firm level perception of the conditions in the country should be critically important to the owner’s evaluation of the risks involved and as such will probably be a determinant of the ‘time horizon.’ Such individual level data has been infrequently used but may shed light on smaller differences not perceived when national averages are compiled and used.

The flow of causation posited in this thesis depends critically on the notion of uncertainty and its role in investment decisions. As noted by Dixit in his 1989 paper, uncertainty can provide a powerful disincentive for investors to take investment opportunities. It was also demonstrated that, in a turbulent environment, there is pressure on potential entrepreneurs to delay even attractive projects if part of the investment is irreversible (Dixit 1989, 29). In general, “uncertainty reduces the amount of investment potential private investors (domestic or foreign)” are willing to generate (Dixit 1989, 30). The form of uncertainty under consideration in this thesis is that which arises particularly in developing countries because government and political decisions in these countries can allegedly cause risks to investors because of their volatility and unpredictability. These characteristics are not usually observed in the decision making apparatuses of highly developed economies. This notion about investment easily translates into the short-long term aspect of investment. Short-term investments carry less risk in an uncertain environment, especially if they can be easily reversed. In the case of foreign owned plants, reversible could indicate easily moved equipment, and/or a lower cost of ending the operation quickly (ex. terminating a lease rather than selling land). Longer term investments are by nature more risky since they expose the foreign owners to longer periods of establishment operation in the (uncertain) country. While it is quite probable that uncertainty affects investment decisions, a direct link between uncertainty regarding a country’s good governance and the ‘time horizon’ investors use to make decisions, after deciding to invest abroad (assuming those general risks), has not been established.

What constitutes specific definitions of long versus short term investment is difficult to define precisely, especially across industries. The existence of a formal worker training program (training) and the establishment’s capital-labor ratio (capital_laborvalue) will be used as criteria for judging the ‘time horizon’ of investment in lieu
of using industry specific forms of investment. Industry dummy variables will be used to account for variation due to industry. For the purpose of this thesis the existence of a formal worker training program in an establishment indicates a long term stance taken by the investors in the firm. Part of the reasoning behind this claim is that the time length of investment must be long enough to accrue positive net benefits from the training program and that these benefits do not begin immediately, and likely do not peak in a “short” period of time. As shown in the Campbell and Vousden study, workers with training and experience receive better performance ratings (2003). So, it seems intuitive that a longer term of operation can allow the establishment to garner all of the potential benefits of training the workers, absorbing their increased value. The capital labor ratio measures how heavily the firm relies on physical-capital goods (as opposed to financial), the source of many of the proposed effects of FDI. A higher reliance on such irreversible investments seems to indicate a longer-term investment position.

My research question as a cross-country analysis of investment and governance needs variation in from a few different sources to allow for realistic analysis. Of course variation in the variables used to measure investment, both in training and the capital-labor ratio, is necessary for the sample. Additional variation in the measures of governance is also desirable. However, the difficulties in obtaining variables that are comparable across countries will limit the variation of the sample. My success in securing enough variation within the sample for my analysis to be viable will subsequently be described.

Data Description

The majority of the data used in this paper is drawn from surveys collected and organized under the auspices of the World Bank’s Investment Climate Unit (ICU). The surveys were conducted in various countries usually with the backing of national affiliates, such as a development agency or a national statistics bureau. As a successor to the Firm Analysis and Competitiveness Surveys, World Business Environment Surveys, and surveys conducted by the Regional Program on Enterprise Development, the ICU surveys were conducted to gain information about country business climates at the establishment level. The results of the individual surveys are
supposed to provide information about the business environment to be utilized by the country governments as well as to guide firms in location decisions. They have been used for limited regional studies, especially concerning the East Asian financial crisis. This is the first time the data will be used for a cross-country study including different regions. Since the surveys were designed to provide similar information there are a few major features they have in common. All of the surveys use business establishments as the basic sampling units. All of the surveys are also based on written questionnaires from person-to-person interviews with the heads of the establishments, conducted by “professionally qualified enumerators” (Clark & Mengistae 2002).

The “core” set of questions comprise over half of each of the country surveys. Each survey has 12-15 different sections of questions, most of which are designed to gather information regarding the nature and type of the business establishment, the performance of the establishment, and about the general investment climate of the country (ICU World Bank). Specifics of each of the surveys used in this thesis can be seen in Figure 1. Currently, these surveys are available online through the World Bank’s Investment Climate Unit <http://www.worldbank.org/research/PICS/>. The designs of the samples for each survey were initially coordinated so that potential biases would be reduced and the comparability across countries enhanced though regional priorities for information were often took precedence, as will be explained. Samples were designed so that each survey covered a minimum set of sectors that would be common to all countries (Clark & Mengistae 2002). Additionally, samples were representative of the main sectors of the country’s industry and regions of economic activity and usually concentrated on major metropolitan area(s) (ICU-Firm Level Survey Study, World Bank Group). Major growth and export industries were represented. Probability sampling rules were also implemented within each surveyed sector as defined. The surveys conducted in the set of East Asian Countries were sponsored by the East Asia and Pacific Region of the World Bank. The East Asian surveys were conducted between October 1998 and March 1999. Approximately 650-950 firms were interviewed in each country. Thailand was the only country to be surveyed in two waves. The main foci of the survey were issues related to the competitiveness of the countries’ respective manufacturing sectors. However, the surveys did include quantitative and quantitative parts to collect information both about the financial position of the firm, and about
<table>
<thead>
<tr>
<th>Country</th>
<th>Date Conducted</th>
<th>Firm Listing</th>
<th># Distributed (Responses)</th>
<th>Sectors</th>
<th>Primary Location</th>
<th>FDI/Foreign Ownership</th>
<th>Biases (potential as given by World Bank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Nov 1998-Feb 1999</td>
<td>Directory of Large and Medium Manufacturing Establishments (&gt;20)</td>
<td>1,200 (562)</td>
<td>Food Processing, Chemicals/Rubber Garments, Textiles, Electronics</td>
<td>Java/Bali (78%)</td>
<td>12% of sample (&gt;10% foreign ownership)</td>
<td>Survival, Response</td>
</tr>
<tr>
<td>Philippines</td>
<td>Nov 1998-Feb 1999</td>
<td>List of Establishments (&gt;20)</td>
<td>750 (541)</td>
<td>Food Production, Textiles, Apparel/Footwear, Chemical/Rubber, Electronics/Mach.</td>
<td>National Capital Region (44%)</td>
<td>32% of sample (&gt;10% foreign equity)</td>
<td>Survival, Response</td>
</tr>
<tr>
<td>Rep. of Korea</td>
<td>Nov 1998-Feb 1999</td>
<td>(&gt;20)</td>
<td>2,500 (863)</td>
<td>Garments/Textiles Chemical, Machinery, Electronics/Mach. Automobiles/Parts</td>
<td>Seoul (70%)</td>
<td>13% of sample (&gt;10% foreign ownership)</td>
<td>Survival, Response</td>
</tr>
<tr>
<td>Thailand</td>
<td>Nov 1998-Feb 1999</td>
<td>Factory Registration Database-MOI (&gt;20)</td>
<td>1,107 (642)</td>
<td>Food Processing, Garments, Textiles, Electronics, Auto Parts</td>
<td>Great Bangkok (85%)</td>
<td>26% of sample (&gt;10% foreign ownership)</td>
<td>Survival, Response</td>
</tr>
<tr>
<td>Burundi</td>
<td>1993</td>
<td>Institut National de Sécurité Sociale, BTEEBU, Ministère/Chambre de Commerce, d'Industrie, d' Agriculture et d'Artisanat du Burundi, USAID</td>
<td>120</td>
<td>Food, Textile/Garments, Wood Processing, Metalworking, Includes Informal</td>
<td>Bujumbura</td>
<td>Verification</td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>1993</td>
<td>1987 Census of Manufacturing Activities</td>
<td>215</td>
<td>Food Processing, Garments/Textiles Wood/Furniture, Metal/Machinery</td>
<td>Nairobi, Mombasa, Nakuru, Eldoret</td>
<td>Verification</td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>1993</td>
<td></td>
<td>223</td>
<td>Food, Textile, Wood, Metal, Includes Informal</td>
<td>Nairobi, Mombasa, Nakuru, Eldoret</td>
<td>Verification</td>
<td></td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>June-July 1993</td>
<td>(&gt;5) able to make own investment decisions</td>
<td>201</td>
<td>Food Processing, Garments/Textiles Wood/Furniture, Metal/Machinery, Includes Informal</td>
<td>Firm able to make own investment decisions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
other aspects such as its ownership structure and relationship with banks. In each country five to seven industry sectors were chosen according to their GDP contribution or export shares and account for more than half of value added for manufacturing in the country. The industries chosen among were Food, Textiles, Garments, Chemicals, Machinery, Electronics, and Automobile components. One of the striking differences between the East Asian and African surveys is that the East Asian survey samples were restricted to firms with at least 20 employees.

By contrast, the African Regional Program for Economic Development (RPED) surveys, conducted in sub-Saharan African countries, were executed in a less regionally coordinated fashion. The dates of the survey range from 1993-1995 and were conducted in two to three waves. Generally, around 200 firms were sampled in each country. As stated by the World Bank “the purpose of the project was to create a large firm level data-base including data on the performance of manufacturing firms as well as information on virtually all aspects of the business environment” (ICU- Firm Level Survey Study, World Bank Group). The topics covered by the questionnaires were slightly different by country but most covered at least basic financial information, production information and information about the personal history of the owner. Surveys of workers and apprentices were also conducted in most cases. The industry sectors surveyed were limited to wood and furniture, metal and small machinery, food and beverages, textile and clothing. Zimbabwe was the only African country to limit the sample to firms with greater than 5 employees.

Despite the care taken by the World Bank to ensure the surveys produced reliable and meaningful data that could be compared across countries and regions, potential biases, related to the nature of the surveys conducted, should be mentioned. In both sets of surveys participation was voluntary and although no pattern was detected in non-respondents the representativeness of the sample may have been affected (ICU- Firm Level Survey Study, World Bank Group). In the African countries fewer firms were surveyed and the method by which they were selected was not as assuredly random as in the East Asian cases. This was due to the lack of official registration and by the recentness of the registrations used. Informal ‘business establishments’ also comprised a larger proportion of the observations in the African surveys, reflecting the different development of their
economies. However, since this thesis looks at foreign investment firms, the inclusion of informal establishments in the original datasets is not a problem. The potential biases from different sample selection outcomes should be kept in mind but should not have a sizable impact on the results.

The Investment Climate Unit has conducted or compiled similar firm level surveys in Korea, Indonesia, Malaysia, the Philippines, Thailand, Burundi, Cameroon, Coté d’ Ivoire, Ghana, Kenya, Nigeria, Zimbabwe, Morocco and Mozambique. There are many additional surveys underway at the present time. The survey data for Malaysia, Nigeria, Morocco and Mozambique have not yet been released for public use.

*Observation Selection and Variables*

This thesis uses the ICU establishment level survey evidence in a new way, despite the serious practical and conceptual difficulties encountered in the data analysis. To define a set of countries for use in this thesis I studied the questionnaires and dataset variables in detail. For the East Asian countries variables lists, in addition to nearly uniform questionnaires were available. However, I had to reconcile these lists with what data was actually made available. The surveys for Burundi, Cameroon, and Coté d’ Ivoire were available only in French with limited English variable lists. While I was able to discern the nature of many of the questions needed for this thesis I also had large sections translated to ensure accuracy. The final group of countries, though not equally represented in the subsections of this analysis were Korea, Indonesia, the Philippines, Thailand, Burundi, Cameroon, Coté d’ Ivoire, Ghana, Kenya, and Zimbabwe. In the following I will describe the difficult choices I made regarding variable selection and summaries of the work done to generate a final data set. Often I encountered a stark trade-offs between inclusivity, sample size and comparability.

Since the focus of this paper is to assess the nature of foreign investment choices, the business establishments, observations, were selected from the individual country data sets by the application of my created definitions of ownership. To create these definitions I harmonized the different survey definitions of ownership variables to allow firms to be classified with regards to their degree of foreign ownership. The broadest definition of ownership is denoted by the abbreviation ‘FDI.’ Business establishments in this category are at least 10%
foreign owned. The category of ‘Joint’ ownership includes establishments with greater than 50% foreign ownership or those self-classified in the surveys as being such. Finally, the most stringent definition of ownership, ‘full’ foreign ownership, covers establishments that are either 100% foreign owned or classified directly in the survey as either a multinational subsidiary or as foreign owned. The number of establishments per country that fall under each definition is given in the table below. Where the table entry reads ‘NA’ the information contained in the survey did not allow for this classification as a separate category. The numbers shown are the number of firms that fall into that category, i.e. each firm is counted under the strictest definition its ownership percentage satisfies. For example, establishments classified as having greater than 50% foreign ownership are counted in the Joint category but not shown in the FDI column. Unless otherwise specified I will use all classifications, so establishments with at least 10% foreign ownership, for the analysis. The number of observations per country can be seen in the ‘Total’ column.

<table>
<thead>
<tr>
<th>Plant Number break-down by Ownership Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td>Korea</td>
</tr>
<tr>
<td>Indonesia</td>
</tr>
<tr>
<td>Philippines</td>
</tr>
<tr>
<td>Thailand</td>
</tr>
<tr>
<td>Burundi</td>
</tr>
<tr>
<td>Cameroon</td>
</tr>
<tr>
<td>Coté d’ Ivoire</td>
</tr>
<tr>
<td>Ghana</td>
</tr>
<tr>
<td>Kenya</td>
</tr>
<tr>
<td>Zimbabwe</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Dependent Variables

Since the evidence for determining the time horizon of a given firm’s investment is subject to some debate, this paper will use two different variables to measure manifestations of intended long-term investment. One of them is drawn from the labor input side of operations while the other is drawn from the capital input side. The use of both aspects of long-term investment separately should allow for a more complete analysis of the results obtained from each. Measures of both financial and human capital measures varied widely across
countries. The final version of the training variable was a binary variable equal to unity when a formal program is provided by the establishment. The establishment’s capital to labor ratio, minus land value, was the other final dependent measure used.

The decision to use a binary rather than continuous variable to measure training was based on a few considerations. Measures of the length and type of training program varied too much across countries to be used as a standard measure. For some of the countries, like Thailand, Indonesia, the Philippines and Korea, the information about training was voluminous and included break downs by various program lengths and worker type/characteristic within firms. However, such detail was not replicated in the African surveys. The human capital focus of these surveys was on state sponsored and privately sponsored apprenticeship programs.

Furthermore, I had to use different methods to obtain information about the existence of a training program in cases where the establishment manager was not asked. For Burundi, Cameroon, Coté d’Ivoire, and Zimbabwe a representative survey of workers was substituted for manager questions concerning labor practices. To obtain a training value for the establishments from these countries I went through the worker surveys to see if any of workers answered that they were receiving training from the establishment. When any of the workers answered affirmatively, the firm’s training value was set equal to one, assuming that the “yes” response denotes at least the existence of a formal program. As may be see in Figure 2, there is a reasonable amount of variation in the existence/non-existence of training programs. This is particularly evident when the regional groups are compared. In the case of the Ghana survey, no questions related to current training were asked, but the measure of training was taken from the question of whether or not training was required after the plant had been set up.

The differences in the structure of the labor markets in the two regions may be one reason for the difference in human capital focus that in the African countries was centered on apprenticeships rather than on formal training/extended education. Apprenticeships, approximating a method of trade schooling, have been very important in the Sub-Saharan countries represented. They have often been the target of legislation. Naturally then, the responses of business establishments and workers to these government sponsored programs would be of special interest to the national group(s) sponsoring the survey.
There is a clear difference in obtaining the training information from the worker survey instead of from the establishment’s manager. Simply expressed, the workers might have provided different answers than if the manager had been asked. Along one line of bias, giving the establishment a ‘yes’ value for training with only one positive worker response might overestimate the existence of a training program. However, it is also possible that none of the sampled workers were receiving training at the time of the survey but the establishment did have a formal program, biasing the estimate downwards. I anticipate that these two biases will cancel each other out and have no reasons on which to base a decision that one scenario was more likely to occur than the other.

In order to gauge the possible time-horizon of investment from an additional perspective, I used a measure of the Capital-Labor Ratio as a second dependent variable. The capital aspect of this variable was measured by the value of the establishment’s ‘plant and equipment.’ Land value was not included in the measure of capital. This decision was based on the various market irregularities in some of the developing countries, such as the forbidden sale of land to foreigners, which would have biased the results in an unpredictable manner. Labor was measured by the establishment’s wage bill. Assistance from World Bank staff was greatly appreciated especially in this area in determining the assorted accounting definitions of reported financial variables.

Measures including the value of the business establishment’s ‘plant and equipment’ value and equipment value alone were choices initially considered. The total value of the plant and equipment was used as the final
measure of capital and there was little quantitative difference in results between this measure and the measure of equipment alone. Using equipment as the measure of capital yielded similar results, just estimated less precisely. For the labor denominator both Total Compensation and the establishment’s given Wage Bill were considered. Total Compensation measured to include all compensation due employees was only given in 2 of the 8 datasets. In most of countries compensation was fragmented into types of compensation like housing allowances that could not be accurately compared across countries. Additionally certain types of non-wage compensation were mandated and/or suggested by the host country governments in some of the sample countries. While the value of the establishment’s total compensation would have been a superior figure, it could not be used because of the vast differences in context between the countries. Thus, the establishment’s ‘wage bill’ was used to enhance the comparability of ratios across the sample countries. Unfortunately, Thailand and Zimbabwe had to be dropped from the sample because the needed financial variables were withheld from the available datasets.

I used various methods to extract the needed information from the different country data sets because the financial variables were reported and measured in different ways. The procedures outlined below by country describe these procedures. My goal was to find comparable measures of capital and labor in each of the country datasets. Because the datasets were more heterogeneous then they initially appeared it was quite a long process to find comparable variables. What follows are descriptions of my efforts to construct comparable cross-country measures. Where values of plant and equipment and wage bill were not obtainable, measures of the equipment value and total compensation were gathered. These measures were also initially collected for all of the countries and were used to construct alternate ratios in my attempts to find the most consistent capital-labor ratio. This information was also gathered from the other countries to help determine which version of the capital-labor ratio would finally be used. Variations from the definitions of the variables already given will be denoted where they occur. The country averages for the capital side variables can be seen in Figure 3.
Korean establishments were initially dropped from the final capital-labor ratio sample because the dataset did not contain financial information that could be used for the value of plant and equipment. However, a measure of Equipment value was able to be constructed. In the interests of increasing the sample size and because results were estimated more precisely with their inclusion, observations from the Korean data were used in the final regressions with the value of the establishment's equipment as their capital value. As for obtaining the exact numerical values, I used a process of ratios to extract the information from the data. Total assets were given in the form $<\log_{10} (\text{Total Assets})>$ so I first changed the form to obtain their currency value. The ratio of %machinery and equipment over total assets was then multiplied by total assets (obtained earlier) and divided by 100 to correct the scaling. Each establishment’s measure of total compensation was obtained in a similar manner. The de-logged sales figure was multiplied by the %labor expenses over total sales (again divided by 100) to acquire the value of the establishment's labor expenses.

For the establishments in Indonesian survey, a measure for land had to be constructed so that its value could be taken out of the establishment's total value of fixed assets. The measure of fixed assets was created
using the same pattern as used to construct the Korean variables. Namely, the de-logged measure of total assets was multiplied times the \( \% \) fixed-total asset ratio and finally divided by 100. The establishment’s measure of fixed capital was then manipulated in the same way as assets to find currency values of both equipment and land. Finally, the land value was subtracted from the fixed asset value to generate a measure for the worth of the plant and equipment. The compensation value only had to be de-logged and then it was used to attain the wage bill value (compensation times \( \% \) wage bill/compensation times \( (1/100) \)).

In the Philippines survey the measure equivalent to ‘fixed’ capital was denoted PPE for Plant, Property and Equipment. Total assets were de-logged and then multiplied with \( \% \)PPE over total assets, and divided by 100 to get the currency valued measure for PPE. The establishment’s PPE value was then employed to find the value of land and of equipment. The land value was subtracted from the PPE value to generate the measure of plant and equipment value. With a method parallel to that used in the Indonesian case, the value of total compensation (also originally given in \( \log_{10} \) form) was used to find the wage bill, denoted in the initial data set as ‘wages and salaries.’ Unfortunately, Thailand had to be left out of this capital-labor measure of investment because capital measures were not available (the survey results are still being analyzed and compiled by members of the World Bank).

For the majority of the African surveys the direct measures of the plant and equipment and wage bill values were often available. However, the difference between the availability of book values versus replacement values was an issue. Given the other problems with the data and lack of verification that ‘book’ and ‘replacement’ were understood to be different values by the respondents (since only one was reported in most cases), their difference was not a major cause for concern about the purity of the results. All of the surveys contained choices about the length of time for which figures were reported that ranged from one week to one year. Presumably this was done because the accounting standards in the various regions are different and there are no official reasons why the establishments would keep accounts on a yearly basis. All values were adjusted to be yearly values according to the time period specified by the respondent. What follows are descriptions of the specific variables used for capital and labor as taken from the individual surveys.
For establishments in the Burundi survey the capital value used was the reported book value of the plant and equipment. The equipment measure was the replacement when given by the survey respondent (manager). Various other financial and capital measures were asked for in the actual survey, but there was no way to separate their component aspects to garner further information under the same accounting definition. However, the plant and equipment measure used as the final capital variable had the most responses. Comparisons between them and the other choices did not seem to be dramatically different except in a few outlier cases. Various periods were used to report the wage bill.

In the Cameroon survey, the establishment’s replacement value of equipment was added to the book value of the establishment’s ‘buildings’ to generate a plant and equipment value. In this sample the replacement value of the equipment was frequently greater than the value reported for the buildings (including plants). While there are several reasons why this might indeed be the case, this paper does not have the necessary scope to endeavor to explain the seeming inconsistencies. Despite the variation in accounting type, these were the only consistently available and reported measures.

The Coté d’Ivoire survey generated data for the book values of both equipment and buildings, allowing for the measures of equipment and plant and equipment values to have the same general accounting definition. In the survey of Ghana only the replacement value of the establishment’s plant and equipment were given, so no measure of equipment alone could be obtained. In both countries, the wage bill had to be adjusted to yearly values for several of the establishments (observations).

In the Kenyan survey the data given and reported was opposite that acquired from Ghana’s survey. Only the replacement value of equipment was given. There was no measure of plant and equipment value to be used. Zimbabwe was left out of this Capital/Labor sample because although the results of the wage bill question were taken out of the data and could not be obtained. Clearly the differences in the accounting definitions of the measures used could cause problems for the reliability and economic conclusions drawn from them. However, in most cases the data deficiency tended in the same direction, with the replacement value given for equipment and book value given for either plant or plant and equipment value.
Summary

All of the countries were included in the sample using training as the investment measure. Its binary measure was comparable across countries. The method of extracting some of the values from surveys of workers was an exception but should not have a large impact on the results, especially because relatively few observations were given values based on this method. The value for Ghanaian establishments was derived from a question about the existence of training program after the firm was set up.

Within a reasonably strict range of comparability, I constructed measures of capital and labor to create a K/L ratio as the second gauge of long term investment. Under my interpretation, a higher ratio would indicate a longer time horizon of investment. The specific measure used was the value of the establishment's plant and equipment divided by its wage bill. Although other measures were considered the chosen ratio had the highest number of responses and was the most similar across countries. Table 1 delineates the unique features of each country's variables.

<table>
<thead>
<tr>
<th>Country</th>
<th>Training</th>
<th>Capital Value</th>
<th>Labor Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>Regular Question</td>
<td>Equipment</td>
<td>Labor Expenses</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Regular Question</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Philippines</td>
<td>Regular Question</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Thailand</td>
<td>Regular Question</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Burundi</td>
<td>Worker Survey</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Cameroon</td>
<td>Worker Survey</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Coté d’Ivoire</td>
<td>Worker Survey</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Ghana</td>
<td>Required @ set-up</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Kenya</td>
<td>Regular Question</td>
<td>Plant &amp; Equip.</td>
<td>Wage Bill</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Worker Survey</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

To recap, the values of buildings (plants) and equipment were directly added when possible. When these specific values were not available the land value was subtracted from the establishment’s fixed asset value where necessary because of special potential irregularities in the land markets in some of the countries. The wage bill was used instead of the establishment’s total compensation because of irreconcilable local conditions and unclear
definitions of the reported compensation values. Korea was the only country that was an exception to the pattern. In the case of these observations the establishment’s equipment value was used as its capital measure to preserve sample size and because adding these additional firms made the estimates more precise while not affecting their values. Also, the average ratio of Korean establishments was not exceptionally different then the ratios of the other countries. In the final analysis of the K/L ratio observations from Korea, Indonesia, Philippines, Burundi, Cameroon, Coté d’Ivoire, Ghana, and Kenya were included.

Independent Variables

I selected independent variables with attention toward establishing possible aspects of governance that may affect investment. My intension was also to make sure that these potential effects were not merely reflections of other causes. The threat of violence can call into question the ability of citizens and businesses to exert control over the operational situation in the country. It has the potential to create great uncertainty about the continuity of government attitude and the quality of the environment to which it contributes. There is also the alarming possibility that violence and political upheaval directly may cause the loss of personnel and materials. Of course, in addition to a general climate of uncertainty, the effectiveness of the government consistently affects the daily workings of the surveyed establishments. The measure of corruption, loosely defined as the exercise of public power for private gain, takes into account many forms of illegal payments, including kickbacks and bribes in lieu of fees. The prevalence of corruption in the country could potentially raise the current costs and generate uncertainty about future costs for establishments. Its role in slowing the chain of supplies has also been documented. The country’s reliance on the rule of law measure supposedly marks the extent to which agents have confidence in and abide by the established rules of society.

There are numerous measures of many aspects of governance at the country level. For consistency country level indicators were drawn from sources at the World Bank, United Nations and from a well-recognized anti-corruption organization, Transparency International. The methods used to collect the World Bank indices for the period from 1996-2002 is detailed in a paper by Daniel Kaufmann, Aart Kraay, and Massimo Mastruzzi (2003). These indices were initially measured on a scale from -2.5 to 2.5. A positive score denotes a ‘good’ value
while a negative score should be reflective of conditions that fall far short of notions of ‘good governance.’

Countries are ranked separately according to their relative position and by the point value of their index. As can be seen from the following chart comparing the point estimates of governance indices of the sample countries and the Organization for Economic Co-operation and Development (OECD) member nations there exists great variation in the spread between countries. Although these charts use data from more recent index compilations they do illustrate the variation.

For this thesis I incorporated several of the World Bank governance indicators into the data. The variable ‘Political Stability and Absence of Violence’ is an index that combines indicators “which measure perceptions of the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and/or violent means, including domestic violence and terrorism” (Kaufmann et. al. 2003, 3). The ‘Government Effectiveness’ variable was also used because it tries to measure the quality and reliability of public service. This
variable includes perceptions of the quality of the bureaucracy, independence and competence of civil servants, and the credibility of government policy commitments. ‘Regulatory Quality’ is given as a separate measure and aims to establish an approximate guideline of the burdens imposed by the government through regulation and “market-unfriendly” policies. The World Bank measure for ‘Rule of Law’ takes into account contract enforcement ability, perceptions of crime and the effectiveness/predictability of the judiciary (Kaufmann et. al. 2003, 3). Transparency International publishes yearly ratings and rankings about the perceptions of corruption within countries. These ratings are based on extensive perception surveys. A lower index score indicates more corruption while a score of 10 indicates a country that is perceived to be ‘highly clean.’ Originally the index was scaled from zero to ten.

![TI Index Scores](image)

The World Bank governance measures were rescaled so that their range would be from 0 to 5. The Transparency index was not rescaled. A total, or average, governance measure was constructed by averaging the countries results of the World Bank measures; political stability, effectiveness, regulatory quality and rule of law measures. The following figure (4) presents the index values for the related countries.
### Governance Indicators (Figure 4)

<table>
<thead>
<tr>
<th></th>
<th>Korea</th>
<th>Indonesia</th>
<th>Philippines</th>
<th>Thailand</th>
<th>Burundi</th>
<th>Cameroon</th>
<th>Cote d'Ivoire</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Zimbabwe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability*</td>
<td>2.69</td>
<td>2.16</td>
<td>2.45</td>
<td>2.71</td>
<td>1.4</td>
<td>1.59</td>
<td>2.94</td>
<td>2.44</td>
<td>2.27</td>
<td>2.47</td>
</tr>
<tr>
<td>Gov. Effectiveness</td>
<td>2.98</td>
<td>2.58</td>
<td>2.59</td>
<td>2.81</td>
<td>1.68</td>
<td>1.56</td>
<td>2.32</td>
<td>2.35</td>
<td>2.</td>
<td>2.27</td>
</tr>
<tr>
<td>Regulatory Quality</td>
<td>3.05</td>
<td>2.69</td>
<td>2.84</td>
<td>2.88</td>
<td>1.3</td>
<td>1.73</td>
<td>2.31</td>
<td>2.33</td>
<td>2.02</td>
<td>1.69</td>
</tr>
<tr>
<td>Rule of Law</td>
<td>3.27</td>
<td>2.16</td>
<td>2.39</td>
<td>2.96</td>
<td>2.32</td>
<td>1.38</td>
<td>1.85</td>
<td>2.39</td>
<td>1.77</td>
<td>2.28</td>
</tr>
<tr>
<td>Control of Corruption</td>
<td>3.01</td>
<td>2.06</td>
<td>2.13</td>
<td>2.2</td>
<td>1.7</td>
<td>1.48</td>
<td>2.88</td>
<td>2.06</td>
<td>1.52</td>
<td>2.39</td>
</tr>
<tr>
<td>WB Governance Avg. (w/o corruption) rounded</td>
<td>2.99</td>
<td>2.4</td>
<td>2.57</td>
<td>2.84</td>
<td>1.68</td>
<td>1.57</td>
<td>2.36</td>
<td>2.38</td>
<td>2.02</td>
<td>2.18</td>
</tr>
<tr>
<td>WB Governance Avg. (all WB measures) rounded</td>
<td>3</td>
<td>2.33</td>
<td>2.48</td>
<td>2.71</td>
<td>1.68</td>
<td>1.55</td>
<td>2.46</td>
<td>2.31</td>
<td>1.92</td>
<td>2.22</td>
</tr>
<tr>
<td>TI index ^</td>
<td>4.3</td>
<td>1.9</td>
<td>2.5</td>
<td>3.3</td>
<td>NA</td>
<td>1.8</td>
<td>2.1</td>
<td>3.3</td>
<td>1.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Illiteracy Rate</td>
<td>0.026</td>
<td>0.145</td>
<td>0.056</td>
<td>0.051</td>
<td>0.543</td>
<td>0.313</td>
<td>0.534</td>
<td>0.31</td>
<td>0.197</td>
<td>0.129</td>
</tr>
</tbody>
</table>

* Political Stability/Absence of Violence

^Transparency Index Rating, drawn from year closest to firm data. Available at [http://www.transparency.org/cpi/index.html#cpi](http://www.transparency.org/cpi/index.html#cpi)


In addition to the country level measures of governance, a limited set of the surveys including Korea, Indonesia and the Philippines contained specific information regarding establishment level perceptions of the host country’s governance. While the views expressed by the interviewee do not necessarily reflect the views of the foreign investors, there seems to be great chance that they may in fact serve as a barometer of the investor/owners’ attitudes. The questions on the individual surveys specifically ask whether or not certain aspects of governance pose obstacles to business, i.e. do they create “bottlenecks.” The ratings system used by the respondents places the given aspect on a range from 1, no problem, to 5, major problem. Ratings are given for a variety of factors and the ones for the customs administration, red tape/bureaucracy, corruption, and property rights
were used in this thesis. The average value of these variables is reported by Country in Figure 5.

<table>
<thead>
<tr>
<th>Establishment Level Perceptions (Figure 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Country Means Reported]</td>
</tr>
<tr>
<td>Customs</td>
</tr>
<tr>
<td>Redtape/ Bureaucracy</td>
</tr>
<tr>
<td>Property Rights</td>
</tr>
<tr>
<td>Control of Corruption</td>
</tr>
</tbody>
</table>

A measure of each country’s illiteracy rate was also used to account for the additional differences that the literacy of the workforce might produce. The illiteracy rate used was taken from the World Bank’s country statistics section but is originally produced by the United Nations Educational, Scientific, and Cultural Organization. It measures the percentage of the population, age 15 or older, that classifies as illiterate. Illiterate in this context denotes someone who “cannot, with understanding, read and write a short, simple statement on their everyday life” (UNESCO). Dummy variables to reflect the industry of each firm were also used. For the African countries the industries present in the sample were food, textiles and clothing, metal working, and wood working. Sampling a somewhat different set of industries the East Asian countries chose their top industries from among agro-industries, textiles and garments, automobile parts, electronic, chemicals, and machinery. The division of firms by industry within country is shown below in Figure 6.

<table>
<thead>
<tr>
<th>Firms by Industry (Figure 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agro-Industries</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Korea</td>
</tr>
<tr>
<td>Indonesia</td>
</tr>
<tr>
<td>Philippines</td>
</tr>
<tr>
<td>Burundi</td>
</tr>
<tr>
<td>Cameroon</td>
</tr>
<tr>
<td>Coté d’Ivoire</td>
</tr>
<tr>
<td>Ghana</td>
</tr>
<tr>
<td>Kenya</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
Econometric Model: Training

In order to explore the relationship between measures of governance and training, as training reflects the ‘time horizon’ of investment, the following basic linear probability model was used to begin the analysis.

\[
\text{Training} (Y = 1) = \beta_0 + \beta_1 \text{(Governance)} + \beta_2 \text{(Illiteracy)} + \varepsilon
\]

Illiteracy is included in the model because of its possible impact on training, as discussed it is much easier (and thus more profitable) to train better educated workers. The rate of illiteracy among the population is reflective of the rate among members of the labor force and thus also serves to control for the vast differences in type, degree, and prevalence of country specific education. For example, training workers to read basic syntax encountered on warning labels may be necessary in some locations while not in others. The case for necessary remedial training is another possibility that may contradict the earlier theory.

There are, however, specific problems that are inherent in this type of model. The coefficients from an estimated linear probability model cannot be constrained and may yield probabilities that are outside the interval \([0, 1]\). There is also the possibility that the error term is heteroskedastic in a way that is dependent on beta. Fortunately, these problems may be corrected since there are other models for evaluating qualitative (binary) responses that provide more reliable results.

Maximum Likelihood Estimation models are better adapted to handling binary choice in the dependent variable (Greene 2000). The most common forms of this type of estimation are the Probit and Logit models. The Probit Model in general terms can be given as follows;

\[
\text{Prob}(y = 1) = \int_{-\infty}^{\beta(x)} \phi(t) dt = \phi(\beta x)
\]

This model utilizes the standard normal cumulative distribution function and ensures that the expressed probability will remain in the interval \([0, 1]\) for all values of the parameters (Greene 2000).
Alternatively, the Logit Model uses the logistic cumulative distribution and is generally represented in the following form (Greene 2000):

\[
\text{Prob}(y = 1) = \frac{e^{\beta'(x)}}{1 + e^{\beta'(x)}} = \lambda(\beta'(x))
\]

These two estimation methods should yield similar results under most circumstances. However, as discussed by Greene (2000) and by Amemiya (1981) the methods might produce different results if one of the following conditions is met:

1/ There are few responses such that \(Y=1\) or few responses such that \(Y=0\)
2/ There exists wide variation in the independent variables

As can be seen in the earlier produced figures 2 and 3 neither of these conditions applies to the dataset compiled and used for this analysis. Therefore, it can be reasonably expected that both methods will give mostly consistent estimations.

The risk of simultaneity bias is always present when the direct flow of effect is not established. However, in this particular case there is little risk that the existence of a training program will affect the country measures of governance and of illiteracy. The potential for bias when establishment level independent variables are used will be discussed in the specifications section.

**Specification Outline**

Various specifications of the original model were used to evaluate the relationship between training (investment) and governance. The first type of specifications used the country aggregate measures of governance along with the country illiteracy value. The second type of specifications of the training model used the individual perceptions separating the perceptions of corruptions to parallel the aggregate regression design. Furthermore, the method of principle components was used to extract the principle component from both the aggregate and establishment level measures of governance. These values were then run in parallel specifications with illiteracy still included.
Econometric Model: Capital-Labor Ratio

The other measure used to quantify investors’ ‘time horizon’ at the plant level was the capital-labor ratio. This ratio will be defined as a measure of value rather than as the physical amount of capital per worker. The specific definition of the ratio was

\[
\frac{\text{Capital}}{\text{Labor}} = \frac{\text{Value of Plant and Equipment}}{\text{Total Wage Bill}}
\]

This measure includes establishments from Korea, Indonesia, the Philippines, Burundi, Cameroon, Cote d Ivoire, Ghana and Kenya. The linear model for this regression will take the following fundamental form:

\[
\frac{\text{Value Plant & Equip}}{\text{TotWageBill}} = \gamma + \beta_1[X] + \beta_2(\text{Illiteracy}) + \text{IndustryDummies} + \varepsilon
\]

\[
\varepsilon = \text{error term}
\]

Illiteracy is included to both pick up extra workforce characteristics that could have effects on the Capital/Labor ratio, though this effect seems unlikely, and to make the regression more analogous to the ones run using training as the measure of long-term investment. The industry dummies include the following sectors; textiles and clothing, automobile parts, metal, wood, electronics, chemical, machinery, the agricultural and food processing sector is used as the base since it, like textiles, was common to all of the surveys. All of the specifications will be estimated using robust standrad errors.

Specification Outline

Various specifications were used for this model of investment as they were in the training case. The industry dummies were included in all of the specifications. As used in the training regressions, the first type of specification used the aggregate measures of governance and the Transparency International Index. The individual perceptions were used the second type. Both were also estimated with principle components.
Results and Analysis

Results

In the following sections I will discuss the results of the various regression specifications. Similar form regressions, with either training or the capital-labor ratio as the dependent variable, will be discussed together.

The first estimated models, (1) through (4), were the initial set of regressions and are shown in Table 2. They used different measures of governance as separate regressors. Specifications (1) and (2) use aggregate governance measures while (3) and (4) use the establishment level indicators. The remaining regressions, (5) through (8), have the principle components extracted from the otherwise used governance measures and are shown in Table 3. In (5) through (6) the principle component is extracted from various set of aggregate governance indicators. In (7) and (8) the principle component is extracted from establishment level indicators.

Specifications using aggregate average governance measures (1) (2)

The initial set of specifications includes the probit model for training and the linear model for the capital/labor ratio. Both were estimated using country aggregate measures of governance. The governance measure used was the average of the World Bank measures (Stability, Effectiveness, Law, and Regulation). Corruption was measured separately using the TI index. The specification using training as the measure of long-term investment included observations from 9 countries (Burundi was not included) for a total of 947 observations. The linear, capital/labor regression was run using robust standard errors. Using data from all the countries except Thailand, Burundi and Zimbabwe the capital-labor ratio regression contained 324 observations. The results are shown in Table 2.

The training regression coefficients were estimated with varying degrees of precision. The z-scores for the average WB measure, TI index and rate of illiteracy were 0.59, -1.61, and -8.63 respectively. The sample means were 2.418 for the average of World Bank governance measures, about midpoint on the 0 to 5 scale. For the corruption index, the sample mean was 2.741 on a scale of 0 to 10. The relatively high sample mean for illiteracy
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>0.418</td>
<td>9.036</td>
<td>0.0033</td>
<td>3.224</td>
</tr>
<tr>
<td>(2)</td>
<td>0.078</td>
<td>5.053</td>
<td>0.0157</td>
<td>2.034</td>
</tr>
<tr>
<td>(3)</td>
<td>0.337</td>
<td>8.333</td>
<td>0.0077</td>
<td>1.434</td>
</tr>
<tr>
<td>(4)</td>
<td>0.141</td>
<td>3.534</td>
<td>0.0168</td>
<td>0.141</td>
</tr>
</tbody>
</table>

Notes: Standard Errors in parentheses. Specifications (1) and (3) were estimated using a probit model. Specifications (2) and (4) were estimated using a linear model.

Table 2 Regression Results (1)-(4)
rate was 0.158, indicating an average 15.8% illiteracy rate in the population. Evaluating the probit model at the sample means, the probability that a business establishment would have a formal training program was about 44.83%. From this initial measure the marginal effects of the independent variables were calculated.

The marginal changes must be understood in the context of the overall placement of countries on the scales. A 20 percent increase on the TI index is a point increase of 2. As previously discussed an increase on the scale implies the country is perceived to have less corruption. The difference between the lowest ranked country, Cameroon and the average for OECD members is roughly 5.11, or 50% of the scale. With that in mind, my estimates imply that applying a 20% increase to the mean value of the TI index would decrease the probability of a training program by 29.56%. As seen in figure 4 there is a great variation in illiteracy rates between the sample countries. Decreasing the illiteracy rate by 5% (the mean was 15.8) would increase the corresponding probability of a training program by 16.12%.

The results of the K/L regression (2) were somewhat different. The standard error of the coefficient for illiteracy had almost the same magnitude as the coefficient, leading to t-statistic of about one but the coefficient had a positive sign. This positive sign implies an estimated negative relationship between the K/L ratio and literacy. The t-statistic for the averaged governance indicators was -2.45, significant at the 1% level. A 10% increase on the scale of governance is equivalent to an increase of one point on the scale. Such an increase would decrease the estimated K/L ratio by 9.03. For the TI index the t-statistic was 1.53, yielding a statistical significance at the 10% level. An increase of 20% on the TI index, two points, would increase the K/L ratio by 7.07. For comparison of the marginal effects, the sample mean of the K/L ratio was 6.61 with a standard deviation of 14.66. The mean ratios by country were given in figure 3. Most of the industry dummy variables were estimated very imprecisely and obviously only meaningful if related to agriculture.

Given the differences in the scales between the governance and TI corruption measures some context for the relation of the sample countries to others is useful in understanding the scale of marginal change given by the various coefficients. As was seen in Chart 1 the composite governance indicators of the sample countries falls below the average for the OECD countries. The difference between the OECD group and sample countries are
starker when the TI index scores are plotted (Chart 2), even when the different scales of the variables are taken into account. The proposed marginal changes estimated in the preceding paragraphs as applied to the lowest ranking country (Cameroon) are shown as black extensions to its score bar. Of course, it is important to note that the Governance measure is an average of four other measures, so the change shown is an increase in the average.

The models using the aggregate governance measures separately produced somewhat conflicting results. The relationship between a decrease in corruption and training was strongly negative. However, its relationship with the K/L ratio was positive. While the relationship between the aggregate governance measure and training was positive but could not be precisely estimated, the relationship between governance and the K/L ratio was negative. Illiteracy had an estimated negative relationship with training but a positive one with the K/L ratio.

*Specifications using Establishment Level Governance Measures (3) (4)*

While the aggregate governance indicators provide some information about the views of investors, they may provide a limited picture. For this reason, indicators of the establishment’s perception of the country’s governance as it specifically relates to operations will be used as another set of independent variables. These establishment level indicators were extracted from the individual data sets as previously discussed. The results are shown in Table 2.

In specifications (3) and (4) the investment regressions are run in the same way as in (1) and (2) but with establishment level perception measures of governance rather than aggregate measures. The individual establishment perception average includes perceptions of the production “bottlenecks” in the areas of customs administration, property rights, and bureaucracy (red tape). For parallelism with the specifications that used aggregate measures, the establishment’s perception of corruption is used as a separate variable from the average of the other measures. The countries included in these specifications were Korea, Indonesia and the Philippines. Means for the various measures by country were given in Figure 6.

The training specification (3) included 431 observations. Z statistics of the coefficients were -0.65, 0.24, -0.91 for the establishment’s governance perceptions, corruption perceptions and illiteracy rate respectively.
None of the coefficients were precisely estimated but I will calculate the marginal effects to give an idea of the magnitude of the coefficients. The mean of the establishment’s perceptions of governance was 3.33 on the rescaled range of 1, major problem, to 5, no problem. For the establishment level perception of corruption the sample mean was 3.32. Using the sample means to find the probability of a training program yielded a 61.4% probability. Because only three countries were included the mean of the training variable for this sample was much higher than in general at 61.25%.

Using an increase of 0.8 (20% increase on the scale) for the governance perceptions measures decreased the probability of a training program by 1.93%. On the other hand, the same increase in the measure of corruption (improvement in conditions) led to a marginal increase in the probability of training of 0.38%. As in the earlier specifications a 5% decrease in the illiteracy rate was the marginal change used this specification the 5% decrease in the rate of illiteracy led to and increase in the probability of training of 2.27%. The mean of illiteracy in this sample, 6.86%, was much lower than when all of the countries were included.

In the K/L specification (4) only 140 observations were used, given the need for the observation to have both establishment level perceptions and a capital-labor ratio. The t-statistics for the average governance index, corruption and illiteracy measures were -1.397, -0.188, and 1.653 respectively. The measure for corruption was not estimated reliably enough for its specific effect to be judged but its sign indicates a potentially negative relationship between less corruption and the K/L ratio. The only two industry dummies of note were the auto parts and chemical, both of which showed a positive relationship with the K/L ratio relative to agriculture (the omitted category). A change in the governance perceptions of 0.8 on the scale implied a decrease in the capital labor ratio of 1.626. Using the marginal change of a 5% decrease in the illiteracy rate would increase the K/L ratio by 4.3 as estimated in this specification.

From the use of individual measures only imprecisely estimated coefficients were obtained for most of the variables. For the training aspect of investment the relationship with governance improvement was negative, while positive for a decrease in corruption using establishment level measures. These estimated relationships were directly opposite those estimated in specification (1), which used aggregate indicators. On the capital-labor
ratio side of investment the relationship between both establishment level indicators and investment was negative for both measures. The specification using aggregate measures (2) showed a negative relationship between governance and the K/L ratio but, in contrast, a positive relationship with decreased corruption. Thus far, the results of the various specifications have been estimated imprecisely and have produced coefficients with opposite signs for similar measures.

*Specifications using Principle Components of Aggregate Governance Measures (5-6a)*

Due to the relative lack of precision and coherence of the results obtained by separating aspects of governance I used a different approach for the remaining specifications. Lack of a theoretical basis for giving each of the measures equal weight (i.e. averaging them) and the possibility that they measure the same thing from the perspective of an investor suggested that principle components be used. By this method I planned to obtain variables that would describe accurately the variation among governance indicators so that the relationship between governance and long-term investment could be more accurately understood. Results are given in Table 3. The principle components were extracted from the governance measures previously combined in different ways. Groupings of variables from which the principle components were extracted are roughly the same as those averaged in earlier specifications. The exact scoring coefficients used can be seen in Table 4.

<table>
<thead>
<tr>
<th>Table 4 Scoring Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principle Comp. (WB Measures)</td>
</tr>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Pol_Stability</td>
</tr>
<tr>
<td>Effectiveness</td>
</tr>
<tr>
<td>Rule of Law</td>
</tr>
<tr>
<td>Regulatory Quality</td>
</tr>
<tr>
<td>Corruption Control</td>
</tr>
</tbody>
</table>

For this set of specifications the principle components were extracted from the entire set of World Bank measures, including corruption, and from the World Bank average measures combined with the TI index.
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Principle Comp. (WB Measures)</td>
<td>-0.0623</td>
<td>-1.2451</td>
<td>-0.0567</td>
<td>-0.0546</td>
<td>-1.4883</td>
<td></td>
</tr>
<tr>
<td>Principle Comp. (Individual)</td>
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<td>-0.8633</td>
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<td>-3.246286</td>
<td>-0.0567</td>
<td>-0.0567</td>
<td>5.3935</td>
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<td>-0.0567</td>
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<tr>
<td>Dummies Dropped</td>
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<td>Machinery</td>
<td>Machinery</td>
<td>Machinery</td>
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<td></td>
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<tr>
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<td>947</td>
<td>356</td>
<td>324</td>
<td>431</td>
<td>140</td>
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<td>Prob &gt; F</td>
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<td>0.3506</td>
<td>0.3147</td>
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Notes: Standard Errors in parenthesis. Specifications (5), (5a), and (7) were estimated using a probit model. Specifications (6), (6a), and (8) were estimated using a linear model with robust standard errors.
Specifications (5) and (6) used the principle component extracted from purely World Bank measures for the training and capital-labor regressions respectively. Specifications (5a) and (6a) utilized the principle component from the World Bank measures (minus corruption) and the TI index for the two investment regressions.

For training specification (5) 978 of the observations were used. The probability of training calculated using the sample means of the other variables was 44.04%. Z-scores for the principle component and illiteracy rate coefficients were -1.15 and -8.65. To understand the marginal effects I used a substantial increase in the principle component equal to one standard deviation of that variable within the used sample. This led to a marginal decrease in the probability of a training program of 2.36%. When the standard 5% decrease in illiteracy rate was used the overall probability of training program increased to 50%, showing a relatively large positive change of 5.96%.

In specification (5a), which also used training as the dependent variable, the number of observations dropped to 947 because there is no TI index value for Burundi. For the principle component and illiteracy coefficients the z-scores were -1.02 and -8.34 respectively. Again using sample means the baseline probability was estimated to be close to the sample average at 44.43%. An increase of one standard deviation in the principle component measure led to decrease in the training probability of -1.97%. A 5% decrease in the illiteracy rate led to an overall probability of 50.8%, a probability increase of 6.37%.

Similarly negative coefficients were estimated in specifications (6) and (6a) using the K/L ratios in the place of training and a linear in place of probit model. Using a principle component drawn from purely World Bank measures, including corruption, 356 observations were used (6). The t-statistic for the coefficient of this principle component was -2.19. Most of the industry dummies were not estimated with great precision. The dummy variable for Textiles was estimated to be negative with a t-statistic of -1.13. The marginal effect of an increase in the principle component measure, by one standard deviation within the sample was a decrease in the K/L ratio of -1.73.

In specification (6a) using the principle component extracted from the WB measures, excluding corruption but including the TI index, there were 324 observations (Burundi again having been dropped). For the coefficient
of the principle components measure the t-statistic was -1.31. Again the coefficients of the industry dummies were negligible. Given an increase in the principle component measure of one standard deviation, the estimated marginal impact on the K/L ratio was -1.16.

The specifications using principle components measures showed negative relationships between improvements in governance measures and the measures of investment time horizon though the magnitudes of the effects differ. As in the previous specifications, a decrease in the illiteracy rate had a positive net impact on the probability of a training program. Importantly, these regressions were estimated with a higher degree of precision than those estimated using averages and individual governance measures.

*Specifications using Principle Components of Establishment Governance Measures (7) (8)*

The final set of specified regressions used the principle components at the establishment level. The principle components are of the establishment level indicators of governance (those used in (3) and (4)). Again the sample sizes in both cases were smaller than the parallel regressions (5-6) that employed aggregate data. The results are given in Table 3.

There were 431 observations included in specification (7). The z-scores for the coefficients of the principle components and illiteracy measures were -0.78 and -0.93 respectively. Though not estimated with as much precision as earlier coefficients the predicted relationship with training remained negative. 61.41% was the estimated training probability when the sample means were applied to the coefficients. A one standard deviation increase in the principle components measure implied a decrease in the probability of a training program of 1.93%. A decrease in the rate of illiteracy of 5% led to an estimated change in the probability of training of 2.27%. Again the higher mean of training within the sample and inclusion of only three of the original country set should be taken into consideration.

Finally, in specification (8) the principle component of establishment level perception was used with the K/L in a linear model. There were 140 observations in the sample. The t-statistic for the principle component coefficient was -1.2. The coefficients for the Industry dummies of auto parts, electronics, and chemicals all had t-
The coefficients for auto parts and chemicals were positive, while that of electronics was negative. An increase in the principle component factor of one standard deviation led to an estimated decrease in the K/L ratio of 1.34.

**Establishment versus Aggregate Indicators as Measures of Governance**

For both specifications (7) and (8) an increase in the principle components factor implied a decrease in the investment variable, however the estimates were considerably nosier than those made using the aggregate measures of governance. This pattern of specifications using establishment measures containing more “noise” than those run using the aggregate measures was first seen when comparing the results obtained in (1-2) and (3-4). The aggregate World Bank measures were compiled from various surveys comparable to the individual establishment surveys used as data in this thesis. The establishment level indicators can be seen in this light as more ground-level than the aggregate measures, essentially measuring the perceptions trying to be captured by the World Bank measures. It is also conceivable that the two measures are not so well aligned and actually contain slightly different information. Continued noise when the principle component measures were used is not explained by the potential concern that the aggregate and individual variables measured slightly different things.

A more promising reason why the establishment level estimates contained more noise is that the samples they were run with differed greatly from the total samples used with the aggregate measures. For the establishment level measures the only countries I could include because of data constraints, were Korea, Indonesia and the Philippines. As a part of the East Asian groups these countries had particularly high average values of training. There was also less variation in the capital-labor ratios of these countries than in the sample as a whole. Additionally, the sample size was much smaller since only three countries were included. The sample size using establishment level measures and training as the form of long-term investment generally had about half of the number of observations when aggregate measures were used. When the capital-labor ratio was used with the establishment level indicators there were less than half of the indicators used with the establishment variables.
and training. Such vast differences in sample size and composition are likely the cause of the great noise in the establishment level governance specifications.

Using the standard equations for the variance of a given coefficient (beta) and for the total sample variation the potential of the above argument can be shown. As given:

$$Var(\beta) = \frac{\sigma^2}{SST_j(1 - R_j^2)}$$

$\beta$ = Estimated Coefficient of $x_j$
$\sigma^2$ = Population Variance
$SST_j$ = Total Sample Variation in $x_j$
$R_j^2$ = Coefficient of Determination of $x_j$

$$SST_j = \sum_{i=1}^{n} (x_{ij} - \bar{x}_j)^2$$

From these equations it is possible to see that the larger the total variation in $x_j$, the smaller the variation in $\beta$.

Using specifications (8)-establishment level and (6)-country level I calculated the $SST_j$ with $x_j$ being the principle component measure of each. The value of $SST_j$ for the aggregate specification was about six times as large as the value of $SST_j$ for the establishment level specification. This calculation immediately produces the question of how such a difference can be possible, how the total sample variation of $x_j$ be smaller when establishment perceptions are used then when the aggregate measures are used. Possibly the difference arises from the loss of sample size when moving to the establishment perception specification (8). While this does not seem possible, using the information obtained above we have:

$$SST_A = 6 \cdot (SST_E)$$

$$\sum_{i=1}^{356} (x_{AI} - \bar{x}_A)^2 = 6 \cdot \sum_{i=1}^{140} (x_{IE} - \bar{x}_E)^2$$

$SST_A$ = Aggregate Measures SST, specification (6)
$SST_E$ = Establishment Measures SST, specification (8)

If I assume the variance in the $x_j$'s are the same, then it can be seen that the difference in Total Variation cannot be due to the difference in sample size alone. Another solution to the problem would entail that the establishment level measures vary less across countries than the official World Bank measures. The variance of
the principle components measure across countries in the sample used in establishment level specification (8) was 0.8134. In the aggregate specification (6) the principle components measure had a higher cross-country variance of 1.9266. So, the variance of the establishment measures is less than that of the World Bank measures and is the resulting reason why the coefficients are estimated less precisely when the establishment level governance measures are used. Of course, there are fewer countries with establishment level indicators; all of them are also within the same region.

In the case of the probit models using training as the investment variable, specifications (5) and (7) we have the asymptotic variance matrix of beta as estimated:

\[ A \text{var}(\hat{\beta}) = \left( \sum_{i=1}^{n} \frac{[g(x_i, \hat{\beta})]^2 x_i x_i'}{G(x_i, \hat{\beta})[1 - G(x_i, \hat{\beta})]} \right)^{-1} \]

\[ G(.) = \text{Probit Function} \]
\[ G(x_\beta)[1 - G(x_\beta)] = \text{Var}(y | x) \]

note - uses \( P(y = 1 | x) = G(x_\beta) \) form as given

While the variance of the principle component of the aggregate governance measures was still greater than the variance of the principle component of the establishment measures within the training sample, there was less of a difference. The variance for the aggregate principle component was 0.9796 while for the establishment level principle component it was 0.8799. Again the resulting difference in cross-country variance serves as a reason for the difference in the precision of the estimated coefficients. The difference in the sample (fewer countries) is likely responsible for the difference in variation. Further exploration of establishment level perceptions would clarify this point.

**Analysis and Conclusions**

Table 5 below gives the direction of the estimated relationships of the variables by specification.
Table 5

<table>
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<td>-</td>
<td></td>
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Note: () around coefficients with no significance at the 25% level
Note: Grey shading indicates Establishment Level measures

In the majority of instances, especially the precisely estimated cases, the relationship between governance and the variables representing long-term investment is negative. As shown, the relationship between illiteracy and training is also negative in all cases. The relationship between illiteracy and the capital-labor ratio was difficult to estimate in most cases. However, when it was included in specifications (2) and (4) it had a positive relationship with the capital-labor ratio, implying decreased K/L ratios in countries where literacy was increased.

In specifications 1-4 an average of governance indicators and an indicator of the corruption present in the country were used as separate independent variables. In specifications 1, 2, and 3 the only positive coefficients relating governance to long term investment are obtained. Two of the coefficients, in 1 and 3, are estimated very imprecisely. Moreover, the signs of the coefficients on the governance measure and on the corruption measure had different signs in 1, 2, and 3. The two measures, of corruption and governance, were highly correlated and also had relatively high covariance values. Practically speaking, the country’s control of corruption and the overall level of governance should be equivalent.

The correlation between the TI index and the aggregate measure of governance was 82.27% for the entire sample. Using the sample from the training regressions the correlation between the two was 82.8%. At 83.76% the correlation was even higher when the sample was restricted to those observations used in the capital-labor ratio regressions. Using the establishment level indicators, the overall sample correlation between the measures of governance and corruption was 77.97%. For the training sample the correlation was 77.68%. In the capital-labor sample, the correlation dropped to 70.03% but remained well above 50%.
Given the related nature of governance and corruption, such high correlations should not be surprising. However, the collinearity of the measures does raise problems when trying to estimate their potential effects on long-term investment separately. The problems can be seen in Tables 2 and 3, where the results are reported and by a quick glance at Table 5. Coefficient estimates in these regressions are by and large poorly estimated with inconsistent signs. Due to the collinearity of the measures of governance and corruption which did not allow for good estimation in the regressions, the principle components method was used to unify the measures.

Contrary to the relationship estimated using the initially divided governance measures, the relationship between illiteracy and investment in training was negative in the specifications using principle components. This consistently negative relationship between training and illiteracy is quite pronounced and seems indicative of the hypothesis that better educated workers are more likely to receive training from their establishments (i.e. establishments are more likely to provide training to workers who are to some degree literate). The UNESCO measure of illiteracy defines literacy at a very fundamental level. Being able to write, with comprehension, a short statement about their daily life is enough for someone to be classified as literate. This fundamental definition of illiteracy is especially useful in the training context because it is set at a level where training programs can be implemented.

Without the basic knowledge illustrated by this definition, training programs would first have to teach workers to read and write. Of course, training by verbal methods only could take place but I suspect that the training becomes more cost effective and can use higher level materials if the workers are semi-literate. At higher observed proportions of literacy the rate’s estimated effect on training declines in magnitude. This can especially be seen in the specifications that include primarily East Asian countries. The relationship between the capital-labor ratio and illiteracy seemed to be negligible. The individual coefficients were estimated very imprecisely and dropped from the final specifications for this reason.

Particularly interesting to note is that the specifications using establishment level independent variables produced coefficients showing the same direction of effect as those estimated using country level perception data. When traditional studies involving growth or FDI are conducted there is always a concern about feedback from
growth or FDI to the country aggregate measures of governance. Various statistical and econometric solutions have been formed to combat this possibility. However, the use of firm level dependent variables with the country aggregate independent variables along with the inclusions of only foreign owned firms in this thesis makes the possibility of such feedback very slim, because of the establishment level of the investment variable. The potential of simultaneity returns when establishment level independent variables of governance are used. Even in this case through the training and capital-labor ratio of the given establishment are unlikely to significantly impact the perceptions of the individual surveyed.

The similar direction of the coefficients estimated using these two types of specifications seems even more intriguing when viewed in respect of their prospective biases, or lack thereof. The difference between the two types and similarity of their results lends more credibility to the estimated negative relationship between training or the capital-labor ratio and perceptions of governance. Additionally, the specifications using the principle components method were consistently negative and estimated relatively precisely relative to the coefficients in specifications that used various measures of governance separately.

There are a few potential explanations of the negative relationship estimated between governance and long-run investment found in this thesis. First of all, only foreign direct investment establishments are looked at in this thesis and these firms only represent one component of total foreign investment in developing countries. The effects estimated here are based on long-term investment at a micro level. Relationships may indeed be different for other components of total foreign investment and if overall flows are evaluated rather than just establishment responses.

The stage of economic development of the countries may also play a role not specifically studied here. Within the sample there is a wide variation in length of time a functioning market economy has been operating (if there is one to begin with). Some of the countries, such as those in the East Asian region, have pursued market-friendly policies and have been outspoken about trying to recruit FDI. As a result, there has been a recent boom in investment in these areas, both direct and financial. It is thus possible that long-term investment in these areas no longer takes the form of directly controlled establishments. Local opportunities may be more readily exploited.
by those investors pursuing long term strategies. This shift may be the reason for the prevalence of short term positions in the remaining FDI establishments.

Generally, countries with better perceived governance and market conditions are the destinations for the most foreign direct investment. Such investment is considered to be the most stable and long-term type of capital flow to developing countries. In the literature, the governance of the host country has been repeatedly linked, though not in all cases, to the amount of foreign direct investment it receives. It seems logical that the relationship between long-term investment and governance should hold within the establishments classified as products of foreign direct investment. Put another way, the investment patterns of establishments should mimic the pattern of overall flows, with more long term investment in countries that have better governance because of the higher expected value of the investment. Despite the difference in the magnitude of the predicted marginal effects estimated by the various coefficients, the consistently negative result clearly negates the notion that a positive relationship exists between the measures of governance used in this thesis and long-run investment at the establishment level. Irregardless of the reason, previously estimated positive relationships using aggregated measures of investment do not seem to hold true at the micro/establishment level.

When relatively low, compared to advanced industrialized nations, the perceived quality of governance is not shown to have a significant impact on the long-run investment decisions made by foreign direct investment establishments in this thesis. It could be the case that at such low ranks of 'good' governance, small differences in the various indices do not have as much of an impact on establishment level decisions. A way to conceptualize this possibility is to divide all of the countries in the world into categories based on their attractiveness to investors.

The highest such echelon would include those countries that have successfully industrialized open economies, very stable governance conditions and are generally high income. In the next tier down could be countries with slightly less stability, newly opened or functioning markets with lower index values. The third category could be comprised of those countries clearly still undergoing massive development of their markets and governance situations. These countries would be more likely to have more protective trade and financial controls in place.
with markets that are not always operable. Countries in the final group would not be attractive sites for
investment and would be those that do not have functioning markets, or are severely closed, and/or are suffering
violent internal struggle. The exact composition of these categories is not as important as the idea they represent.

In contrast to earlier findings that ‘better’ governance attracts FDI to host countries my results show the FDI
establishment level investments do not become more long-term with ‘better’ governance. So, an improvement in
perceptions of governance, while potentially increasing the amount of FDI that flows to a country does not
necessarily increase the long-term aspects of that investment. Within groups of countries that score similarly on
governance indicators it may further be supposed that minor differences in the perceptions of governance do not
have an appreciably large impact on the ‘time horizon’ of investment decisions made by establishments. Within
the long-term investment types suggested other factors in establishment’s decisions to pursue investment such as
worker training or an increase in the capital-labor ratio may be dominated by concerns other than small changes in
the quality of governance of the host country.

Other characteristics, such as the country’s level of literacy, have a much greater effect within the category of
countries that have low governance index values. Expansion to include more countries, when data become
available and to more thoroughly investigate establishment level perceptions when possible may generate a better
understanding of why the relationship between governance and long-term investment is not positive at the
establishment decision-making level. The study of FDI clearly has many potential areas for further study. The
difference between conclusions reached using macro and micro level data also suggests that a theoretical gap
regarding the motivations for investment need to be filled.


