Investor Protection and Real Investment by U.S. Multinationals

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ABSTRACT

In spite of the growing research concerning investor protection, the relation between investor protection and real investment by foreign multinationals is largely unexplored. Recognizing this relation, however, is especially important in light of the surge in cross-border activity in recent decades and the potential impact cross-border investment can have on a country's economic development. We find that U.S. multinational foreign investment is significantly greater both when shareholder protection is poor and when creditor protection is poor. Consistent with existing literature, our results suggest that U.S. firms have greater comparative advantages when local firms in poor investor protection countries either (1) invest sub-optimally due to agency problems or (2) have constrained access to debt capital. The increased investment by U.S. multinationals in poor investor protection countries is of particular interest, because it suggests an important way in which adverse outcomes related to poor investor protection may be mitigated.

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ABSTRACT

In spite of the growing research concerning investor protection, the relation between investor protection and real investment by foreign multinationals is largely unexplored. Recognizing this relation, however, is especially important in light of the surge in cross-border activity in recent decades and the potential impact cross-border investment can have on a country's economic development. We find that U.S. multinational foreign investment is significantly greater both when shareholder protection is poor and when creditor protection is poor. Consistent with existing literature, our results suggest that U.S. firms have greater comparative advantages when local firms in poor investor protection countries either (1) invest sub-optimally due to agency problems or (2) have constrained access to debt capital. The increased investment by U.S. multinationals in poor investor protection countries is of particular interest, because it suggests an important way in which adverse outcomes related to poor investor protection may be mitigated.

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Researchers beginning with La Porta, Lopez-de-Silanes, Shleifer, and Vishny (henceforth LLSV, 1998) have examined relationships between the legal protection of investors and various aspects of a country's micro- and macroeconomies.[1] The resulting evidence on welfare implications is mixed. Poor investor protection was initially linked to negative outcomes such as more severe agency costs, sub-optimal investment behavior, higher costs of capital, and smaller and less developed financial markets.[2] However, some recent research has argued that while poor investor protection affects a country, adverse outcomes may be mitigated. Individual firms in poor protection countries are able to take measures to improve the quality of protection for their investors, and markets respond favorably to such efforts.[3]

Investor protection may also affect a country's welfare through its impact on investment by foreign firms. To the extent poor shareholder and creditor protection hinders domestic firms' abilities to raise capital or poor shareholder protection facilitates sub-optimal investment behavior (i.e., larger agency problems), foreign multinationals that do not operate under such constraints will possess comparative advantages.[4] Thus, domestic firm activity may indeed be lower (or sub-optimal) in countries with poor investor (shareholder) protection, but increased foreign multinational activity might fill this void.

[1] Denis and McConnell (2003) provide a survey of international corporate governance research.
[2] See, for example, LLSV (1997), Lombardo and Pagano (2000), Claessens and Laeven (2003), Demirgüç-Kunt and Maksimovic (1998), Dittmar, Mahrt-Smith, and Servaes (2003), Wurgler (2000), Nenova (2003), Leuz, Nanda, and Wysocki (2003), and Kuipers, Miller, and Patel (2003).
[3] See, for example, Doidge, Karolyi, and Stulz (2004), Reese and Weisbach (2002), Durnev and Kim (2005), and Klapper and Love (2003).
[4] Dunning (1977, 1981) provides a useful framework for understanding multinational activity and the role of comparative advantages. Markusen (1995) provides a nice discussion of both theoretical and empirical research on multinationals.

In spite of the surge in cross-border activity in recent decades, the relation between investor protection and real investment by foreign firms is largely unexplored.[5,6] An exception is Rossi and Volpin (2004). They analyze the relation between shareholder protection and cross-country merger and acquisition activity. While their study indicates that firms from countries with strong shareholder protection typically choose targets with weaker shareholder protection when acquiring foreign firms, it does not address levels of real investment. Recognizing this relation, however, is important when considering how legal norms protecting investors affect a country. Cross-border investment can contribute significantly to a country's economic development. For example, FDI stock equaled around 36% of Switzerland's GDP in 2000 (UNCTAD, FDI/TNC database). Moreover, in a recent study for the International Monetary Fund, Prasad et al. (2003) report that of the studies surveyed on the relation between types of capital flows and economic growth, FDI is one form of capital inflows that tends to be positively associated with both domestic investment and domestic growth in a relatively consistent manner. Therefore, if poor investor protection attracts real investment by foreign multinationals, this investment may provide another avenue by which adverse outcomes are mitigated.

In this paper, we examine whether the investment patterns of foreign multinationals with strong shareholder protection and liberal access to financing suggest comparative advantages

[5] Rajan and Zingales (2003) is among the recent studies that have begun to recognize the importance of understanding this relation. They argue that changes in cross-border activities over time can have a significant impact on the relation between investor protection and financial development. Although Bris and Cabolis (2003) do not directly examine the degree of multinational investment in a country, their results suggest that at least one aspect of multinational activity, cross-border acquisitions, affects the value of the target firm's industry, and the valuation effects appear to vary with investor protection. Kuipers, Miller, and Patel (2003) do examine the relation between investor protection and cross-border takeovers. However, their primary focus is on the investor protection environment of the acquiring firm, not the investor protection of the target's environment. Finally, Palepu, Khanna, and Kogan (2002) find that pairs of economically interdependent countries appear to adopt common corporate governance standards; however, they find little evidence of implementation.

[6] Feinberg and Phillips (2001) examine the relation between resource allocation decisions made by established U.S. multinationals and both host-country financial market development and affiliate efficiency at the firm level. However, because they measure affiliate growth relative to the firm, their findings do not easily translate into predictions for U.S. multinational real investment within a particular industry in a country.

relative to domestic firms in countries with poor investor protection, once we control for general differences that affect all firms. In addition, we differentiate between domestic firms' agency problems and their constrained access to external financing as sources of these comparative advantages. Since U.S. multinationals are likely to have relatively fewer financing constraints and agency problems than local firms in many poor investor protection nations, we focus on the investment patterns in their majority-owned foreign affiliates to test our hypotheses.[7]

Using data from 7 broad manufacturing industries in 41 countries, we document that U.S. multinational investment is significantly greater in both poor shareholder protection and poor creditor protection countries. This is a relation that has been unidentified in previous research, but is an important way in which adverse outcomes associated with poor investor protection may be mitigated. These relations are robust to the inclusion of various other measures of a country's environment, including measures of business environment and capital market development. Additional analysis indicates comparative advantages associated with poor shareholder protection primarily stem from more severe agency problems in domestic firms. In particular, the relation with poor shareholder protection exists only in developed countries, which are precisely the countries where financial constraints should be less severe but agency costs should be more problematic. The relation with poor shareholder protection is significant in emerging economies only when no firm within a particular industry has accessed the U.S. equity markets through cross-listing. Since cross-listing may mitigate financing constraints, we interpret this finding as evidence that, in certain situations, comparative advantages do stem from constrained

[7] International operations of U.S. multinationals have continued to increase in importance during the time period examined in most international investor protection studies. According to the U.S. Commerce Department, foreign profits of U.S. firms grew at approximately twice the rate of domestic profits for the same firms from 1982 to 1991 (Business Week, September 20, 1993). Continuing an upward trend, investment by non-bank U.S. multinational affiliates more than doubled from 1994 to 2000 to $5,260 billion. This figure represents 42% of U.S. parents' total assets (Mataloni and Fahim-Nader, 1996; Mataloni, 2002).

access to external equity. Overall, the shareholder protection results are consistent with (1) studies indicating that agency problems are more severe, and thus investment decisions are sub-optimal, in countries with poor shareholder protection (e.g., Dittmar et al., 2003; Kuipers et al., 2004; and Rossi and Volpin, 2004) and (2) recent studies suggesting domestic firms adapt to poor investor protection environments to ease constraints on raising external equity in certain situations (e.g., Doidge et al., 2004; Durnev and Kim, 2005; and Reese and Weisbach, 2002).

The negative coefficient for creditor rights suggests the comparative advantages possessed by U.S. multinationals investing in countries with low creditor rights is primarily related to domestic firms' constrained access to debt. This is consistent with both Desai et al. (2004) and Giannetti (2003). Giannetti (2003) finds that it is more difficult for unlisted firms investing in intangible assets to obtain loans in countries with poor creditor protection. Desai et al. (2004) find that the internal capital markets available to affiliates of U.S. multinationals appear to give them a greater advantage over domestic firms in countries with weak creditor protection.

The remainder of the paper is organized in the following manner. Section II discusses reasons why investor protection may be related to foreign investment by U.S. multinationals. Section III describes the data. Section IV presents the empirical analysis. Section V concludes with a summary of our findings and suggestions for future research.

II. Reasons Investor Protection and U.S. Multinational Activity May Be Related

Doing business abroad is costly. Such costs include communications, transportation costs, and barriers due to language, customs, and being outside the local business and government networks. Theoretically, multinational firms will not arise unless benefits from comparative advantages outweigh the costs of doing business abroad. For example, Dunning

(1977, 1981) proposes multinationals must possess ownership, location, and internalization advantages (referred to as the OLI framework) to justify expanding across borders.[8] The OLI framework implicitly assumes that multinationals have both the incentive and ability to expand and enhance shareholder wealth. Because shareholder protection is relatively strong and both the economy and capital markets in the U.S. are among the most developed in the world, the incentive (i.e., lower agency problems) and the ability (i.e., less restrictive access to capital) to expand and enhance shareholder wealth are greater in the U.S. compared to countries with poor shareholder protection and less developed capital markets. Consistent with this view, Wurgler (2000) finds U.S. firms invest more in growing industries. In addition, Kuipers et al. (2003) find countries, like the U.S., with strong shareholder rights and strong rule of law make better cross-border investment decisions. We therefore focus on the investment in majority-owned foreign affiliates by U.S. multinationals. Restricting our analysis to U.S. multinationals also allows us to hold the investor protection environment of the parent constant at the country level and focus our attention on cross-country differences in the investor protection environment of destination countries.

Extant research provides two reasons comparative advantages for U.S. multinationals may vary with a country's level of shareholder and creditor protection: constrained financing by domestic firms and more severe agency problems in domestic firms. According to Jensen and Meckling (1976), firms are able to take advantage of fewer potentially profitable projects when

[8] Markusen (1995) provides a nice summary of empirical findings regarding direct foreign investment and a nice discussion of Dunning's OLI framework. Consistent with this framework, there are large differences across industries in the degree to which production and sales are accounted for by multinational firms (e.g., Brainard, 1993). Multinationals tend to be important in industries where firms have high levels of R&D intensity, a large share of professional and technical workers, products that are new and/or technically complex, and high levels of product differentiation and advertising (e.g., Caves, 1996; Morck and Yeung, 1991 and 1992; and Brainard, 1993).

financing is constrained.[9] To the extent that profitable projects are unexploited by domestic firms in countries with weaker shareholder and creditor protection because access to capital is more constrained or costly, large U.S. multinationals, which enjoy strong minority shareholder protection (LLSV, 1998) and access to both external equity and debt, may have a comparative advantage.[10]

Existing research also suggests that agency problems are more severe when the discretionary nature of capital investment is greater, and the result is sub-optimal investment decisions (e.g., Jensen, 1986, 1993; and Fama and Jensen, 1985). To the extent more severe agency problems exist at certain levels of investor protection, profitable projects may remain unexploited and production may be either less efficient or of lower quality. Both situations could make real investment attractive to foreign multinationals. U.S. firms will possess a comparative advantage over domestic firms to the extent they make better investment decisions or have more efficient production.

In this section, we review existing literature concerning (1) shareholder protection and (2) creditor protection to form hypotheses about the relation between both financing constraints and agency problems with each type of investor protection. We then discuss the predictions of each hypothesis concerning the relation between each measure of investor protection and investment by U.S. multinationals.

[9] In Jensen and Meckling (1976), financing constraints are a result of agency problems. We acknowledge that financing constraints and agency problems are necessarily related. However, in this study, we are interested in how financing constraints and agency problems explicitly (and differently) affect real investment by domestic firms. Financing constraints affect the *quantity* of real investment. New potentially positive-NPV projects are passed up because firms have no funds to invest. While agency costs may indirectly limit investment via their effect on financing constraints, they directly affect the *quality* of real investment by allowing domestic firms to invest in negative-NPV projects while passing up positive-NPV projects.

[10] Although the creditor rights index for the U.S. is below average, LLSV (1997) find that large firms have access to debt even when the creditor rights index is low.

A. Shareholder Protection

1. Financing Constraints

There is growing evidence that poor investor protection results in constrained or more costly access to capital. From a theoretical standpoint, Lombardo and Pagano (2000) develop a model in which inadequate protection for shareholders drives a wedge between the profitability of a given project and the rate of return firms can credibly promise to investors. A change in the legal system that improves the protection of minority shareholders reduces private benefits of control and ultimately results in more available financing. Under a different framework, Himmelberg, Hubbard, and Love (2002) investigate the cost of capital in a model in which shareholder rights determine the agency conflict between inside managers and outside shareholders. The implied cost of capital is higher when shareholder protection is weaker because insiders are forced to bear undiversified idiosyncratic risk. They conclude that the magnitude of the departure from the first-best level of capital is potentially quite large for firms in countries in which shareholder protection is weak.

Consistent with this view, Love (2003) measures firms' financial constraints by the sensitivity of investment to the availability of internal funds. Her results suggest that financing constraints are significantly greater in less developed nations or nations with inadequate protection for investors. Brockman and Chung (2003) examine the Hong Kong equity markets and conclude that poor shareholder protection decreases liquidity and ultimately increases firms' costs of capital. LLSV (1997) provide evidence that the amount of external financing available in a country's equity markets is positively related to shareholder protection.

The results in these papers suggest that profitable projects may be unexploited by domestic firms in countries with weaker shareholder protection because access to capital is more

constrained or costly. U.S. firms, which enjoy strong minority shareholder protection (LLSV, 1998) and access to capital, may thus have a comparative advantage in these countries. Therefore, the *financing hypothesis* predicts a negative relation between U.S. multinational investment and shareholder protection.

2. Agency Problems

Existing literature suggests that the discretionary nature of investment is greater when shareholder protection is poor. For example, LLSV (2000) study the dividend policy of firms from 33 countries and find dividend policy varies according to the shareholder protection. They argue that poorly protected shareholders are unable to extract dividends from firms when reinvestment opportunities are poor. Consistent with this view, the results in Dittmar et al. (2003) suggest that firms tend to hold excess cash to use at their discretion when shareholder rights are weak. Leuz et al. (2003) find earnings management is greater in countries with weaker shareholder protection. Finally, Nenova (2003) finds control-block votes are significantly more valuable when shareholder protection is weak suggesting that controlling shareholders can extract private benefits to the exclusion of dispersed shareholders.

The evidence of greater discretion over investment in countries with weak shareholder protection suggests that agency problems are more severe, resulting in sub-optimal investment decisions in these countries. Providing support for this view, Wurgler (2000) finds that investments tend to be sub-optimal in countries with a weak investor protection environment. Firms tend to overinvest in low growth industries and underinvest in high growth industries. Kuipers, Miller, and Patel (2003) examine cross-border takeovers and find that returns are negative to acquisitions by bidders from countries with poor shareholder rights, but they are positive for acquisitions by bidders from countries with strong shareholder rights. Also

consistent with firms domiciled in countries with weak shareholder protection following sub-optimal investment strategies, LLSV (2002) find a negative relation between firm value and shareholder rights. Moreover, Rossi and Volpin (2004) find that cross-border targets are typically from countries with weaker shareholder protection than the acquirers.

The results in these papers suggest firms in countries with poor shareholder protection follow sub-optimal investment policies. U.S. firms, which enjoy strong minority shareholder protection (LLSV, 1998) and less severe agency problems, may thus have a comparative advantage in these countries. The *agency hypothesis* therefore predicts a negative relation between U.S. multinational investment and shareholder protection.

3. Financing Constraints versus Agency Problems

Both the financing and the agency hypotheses predict a negative relation between shareholder protection and U.S. multinational investment. However, the financing hypothesis predicts the comparative advantage for U.S. multinationals associated with low shareholder rights should be greater in industries with greater dependence on external equity financing. The results in Love (2003) also suggest that financing constraints may be more severe, and thus comparative advantages for U.S. multinationals may be greater, in less developed countries.

In contrast, agency problems are more likely to be higher when financing constraints are lower. Jensen (1986) argues that agency conflicts between management and shareholders are higher for larger, established firms generating large free cash flows available for discretionary spending. Moreover, less reliance on external financing decreases market discipline so that agency problems are likely to be higher when dependence on external financing is lower (Easterbrook, 1984). Consistent with this view, the results in Durnev and Kim (2005) and Dittmar et al. (2003) suggest that firms are less likely to establish efficient governance systems

and thus agency problems are more severe when external financing needs are lower. Thus, the agency hypothesis predicts a stronger negative relation between U.S. multinational investment and shareholder rights in industries with less dependence on external financing and in more developed countries.

B. Creditor Protection

1. Financing Constraints

Existing studies indicate that access to debt may be restricted when protection for creditors is poor. For example, Giannetti (2003) finds that it is more difficult for unlisted firms investing in intangible assets to obtain loans in countries with poor creditor protection. Djankov et al. (2004) find that the size of a country's private credit market is positively related to the degree of protection it provides for creditors and that access increases after creditor protection is improved. Thus, the financing hypothesis predicts a negative relation between U.S. multinational investment and creditor rights. Providing some support for this view, Desai, Foley, and Hines Jr. (2004) find that foreign affiliates of U.S. multinationals substitute parent debt for external debt in countries with underdeveloped credit markets and weak creditor protection.

2. Agency Problems

In contrast to strong shareholder protection, which is associated with lower agency problems, strong creditor protection may be associated with higher agency problems. For example, managers' incentives may be more closely aligned with creditors than shareholders when creditors have strong rights. Smith and Warner (1979) find that stronger protection for creditors can prevent managers from making value-increasing investment decisions. Instead managers may make decisions to decrease firm risk (e.g., hold excess cash or invest to increase firm diversification rather than shareholder wealth). Consistent with this argument, Kuipers et

al. (2003) find that returns to acquiring firms in cross-border acquisitions are negatively related to protection for the acquiring firms' creditors. Thus, in contrast to the financing hypothesis, the agency hypothesis predicts a positive relation between U.S. multinational investment and creditor rights.

III. Data

We use total assets of majority-owned U.S. foreign affiliates to measure real investment by U.S. multinationals. Table 1 provides a description of the variables used in this paper and lists the data source for each variable. Total assets represent cumulative investment over time and are thus not likely to be overly sensitive to the point in time when it is measured. U.S. majority-owned foreign affiliate data are obtained from the *1994 Benchmark Survey of U.S. Direct Investment Abroad*, a survey that is conducted every 5 years by the Bureau of Economic Analysis (United States Department of Commerce). According to the International Investment and Trade in Services Survey Act, data reporting is mandatory for all U.S. foreign affiliates (i.e. branches, divisions, and subsidiaries) with more than $3 million in total assets, sales, or net income. The data are aggregated at the industry level for each country. Some values may be coded as missing if the BEA determines the aggregated numbers would violate the confidentiality of individually reporting firms. We obtain similar results when substituting zeros for missing values. Following Rajan and Zingales (1998) and Wurgler (2000), we limit our analysis to manufacturing industries. Besides financial services and petroleum, which have unique characteristics, manufacturing accounts for the vast majority of U.S. multinational activity (Mataloni and Fahim-Nader, 1996).[11] A list of sectors included in each industry is presented in the appendix.

[11] Nunnenkamp and Spatz (2002) find similar relations between traditional determinants of FDI and both total reported FDI and the manufacturing sector of U.S. FDI.

A. Investor Protection

Following the literature on international investor protection, we use shareholder rights, or the anti-director rights index (LLSV, 1998), as our measure of shareholder protection. The anti-director rights index can range from 0 to 6 in value and represents various rights that protect the interests of minority shareholders from management and controlling shareholders. Examples of shareholder rights include allowing shareholders to mail their proxy to the firm, allowing cumulative voting or proportional representation of minorities in the board of directors, and shareholders having preemptive rights that can only be waived by a shareholders' vote.[12] LLSV (1997) associate low values of this index with smaller and narrower capital markets. Numerous studies also associate low shareholder rights with non-value maximizing activities by firms (e.g., LLSV, 2000; Dittmar et al., 2003; and Kuipers et al., 2003).

We use the creditor rights index (LLSV, 1998) as our primary measure of creditor protection. The creditor rights index represents rights protecting creditors from management and controlling shareholders within a country. Examples of creditor rights include imposing restrictions such as creditors' consent to file for reorganization, minimum dividends, and ranking secured creditors first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm. Giannetti (2003) finds that it is more difficult for unlisted firms investing in intangible assets to obtain loans in countries with weak creditor rights. In addition, Djankov et al. (2004) find a country's private credit market is significantly lower in countries with weak creditor rights.

B. Traditional Direct Foreign Investment Variables

Several non-investor protection variables have been strongly related to multinational investment in the literature. The vast majority of direct foreign investment in production

[12] A detailed description of the anti-director rights index can be found in Table 1 of LLSV (1998).

facilities seems to be "horizontal," or market-related, in the sense that most of the output of foreign affiliates is sold in the foreign country (e.g., Brainard, 1993) and occurs among developed countries. For example, U.S. multinationals tend to invest more heavily in countries that are larger and that have higher relative endowments (see Carr, Markusen, and Maskus, 2001; and Hanson, Mataloni, and Slaughter, 2001 for a good discussion of recent empirical evidence). Nannenkamp and Spatz (2002) show that these traditional market-related factors are still the dominant factors shaping the distribution of FDI in recent years. To control for this type of activity, we include either population or GDP and per capita GDP. Population and GDP are commonly used to proxy for resource availability and market size. Per capita GDP is commonly used to proxy for relative capital/labor endowment, level of economic development, or demand similarity between the U.S. and a foreign country.

Brainard (1997) considers the choice between producing abroad and exporting within the context of horizontal expansion. He shows that firms produce more abroad relative to exporting when transportation costs and trade barriers are high. Similar to Hanson et al. (2001), we estimate transportation costs for an industry between the U.S. and a country by comparing U.S. customs values with values upon shipment. We calculate this measure using data described in Feenstra, Romalis, and Schott (2002). Alternatively, we consider distance from the U.S. as a proxy for transportation costs. In addition, we use country and industry level data on tariffs from the United Nations TRAINS database to measure trade barriers.

Finally, Grubert and Mutti (2000) find that a country's average corporate tax rate is related to the sales of U.S. foreign affiliates. Countries with lower tax rates have higher affiliate sales. Thus, we include a country's average corporate tax rate.

C. Business Environment

Some aspects of a country's legal environment and infrastructure may deter multinational investment because they constrain or hamper all firms.[13] For example, the absence of law and order or poor communications systems makes it more difficult or expensive for firms – foreign or domestic – to operate. If poor shareholder or creditor protection is related to an environment that inhibits everyday business operations, the comparative advantage of U.S. firms may be offset and U.S. investment may in fact be relatively lower in these countries. Thus, it is important to control for these environmental factors when considering the relation between both shareholder and creditor protection and investment. Commonly used proxies for constraints associated with the legal environment are measures of law enforcement and corruption. We use the rule of law index and a measure of the absence of government corruption from LLSV (1998).[14] We also include measures of the risk of government expropriation (i.e., the government's outright confiscation of private property) and the efficiency of the judicial system from LLSV (1998). As proxies for barriers to the development of new business, we use both the average number of days and the number of procedures required to start a business (Djankov, La Porta, Lopez-de-Silanes, and Shleifer, 2000). We use four measures of a country's infrastructure obtained from the World Bank's *World Development Indicators*. The first two are related to transportation – the tonnage of freight transported through the air per kilometer flown and the percentage of roads that are paved. The second two measures are related to communications – the number of phone lines per capita and the number of phone lines per employee. We note that some of the variables listed in this section, particularly the risk of expropriation, likely have

[13] For example, Bhattacharya and Groznik (2003) report U.S. direct foreign investment is related to legal and infrastructure variables affecting the business environment. Hellmann et al. (2002), among others, find that corruption reduces direct foreign investment.

[14] We also use the measure for corruption provided by Transparency International. Our results are similar.

more of an adverse affect on foreign than domestic firms. If this is the case, comparative advantages of U.S. multinationals may evaporate in such an environment. Conversely, multinationals would be attracted to environments where the constraints on business are lower.

D. Financial Development

Financial development may also influence investment by firms. Rajan and Zingales (2003) argue that financial development is driven by the level of openness of the economy. When a country is relatively closed to foreign activity, powerful firms and financial intermediaries may use their political influence to prevent further financial development and preserve their monopoly rents. However, as a country becomes more open, added competition forces its markets to become more developed. Thus, to the extent that financial development represents a country's openness to foreign activities as well as investment opportunities (demand for financing), investment by both domestic and foreign firms may be higher in countries with more developed capital markets. On the other hand, if less developed capital markets indicate larger financing constraints by domestic firms, U.S. multinationals may invest more in countries with less developed capital markets.

We include various measures of financial development used in the literature (e.g., Demirgüç-Kunt and Maksimovic, 1998; LLSV, 1997; Rajan and Zingales, 1998, 2003; and Wurgler, 2000). The ratio of stock market capitalization to GDP serves as a proxy for the size of capital markets. We also measure stock market capitalization as the ratio of stock market capitalization excluding the top 3 shareholders in each firm to GNP as a proxy for financing from non-controlling shareholders. The ratio of IPOs to population is used to proxy for the ease with which new firms can access capital markets.

IV. Empirical Analysis

A. Summary Statistics

The 41 countries used in this study represent a majority of the 49 countries examined in LLSV (1997, 1998).[15] Table 2 provides summary statistics for each country in the sample grouped according to its level of shareholder rights. No country has shareholder rights of 6. Values for shareholder rights for our sample range in value from 0 to 5 and are distributed fairly evenly around 3. The results in Table 2 indicate real investment by U.S. multinationals is higher at both extremely low and extremely high levels of shareholder protection, and is greatest in the group of countries with shareholder rights of 1. Moreover, the greater investment in the low shareholder protection countries does not appear to be driven by investment in emerging markets. The correlation coefficient between shareholder rights and Per Capita GDP is not significantly different from zero (see correlation matrix of variables in the appendix), and the Per Capita GDP means for the groups of countries with shareholder rights less than or equal to 2 are all greater than the mean Per Capita GDP for the group of countries with shareholder rights of 5. Finally, no clear pattern emerges between average creditor rights and level of shareholder rights.

B. Univariate Results

Table 3 presents univariate comparisons of investment by U.S. multinationals across different levels of both shareholder rights and creditor rights. Because shareholder (creditor) rights are equal to the number of provisions in place to protect shareholders (creditors) within a country, it treats the addition of each provision equally. However, because each addition can influence the costs and benefits of cross-border investment differently, the incremental *net* benefit may vary at different levels. We therefore classify countries intro three different groups according to level of investor protection. Countries with shareholder rights from 0 to 2, equal to

[15] The investor protection data for China is obtained from Claessens, Djankov, and Nenova (1999).

3, or from 4 to 5 are classified as having LOW, MID, and HIGH shareholder rights, respectively. Countries with a creditor rights index from 0 to 1, equal to 2, or from 3 to 4 are classified as having LOW, MID, and HIGH creditor rights, respectively. Consistent with the means in Table 2, U.S. multinational investment is not significantly different between LOW and HIGH shareholder rights countries. However, both mean and median investment is significantly higher in both LOW and HIGH shareholder rights countries than in MID shareholder rights countries. Thus, a univariate analysis suggests a U-shaped relation exists between U.S. multinational investment and shareholder rights. U.S. multinationals appear to invest more in both LOW and HIGH shareholder protection countries.

No significant difference is found between U.S. multinational investment between LOW and MID creditor rights countries. However, investment in both LOW and MID creditor rights countries is significantly higher than in HIGH creditor rights countries. Unlike the shareholder rights results, U.S. multinationals appear to invest more only in countries with lower creditor protection.

C. Regression Results Controlling for Traditional Direct Foreign Investment Variables

We examine the robustness of the relation between investor protection and U.S. multinational investment when controlling for other factors in a multiple regression analysis. Following LLSV (2002), we estimate all our regressions using country random effects. Because there is no within-country variation in either the legal or traditional country-level foreign investment variables, we are unable to use country fixed effects. However, the random effects model takes into account the cross-correlation between observations due to common country components. The country random effects specification is supported by the Breusch and Pagan (1980) Lagrange multiplier test.

We include both shareholder rights and creditor rights to capture different aspects of a country's investor protection environment. The results from Tables 2 and 3 suggest that the relation between shareholder protection and cross-border investment is non-linear. We therefore include the square of shareholder rights to allow for non-linearity. Because the results in Table 3 do not support a non-linear relation with creditor rights, we do not include the square of creditor rights.[16] We also include traditional direct foreign investment variables to control for factors shown to influence multinational investment and industry dummies to control for the large differences across industries in the degree to which production and sales are accounted for by multinational firms. The results are presented in Table 4.

The first specification includes shareholder and creditor rights together. Consistent with the univariate results, a significant, non-linear (linear) relation is found between U.S. foreign investment and shareholder (creditor) rights. Specifications 2 and 3 include traditional variables associated with direct foreign investment. Consistent with extant literature, a strong positive relation exists between the level of U.S. investment in a country and both the country's population and per capita GDP.[17] Significant, negative coefficients are also found for both country-industry level transportation costs and country-level corporate tax rates.[18] Although the horizontal theory of expansion predicts a positive relation between trade barriers, such as transportation costs, and the *portion* of U.S. trade that occurs in the form of direct foreign investment, the predicted relation with the *level* of direct foreign investment is unclear. One

[16] Nonetheless, we include the square of creditor rights in an unreported specification. Not surprisingly, it is not significant.

[17] We also run the tests using natural logs of GDP and per capita GDP. Because per capita GDP is a function of both GDP and Population, the results for the other variables and the explanatory power of the regression remains the same. The only difference is the coefficient for per capita GDP loses significance in this specification.

[18] When using a different measure of direct corporate taxes, Desai, Foley, and Hines (2004) find investment by U.S. multinationals in a country is also related to indirect taxes. We therefore include their tax measures in an alternate specification. Our results are not sensitive to their inclusion. In fact, both tax measures from Desai et al. are insignificant when investor protection is included.

interpretation of the negative coefficient for transportation costs is that U.S. multinationals invest more where labor is cheap and exporting goods back to the U.S. is relatively less expensive. However, we find that the vast majority of affiliate sales in our sample are local, but U.S. parents do export to their foreign affiliates. Thus, consistent with other studies, cheap labor does not appear to be a major determinant of real investment by U.S. multinationals in the full sample. Instead, higher transportation costs appear to make it more costly for U.S. multinationals to export to their affiliates for host country market sales. Nonetheless, we will consider wage rates and examine emerging economies separately as additional robustness checks later in the paper.

Specification 4 includes both the investor protection and traditional variables. Consistent with specification 1 having omitted variables, the magnitudes of the coefficients for both shareholder and creditor rights decrease when the traditional variables are included. However, both shareholder and creditor rights remain statistically significant. The coefficients for shareholder rights and its square are –1.39 and 0.28, respectively, in specification 4, suggesting that U.S. multinationals invest significantly more in countries both as shareholder protection decreases below the average value of 3 and as shareholder protection increases above the average value of 3. Since the dependent variable is the natural log of total assets, the predicted *change* in assets with the addition of one provision to Shareholder Rights (denoted as SR) can be estimated as –1.39 + 2*.28*SR, holding all else constant. For example, increasing SR from 1 to 2 is predicted to *decrease* Assets by 0.83 or 83%. On the flip side, increasing SR from 4 to 5 is predicted to *increase* Assets by 85%. These estimated changes from one level of shareholder protection to another are of similar magnitude to the differences in mean country-level assets

reported in Table 2.[19] The coefficient for creditor rights is –0.22, suggesting that increasing the creditor rights index by 1 is associated with a *decrease* in Assets of 22%.[20] It is interesting to note that, based on the change in overall R^2 across models, the inclusion of the investor protection variables provides approximately 5% incremental explanatory power over the traditional explanatory variables, which is greater than the increase when other factors broadly supported in the direct foreign investment literature – transportation costs, tariffs, and corporate tax rates – are included.[21]

The negative relation between investment by U.S. multinationals and shareholder rights at lower levels is consistent with both the financing and agency hypotheses concerning equity. The negative relation between investment by U.S. multinationals and creditor rights is consistent with the financing hypothesis but is not consistent with the agency hypothesis concerning debt. The increased investment by U.S. multinationals in countries with low shareholder rights and low creditor rights is an important relation that has not been identified. These relations suggest that investment by foreign multinationals may help mitigate adverse outcomes in countries with poor shareholder and creditor protection.[22]

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[19] We also run specification 4 using both dummy variables for different levels of shareholder rights and a piecewise linear specification of shareholder rights. The results support the U-shaped relation found using the quadratic function.

[20] Djankov, McLiesh, and Shleifer (2004) find that private credit is significantly related to creditor rights in their sample. However, LLSV (1997) find that the largest firms have access to debt even when creditor rights are low in their sample. We therefore use both the ratio of credit from deposit-taking financial institutions to the private sector relative to GDP as in Djankov et al. (2004) and the ratio of the sum of bank debt to the private sector and outstanding non-financial bonds relative to GNP as in LLSV (1997) as alternate proxies for creditor protection. The coefficients for both measures are negative but insignificant.

[21] The reported Overall R^2 from the random effects (GLS) model is the squared correlation between the actual and predicted values and is therefore not directly comparable across specifications. However, for purposes of comparing explanatory power across specifications, we re-estimated our models under OLS and calculated adjusted R^2 values. Differences in adjusted R^2 are quantitatively similar to differences in the reported Overall R^2.

[22] An alternate measure of a country's investor protection environment is its legal origin. Countries of civil law origin tend to have significantly lower shareholder rights than countries of common origin (LLSV, 1998). We therefore replace shareholder rights with individual dummy variables for French civil origin, Scandinavian civil origin, and German civil origin in tests not reported. The results are consistent with the shareholder protection results. The coefficient for the French civil dummy is insignificant, but the coefficients for both the Scandinavian and German dummies are significantly negative. Thus, U.S. multinationals appear to invest as much in the French

A puzzle that emerges, however, is the positive relation with shareholder rights at high levels. Although we use the natural log of assets to mitigate the effect of outliers, it is still possible that outliers are influencing the shareholder rights results. For example, U.S. multinationals invest almost twice as much in each Germany, the U.K. and Canada than in any other country in our sample. Germany has low shareholder rights, but both the U.K. and Canada have high shareholder rights. Specification 5 therefore excludes these three countries to see if the U-shaped relation with shareholder rights is driven by these particular observations. The U-shaped relation remains significant even with their exclusion. Another possibility is that we have omitted variables, such as business environment characteristics, that are correlated with both direct foreign investment and shareholder rights. We explore this possibility next.

D. Regression Results Controlling for General Business Environment Variables

U.S. multinationals may invest more in high shareholder rights countries if shareholder rights are correlated with factors making an environment more attractive to business in general. For example, Rajan and Zingales (2003) argue that private interests are less able to retain monopoly power in common law countries. Thus, countries with strong shareholder protection, which is often associated with common law origin, may be less likely to cater to private interests.[23] In addition, LLSV (1998) associate strong shareholder protection with a higher quality of law enforcement and a lower level of government corruption. We therefore control for various factors associated with a country's general business environment.

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civil law (i.e., weakest shareholder rights) nations as the common law (i.e., strongest shareholder rights) nations. But they invest less in the Scandinavian and German law countries (i.e., average shareholder rights) nations. Because legal origin and shareholder rights are correlated and both specifications yield a U-shaped curve, we focus on shareholder rights and creditor rights as more direct measures of provisions in place to protect investors.

[23] When we include a common law dummy in addition to the investor protection variables, its coefficient is insignificant and all other results are unchanged.

First, we extract the first principal component from rule of law, absence of government corruption, judicial efficiency, absence of government expropriation, and days and procedures to start a business. Since these variables are highly correlated with per capita GDP (generally exceeds .70), we also include per capita GDP in the legal principal component variable list. This methodology allows us to combine various legal and procedural factors that may be related to a country's business environment and reduces potential problems with multi-collinearity.[24] Similarly, we construct an infrastructure principal component using air transportation, paved roads, and telephone lines per capita and per employee. Both the legal and infrastructure principal components are increasing functions of variables related to an attractive business environment, so we expect both to be positively related to investment.

We additionally include a measure of financial development. LLSV (1997) find that stock market development is positively related to shareholder rights. Rajan and Zingales (2003) argue that financial development is driven by the level of openness of the economy. When a country is relatively closed to foreign activity, powerful firms and financial intermediaries may use their political influence to prevent further financial development and preserve their monopoly rents. However, as a country becomes more open, added competition forces its markets to become more developed. Thus, to the extent that financial development represents a country's openness to foreign activities as well as investment opportunities (demand for financing), U.S. multinational investment may be higher in countries with more developed capital markets. In this situation, the positive shareholder protection results may be capturing a greater degree of openness to foreign activities. On the other hand, if capital market development is a more direct proxy for equity capital constraints and low shareholder rights is

[24] A similar methodology is used in both Berkowitz, Pistor, and Richard (2003) and Klapper and Love (2003) to construct a legality index. Our legal principal component includes more factors; however, we obtain similar results when using their legality index.

capturing comparative advantages arising from constrained financing, we expect the negative shareholder protection results to lose significance once the capital market measures are included. The results are presented in Table 5.[25]

Consistent with studies that have shown certain aspects of a country's legal environment, such as lower corruption, are associated with higher cross-border investment, specifications 1 and 2 in Table 5 show that both the legal and infrastructure principal components are significantly positively related to investment. In unreported specifications, including individual legal and infrastructure variables does not alter the main results. The coefficients for Market Capitalization to GDP in specifications 3 and 4 are positive rather than negative. The positive coefficient is consistent with Rajan and Zingales' argument that Market Cap/GDP serves as a proxy for openness in an economy to foreign activities.[26] In all cases, both the U-shaped relation between shareholder rights and investment and the negative relation between creditor rights and investment remain significant with the inclusion of general business environment controls.

E. Alternative Specifications

One of the consequences of using a quadratic function to capture a non-linear relation is that the function must reach an inflection point and then curve in the opposite direction (Wooldridge, 2000). In our sample, the inflection point is a minimum and occurs when shareholder rights is three. As a result, the significance of shareholder rights squared could result more from fitting the quadratic specification than from strong shareholder rights attracting investment per se. To address this concern, we consider an alternative specification that simply

[25] China is not included in the regressions in Table 5 because we do not have the necessary data to construct the principal component measures. However, we have no reason to believe our results would change if China were included given we obtain similar results in Table 4 both when China is included and excluded.

[26] We also include total market capitalization excluding the three largest shareholders scaled by GNP and number of IPOs per capita as alternate financial development measures (see LLSV, 1997). These variables are insignificant and their inclusion does not alter our main results. These specifications are not reported for brevity.

identifies different categories of shareholder protection relative to the average. We therefore treat countries with shareholder rights of three as the base case and create the following dummy variables: SR01, SR2, SR4, and SR5, which equal one when shareholder rights is equal to 0 or 1, 2, 4, and 5, respectively, and equal zero, otherwise.[27] This specification does not require a minimum point, and therefore, provides insight into whether the relation between U.S. multinational investment and shareholder rights continues to be U-shaped when additional factors are included in the analysis.

The results in Table 6 suggest that the positive relation between U.S. multinational investment and high shareholder rights is mitigated when additional factors are included and the quadratic specification is relaxed. For example, the coefficients for both SR4 and SR5 are lower than the coefficient for SR01 in specification 1 (1.63 and 1.94 versus 2.71). Moreover, the coefficients for SR4 and SR5 decrease (by .17 and .35) when Market Cap to GDP is included in specification 2, but the coefficient for SR01 is the same. SR01 is significantly greater than SR4 (both SR4 and SR5) in specification 1 (2). In unreported tests, we obtain similar results when we include the infrastructure principal component in the restricted sample.

When only SR01 (poorest protection) and SR5 (strongest protection) are included for the full sample in specification 3, the coefficient for SR01 is significantly positive, but the coefficient for SR5 is not. Furthermore, the coefficient for SR01 continues to be significant when it is included alone in specification 4. Thus, U.S. multinationals appear to invest significantly more in countries with the poorest shareholder protection than any other country but do not appear to invest more in countries with the strongest shareholder protection when

[27] We include 0 and 1 together since only one country's has shareholder rights of 0 in our sample. Observations are fairly evenly distributed across the groups defined by these dummy variables.

additional controls are included. We therefore replace the quadratic specification of shareholder rights with an alternative specification including dummy variables for future analysis.

To relax the linear specification for creditor rights, we consider countries with a creditor rights index of 4 to be the base case and create the following dummy variables: CR0, CR1, CR2, and CR3, which equal one when the creditor rights index is equal to 0, 1, 2, and 3, respectively, and equal zero, otherwise. The results in specification 5 suggest investment continues to increase as the creditor rights index decreases. We therefore retain the linear specification for creditor rights to retain degrees of freedom in further tests.

F. Sub-sample Regression Results for Financing Dependence and Economic Development

We have documented higher investment by U.S. multinationals in both countries with low shareholder rights and low creditor rights. Although we are unable to use measures requiring firm-level data to differentiate between the financing and agency hypotheses related to shareholder rights, we use certain aggregated measures in an attempt to differentiate between the two hypotheses.

1. Financing Dependence

When firms generate enough cash flows internally to meet capital investment needs, financing constraints are less likely to exist but discretionary spending is more likely to exist. Thus, the financing hypothesis predicts that the relation with poor shareholder protection will be more pronounced in higher external financing dependence industries. In contrast, a stronger negative relation with poor shareholder protection in lower external financing dependence industries would be more consistent with the agency hypothesis.

We separate country-industry observations according to the external financing needs of an industry. Rajan and Zingales (1998) calculate a measure of external financing needs for

various manufacturing industries.[28] This measure is also used in Dittmar et al. (2003). Using this measure, low external financing dependent industries include: food and kindred products, chemicals and allied products, primary and fabricated metals, and transportation equipment. High dependence industries include: industrial machinery equipment, electronic and other electric equipment, and other manufacturing. The results are presented in the first set of specifications in Table 7.

The coefficient for SR01 is larger in the Low dependence industries than in the High dependence industries (2.9 versus 2.3); however, the difference is not statistically different. Additional analysis reveals the significant result for SR01 in the High dependence sub-sample is found only for developed countries, which is precisely where financing constraints are likely to be less severe in general. Specifically, we re-estimate the model including an interaction between SR01 and a dummy indicating whether the country is developed. The coefficient for SR01 becomes insignificant, but the sum of the coefficients on SR01 and the interaction term is significantly positive (unreported for brevity). We conduct a more detailed analysis of economic development in the next section.

The prediction for different creditor rights coefficients across financing dependence sub-samples is less clear. For example, greater dependence on external financing may imply a greater need for both equity and credit financing in the High dependence industries. Thus, one would expect more constrained debt financing in industries when creditor rights are low. On the other hand, leverage ratios tend to be higher in industries with relatively stable cash flows, or Low dependence industries. Thus, one might also expect domestic firms to be more constrained

[28] Because the Benchmark Survey aggregates manufacturing data into 7 broad categories, we must aggregate the finer industry classifications used in Rajan and Zingales (1998). We also use the Rajan and Zingales dependence measure based on the dependence of younger firms in case industries in other countries are not as mature as in the U.S. Our results are not sensitive to using the different measure.

by a higher cost of debt in Low dependence industries when creditor rights are low. The results in Table 7 indicate that creditor rights are significant in both High and Low dependence sub-samples.

2. Economic Development

Firms in emerging economies are likely to have more growth opportunities and a greater need for external financing. Consistent with this view, Love (2003) finds that financing constraints are significantly greater in less developed nations. Thus, the financing hypothesis predicts that the relation with poor shareholder protection will be more pronounced in less developed countries. In contrast, firms in developed economies are more likely to have more free cash flow available for discretionary spending. Thus, the agency hypothesis predicts that the relation with poor shareholder protection will be more pronounced in more developed countries. However, agency problems may be mitigated in certain situations. Increased monitoring of managers may contribute to functional convergence of corporate governance, or mitigate agency problems, in poor shareholder protection countries. Such a scenario would then reduce the value of comparative advantages possessed by U.S. multinationals. We consider the presence of auditors as an indicator of increased monitoring. The agency hypothesis predicts the relation with poor shareholder rights to be weaker when more auditors are present.

We separate country-industry observations according to the economic development of the country. Specifically, we use the *Emerging Stock Markets Factbook* to classify countries in our sample as either Emerging or Developed. We obtain the number of auditors per 10,000 in population from Saudagaran and Diga (1997).[29] The results in the second set of specifications in Table 7 indicate that differences do exist across sub-samples when separated according to economic development. The coefficient for SR01 is insignificant in the Emerging sample but is

[29] Values of this variable range from 0.1 to 54.

significant at the 1% level in the Developed sample. In the Emerging sample, transportation costs, business environment, and openness to foreign investment appear to be more important to multinational investment than shareholder rights. In contrast, shareholder rights appear to be important in the Developed sample. Moreover, the coefficient for the interaction between auditors and SR01 in specification 3 is negative in the Developed sample. The interaction coefficient is significant when SR01 and SR5 are considered alone but only has a p-value of .16 when SR2 and SR4 are included as well. Taken together, these results are consistent with the agency hypothesis but not with the financing hypothesis. The creditor rights results are significant in both sub-samples.

G. Robustness Regression Results Controlling for Other Factors

When considering country level variables like shareholder and creditor rights, it is difficult to determine if that variable is simply a proxy for another country characteristic. Although we have attempted to control for this possibility with numerous specifications and sub-sample analyses, we consider several additional specifications to test the robustness of our results. For example, the differences between the Emerging and Developed sub-sample results indicate important structural differences. Low shareholder rights are significantly related to U.S. multinational investment in Developed countries but not in Emerging countries. Shareholder rights may also be related differently to other factors in Emerging and Developed countries. We therefore continue to analyze these sub-samples separately. This separation also allows us to further analyze the different findings regarding the financing and agency hypotheses when industry and country characteristics are used. The results of the robustness analysis are found in Table 8.

1. Culture

The costs of doing business abroad for U.S. multinationals is likely to be lower in countries with similar cultures. Certain cultural aspects may also be related to investor protection. For example, shareholder protection is positively correlated with English language in our sample. Stulz and Williamson (2003) find that a country's religion is related to the level of investor protection. Beck, Demirgüç-Kunt, and Levine (2003) discuss non-legal factors that could negatively influence a country's financial development because they indicate the rights of a particular group are likely to be favored over individual rights. In highly ethnically diverse economies, the group that comes to power tends to adopt policies that are focused on maintaining power and control, and thus not on protecting minority shareholders. To the extent that similarities in culture, such as language and religion, reduce the costs of doing business abroad, the absence of English as the primary language and Christianity as the primary religion would deter investment. To the extent that the controlling groups in ethnically diverse countries deter foreign investment to maintain power, U.S. multinationals would also tend to invest less in these countries.

We create an English language dummy variable, which is equal to one if English is a country's primary language and is equal to zero, otherwise. Following Stulz and Williamson (2003), we create a Christianity dummy variable, which is equal to one if Christianity is a country's primary religion and is equal to zero, otherwise. Following Beck et al., we use Ethnic Fractionalization to measure the probability that two randomly selected individuals from a country are from different ethnolinguistic groups. The results in specifications 1 and 2 of Table 8 indicate that U.S. multinational investment is higher when Christianity is the primary religion and Ethnic Fractionalization is lower in Emerging countries. Moreover, the significance of the

relation between U.S. multinational investment and creditor rights decreases when Ethnic Fractionalization is included. In unreported tests, investment in Emerging countries is not related to English language. U.S. multinational investment continues to be unrelated to SR01 in Emerging countries in all specifications.

In contrast, the results in specifications 4 and 5 indicate that U.S. multinational investment is not related to Christianity (or Ethnic Fractionalization, unreported) but is higher in countries whose primary language is English, although the p-value is only .12. Moreover, the investment continues to be significantly higher in Developed countries with low shareholder rights and lower creditor rights when these additional factors are included. However, the relation between investment and high shareholder rights diminishes when the English language dummy is included. We obtain similar results in both the full sample and the Developed sub-sample for specification 5 when English language is not included but the U.K., Canada, and Germany are excluded. Thus, the relation with both low shareholder rights and low creditor rights is robust, but the relation with high shareholder rights is sensitive to the inclusion of cultural controls.

2. Alternate Sources of Shareholder Protection

The lack of support for the financing hypothesis in Emerging countries does not necessarily indicate that shareholder protection is unrelated to the financing opportunities of domestic firms. Firms in a poor investor protection environment may simply be able to adapt to their investor protection environment at the micro level in such a way as to ease constraints to accessing capital. For example, domestic firms may list on foreign exchanges with stricter listing standards to increase access to external financing. Doidge, Karolyi, and Stulz (2004) find that foreign companies listed in the U.S. have a Tobin's q ratio that exceeds the q ratio of firms from the same country that are not listed in the U.S. They argue that firms listed in the U.S.

cannot extract as many private benefits from control but are better able to take advantage of growth opportunities. Reese and Weisbach (2002) find the desire to protect shareholder rights appears to be one reason why some non-U.S. firms cross-list in the U.S.

Although we cannot perform a firm level analysis, we create an ADR variable that identifies country-industry combinations in which at least one company has an American Depository Receipt. The variable equals one if a company within an industry in a country has an ADR and is equal to zero, otherwise. We include an interaction between the ADR dummy and SR01 to see whether U.S. multinational investment in low shareholder rights countries is lower in industries with ADR listings. A negative coefficient for the interaction in the Emerging sample would be consistent with cross-listing in the U.S. easing financial constraints. A negative coefficient in the Developed countries would be consistent with cross-listing in the U.S. reducing agency problems within certain industries. The results in specification 3 provide some support for the financing hypothesis in Emerging countries when micro-level provisions are taken into account. The results indicate that U.S. multinational investment is significantly greater in industries in low shareholder rights Emerging countries when no firms within that industry cross-list in the U.S. However, investment is not significantly greater in industries where domestic firms have cross-listed in the U.S. In contrast, the ADR interaction term is insignificant in the Developed sub-sample and the coefficient for SR01 is similar to earlier specifications.

3. Additional Robustness Checks

We have also conducted a number of additional robustness checks that are not tabulated. First, we consider alternate measures of U.S. investment by using capital expenditures and affiliate sales as dependent variables. We consider additional legal environment factors discussed in Beck and Levine (2003) that may be related to both multinational investment and

investor protection: degree of competitive and executive elections, number of influential players in the veto process, private property rights protection, power of the Supreme Court, influence of case law, and a legal formalism index. We consider capital control measures from Desai, Foley, and Hines (2004). Capital controls discourage foreign investment and could capture part of the explanatory power of investor protection variables. We consider wage rates from Freeman and Oostendorp (2001). Some argue that the U.S. invests in many countries to gain access to low labor costs, and cheap labor may be correlated with weak investor protection. We include the absolute value of a country's latitude, one of the measures used in Beck et al. (2003), to proxy for its initial endowment. Acemoglu, Johnson, and Robinson (2001) and Beck et al. (2003) argue that a country's initial endowment is an important determinant of what types of institutions Europeans established in colonies because the type was dependent on whether endowments encouraged Europeans to extract or settle. To the extent that country characteristics, such as disease and geography, determined whether Europeans settled in or extracted from colonies, they may also influence U.S. multinationals' decisions to settle or establish a subsidiary. In addition, we control for the percentage of firms that are state-owned because state-owned firms may not suffer from financing constraints, even in poor investor protection countries. They also may be able to protect their own interests through barriers to foreign competition. Our main results hold in each of these additional specifications.

Finally, we re-run our main analysis using affiliate assets for 1999. The BEA recently released this data, and we are able to obtain 1999 values for the traditional direct foreign investment variables and equity market development; however, we do not have 1999 values for either shareholder or creditor rights. To the extent that shareholder and creditor rights are fairly stable over time, our main results should persist if they are robust over time when we use "old"

shareholder and creditor rights in the full cross-section of countries (where the influence of any noise introduced from using an incorrect value for a single country should be lower). In these tests, U.S. multinational investment continues to be significantly higher in both weak shareholder and creditor protection environments.

V. Conclusion

This paper joins the growing literature suggesting different ways adverse outcomes in poor investor protection countries can be mitigated. The most important contribution in this paper is the finding that poor protection of both shareholders and creditors appears to attract foreign investment. Thus, even though domestic firm activity may be lower or sub-optimal in poor protection countries, increased activity by foreign multinationals might fill the void. Recognizing this relation is especially important in light of the potential impact cross-border investment can have on a country's economic development.

Additional analysis suggests that the comparative advantages motivating investment in poor shareholder protection countries by U.S. firms arise for different reasons depending on industry and country characteristics. They appear to arise from U.S. firms' incentives and abilities to make better investment decisions when domestic firms have more discretion over spending (i.e., in developed countries). On the other hand, comparative advantages associated with low shareholder rights also appear to arise from U.S. firms' less restrictive access to capital when domestic firms are located in emerging countries and no firms within its industry have access to the U.S. equity markets through cross-listing. In contrast, comparative advantages associated with creditor protection appear to stem primarily from domestic firms' difficulty in obtaining debt financing when creditor protection is weak.

LLSV (1998) pose the question, "Do countries with poor investor protection actually suffer?" Whether increased foreign investment, combined with other mitigating factors, sufficiently offsets the adverse effects of poor investor protection is still an open question. However, the significant relation between U.S. multinational investment and poor investor protection points to the importance of recognizing cross-border investment when considering this question. We believe a fruitful area for future research would be to consider specific avenues through which foreign investment affects poor investor protection countries as more disaggregated data becomes available covering longer time periods. The differences between results for *emerging* and *developed* economies suggest that the avenues through which foreign investment affects poor investor protection countries may vary through time with the level of economic development. For example, according to an article in USA Today, GM's headquarters in Switzerland and Germany – both developed countries with weak shareholder protection – set new standards in efficiency (Maynard, USA Today, 1992). On the other hand, the results in Hellman, Jones, and Kaufmann (2002) suggest that the costs associated with foreign investment in *transition* economies deters high quality but attracts low quality foreign investment in terms of governance standards. They argue that investment by foreign firms may magnify the problems of state capture and procurement kickbacks, while paying a lower overall bribe burden than domestic firms, in misgoverned settings rather than mitigate it.

How then does investment by foreign multinationals affect local firms? Under what circumstances does it increase competition? Under what circumstances does multinational investment increase local firms' incentives to act in shareholders' interests? What role does the development of the host country play? Further analysis of these issues can provide insight into

when real investment by foreign multinationals can be a force behind functional convergence of corporate governance in poor investor protection environments.

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Table 1
Variable Definitions

The following are the main variables used in the study along with brief definitions and data sources. This table lists the variables according to 5 categories: (1) Dependent Variable, (2) Traditional Direct Foreign Investment Variables, (3) Investor Protection, (4) Business Environment, and (5) Capital Market Development.

Variable	Definition	Source
Dependent Variable		
Total Assets	Aggregate industry-level assets of majority-owned foreign affiliates of U.S. multinationals in a given country as of 1994. The natural log is used. This variable covers 7 manufacturing industries in 41 countries.	Bureau of Economic Analysis Benchmark Survey (1994)
Traditional Direct Foreign Investment Variables		
Population	Population of destination country in 1994. The natural log is used.	EIU Country Data
Per Capita GDP	Ratio of a given country's gross domestic product to population in 1994. The natural log is used.	EIU Country Data
Transportation Cost	Difference between imports in terms of c.i.f. value and customs value as a share of customs value in 1994. This gives an idea of how expensive it would be to vertically integrate and ship goods back to the U.S. This measure is used in Hanson, Mataloni, and Slaughter (2001).	Feenstra, Romalis, and Schott (2002)
Tariffs	Tariff data is reported at the 10-digit Harmonized System product codes. The data are aggregated to our industries with weights based on U.S. exports at the industry/country level. Data are from the closest available year to 1994.	United Nations TRAINS Database - Extracts provided by Jon Haveman
Corporate Tax Rate	Average corporate tax rate for a given country in 1992.	Altshuler, Grubert, and Newlon (1998)
Distance from U.S.	The distance of a given country's capital (in thousands of miles) from Washington, D.C.	Fitzpatrick and Modlin (1986)

Table 1: continued

Investor Protection Variables		
Shareholder Rights	This is the Antidirector Rights index, which aggregates 6 minority shareholder rights. Values range from 0 to 6 with 6 representing the strongest shareholder rights.	LLSV (1998)
Creditor Rights	An index aggregating 4 creditor rights. Values range from 0 to 4 with 4 representing the strongest rights.	LLSV (1998)
Business Environment		
Rule of Law	Assessment of country's law and order tradition. Values range from 0 to 10 with 10 representing the strongest law and order.	LLSV (1998) and *International Country Risk Guide*
Absence of Govt. Corruption	Degree of corruption in the government. Values range from 0 to 10 with 10 representing the least corruption.	LLSV (1998) and *International Country Risk Guide*
Judicial Efficiency	Assessment of the integrity and efficiency of the judicial system. Values range from 0 to 10 with 10 representing the greatest efficiency.	LLSV (1998) and Business International Corp.
Absence of Govt. Expropriation	Assessment of expropriation of private property by the government. Values range from 0 to 10 with 10 representing the least expropriation.	LLSV (1998) and *International Country Risk Guide*
Number of Days Required to Start a Business	Number of business days it takes for a business to become operational. This includes both registration and post-registration procedures.	Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2000)
Number of Procedures Required to Start a Business	Number of different steps that a start-up must take in order to start operating as a legal entity.	Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2000)

Table 1: continued

Infrastructure		
Air Freight	Freight transported by air (million tons per kilometer).	World Bank's *World Development Indicators* database
Paved Roads	Percentage of roads that are paved.	World Bank's *World Development Indicators* database
Phones	Number of telephone mainlines per 1,000 people.	World Bank's *World Development Indicators* database
Employee Phones	Number of telephone mainlines per employee.	World Bank's *World Development Indicators* database
Capital Market Development		
Market Cap/GDP	Ratio of country's stock market capitalization to gross domestic product in 1994.	IFC Emerging Stock Markets Factbook (market cap) and EIU Country Data (GDP)
External Market Cap/GNP	Stock market capitalization less estimated holdings of top 3 shareholders of each firm scaled by gross national product in 1994.	LLSV (1997)
IPOs/Population	Ratio of number of initial public offering in a country to its population (in millions) in 1994.	LLSV (1997)
Additional Control Variables		
English Language	Dummy set to 1 if English is the country's primary language; 0 otherwise.	Stulz and Williamson (2001)
Christian	Dummy set to 1 if country's primary religion is Christian; 0 otherwise.	Stulz and Williamson (2001)

Table 1: continued

Ethnic Fractionalization	Probability that two randomly selected individuals in a country will not speak the same language.	Beck, Demirguc-Kunt, and Levine (2003)
ADRs	Number of ADRs listed in CRSP for a given industry/country. It is expressed as a fraction of the number of firms listed in Global Compustat for the country/industry.	CRSP and Global Compustat
Auditors	Number of auditors within a country per 10,000 in population.	Saugadaran and Diga (1997)

Table 2
Key Variables

Country-level values of Total Assets, Population, Per Capita GDP, and Creditor Rights. All variables are defined as in Table 1. Countries are grouped according to the level of Shareholder Rights. Group means are presented for each Shareholder Rights value.

Country	Total Assets (Millions of US $)	Population (Millions)	Per Capita GDP	Creditor Rights
SH Rights = 0				
Belgium	18,206	10	23,026	2
Group Means	***18,206***	***10***	***23,206***	***2***
SH Rights = 1				
China[a]	2,303	1,191	455	0
Germany	79,854	81	25,703	3
Italy	26,954	57	17,927	2
Mexico	17,987	89	4,728	0
Group Means	***31,774***	***355***	***12,203***	***1.25***
SH Rights = 2				
Austria	2,820	8	24,825	3
Denmark	1,301	5	29,215	3
Ecuador	248	11	1,480	4
Eypt	270	56	918	4
Greece	686	10	9,528	1
Indonesia	1,504	191	928	4
Netherlands	27,234	15	22,848	2
South Korea	2,647	45	9,015	3
Switzerland	4,416	7	37,140	1
Thailand	2,462	59	2,461	3
Turkey	1,512	60	2,277	2
Group Means	***4,100***	***42***	***12,785***	***2.72***
SH Rights = 3				
Brazil	23,744	153	3,567	1
Colombia	2,011	38	2,097	0
Finland	721	5	19,654	1
France	41,172	58	23,342	0
Israel	1,741	5.4	13,828	4
Nigeria	122	97	583	4
Peru	250	23	1,941	0
Philippines	1,904	69	934	0
Portugal	1,676	10	9,132	1
Sweden	2,171	9	23,469	2
Group Means	***7,551***	***47***	***9,855***	***1.3***
SH Rights = 4				
Argentina	4,837	34	7,509	1
Australia	16,382	18	18,915	1
Ireland	14,006	4	15,472	1
Japan	31,677	125	38,511	2
Malaysia	4,763	20	3,704	4
New Zealand	1,232	4	14,034	3
Norway	1,057	4	28,529	2
Singapore	14,133	3	21,423	4
Spain	15,645	39	12,891	2
Group Means	***11,526***	***28***	***17,887***	***2.22***

Table 2: continued

SH Rights = 5				
Canada	70,494	29	19,356	1
Chile	2,092	14	3,640	2
Hong Kong	2,946	6	21,674	4
India	795	904	356	4
South Africa	1,230	39	3,482	3
United Kingdom	76,281	58	17,758	*4*
Group Means	***25,640***	***175***	***11,044***	***3***

[a] Shareholder and creditor rights values for China are provided in Claessens, Djankov, and Nenova (1999).

Table 3
Univariate Comparisons

Univariate comparison of log total assets across groups based on shareholder and creditor rights. Panel A provides mean levels across groups. Medians are given in brackets. The number of industry-level observations for each group is also given. Panel B provides *t*-statistics for differences in means and z-statistics for the Wilcoxon rank-sum test for different distributions (p-values are given in parentheses). ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Mean and median log total assets by shareholder and creditor rights

Shareholder Rights	**Mean**	**Median**	**Creditor Rights**	**Mean**	**Median**
Low (0, 1, or 2) [n=83]	5.86	6.14	Low (0 or 1) [n=84]	6.18	6.40
Mid (3) [n=49]	4.80	5.72	Mid (2) [n=50]	6.47	6.83
High (4 or 5) [n=88]	6.43	6.35	High (3 or 4) [n=86]	5.17	5.46

Panel B: Differences across groups

Shareholder Rights	***t*-stat**	**z-stat**	**Creditor Rights**	***t*-stat**	**z-stat**
Low – Mid	2.11**	1.80*	Low – Mid	-0.69	-0.25
	(0.04)	(0.07)		(0.49)	(0.80)
Mid – High	-3.68***	-2.72***	Mid – High	2.85***	2.89***
	(0.00)	(0.01)		(0.01)	(0.00)
Low – High	-1.59	-1.03	Low – High	2.45**	2.88***
	(0.11)	(0.30)		(0.02)	(0.00)

Table 4
Investor Protection Regressions

Country-level random effects regressions of 1994 data for 7 manufacturing industries for 41 countries. The dependent variable is the natural log of assets of subsidiaries controlled by U.S. multinational firms. The independent variables are (1) Log Population, (2) Log Per Capita GDP, (3) Transportation Costs, (4) Tariffs, (5) the Corporate Tax Rate, (6) Shareholder Rights, (7) Shareholder Rights Squared, and (8) Creditor Rights. Industry dummy variables (coefficients are unreported) are also included in each specification. Specification 5 does not include observations from Canada, Germany, or the United Kingdom. All variables are as defined in Table 1. z-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Independent Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5) Limited Sample**
Log Population		1.18***	1.32***	1.18***	1.12***
		(6.30)	(6.82)	(6.75)	(5.53)
Log Per Capita GDP		1.66***	1.62***	1.49***	1.41***
		(8.30)	(7.41)	(7.63)	(6.47)
Transportation Costs			-10.09**	-10.43**	-10.73**
			(-2.32)	(-2.40)	(-2.39)
Tariffs			-0.01	-0.12	-0.01
			(-0.71)	(-0.80)	(-0.62)
Corporate Tax Rate			-3.41*	-3.82**	-3.83**
			(-1.77)	(-2.32)	(-2.16)
Shareholder Rights	-2.77***			-1.39**	-1.23**
	(-2.89)			(-2.53)	(-2.09)
Shareholder Rights Squared	0.50***			0.28***	0.25**
	(3.14)			(3.01)	(2.44)
Creditor Rights	-0.47**			-0.22*	-0.23*
	(-2.13)			(-1.78)	(-1.68)
Industry Dummies	Yes	Yes	Yes	Yes	Yes
Overall R^2	0.29	0.58	0.62	0.67	0.63
Observations	220	220	220	220	199

Table 5
Overall Environment Regressions

Country-level random effects regressions of 1994 data for 7 manufacturing industries for 40 countries. The dependent variable is the natural log of assets of subsidiaries controlled by U.S. multinational firms. The independent variables are (1) Log Population, (2) Transportation Costs, (3) Tariffs, (4) the Corporate Tax Rate, (5) Shareholder Rights, (6) Shareholder Rights Squared, (8) Creditor Rights, (9) a principal component for Per Capita GDP and legal environment variables, (10) a principal component for infrastructure variables, and (11) Stock Market Capitalization scaled by GDP. Industry dummy variables (coefficients are unreported) are also included in each specification. All variables are as defined in Table 1. z-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Independent Variables	**(1)**	**(2)**	**(3)**	**(4)**
Log Population	1.32***	1.28***	1.34***	1.28***
	(6.74)	(5.25)	(7.14)	(5.66)
Transportation Costs	-11.66***	-10.73*	-12.15***	-10.70**
	(-2.63)	(-1.93)	(-2.73)	(-2.03)
Tariffs	-0.03**	-0.02	-0.03*	-0.02
	(-2.23)	(-1.37)	(-1.93)	(-1.09)
Corporate Tax Rate	-5.57***	-7.30***	-4.93***	-6.41***
	(-2.97)	(-3.17)	(-2.69)	(-2.90)
Shareholder Rights	-1.87***	-1.91***	-1.75***	-1.83***
	(-3.26)	(-2.85)	(-3.18)	(-2.94)
Shareholder Rights Squared	0.31***	0.34***	0.27***	0.31***
	(3.19)	(2.80)	(2.85)	(2.70)
Creditor Rights	-0.48***	-0.65***	-0.55***	-0.73***
	(-3.68)	(-3.83)	(-4.14)	(-4.40)
Legal PC	0.71***	0.34*	0.71***	0.36**
	(6.55)	(1.87)	(6.90)	(2.11)
Infrastructure PC		0.69***		0.66***
		(2.93)		(3.03)
Market Cap/GDP			0.55	0.67
			(1.55)	(1.61)
Industry Dummies	Yes	Yes	Yes	Yes
Overall R^2	0.65	0.66	0.65	0.67
Observations	213	174	213	174

Table 6
Categorical Variable Specifications

Country-level random effects regressions of 1994 data for 7 manufacturing industries for 40 countries. The dependent variable is the natural log of assets of subsidiaries controlled by U.S. multinational firms. The independent variables are (1) Log Population, (2) Transportation Costs, (3) Tariffs, (4) the Corporate Tax Rate, (5) dummy variables representing different levels of the Shareholder Rights index, (6) Creditor Rights, (7) dummy variables representing various levels of the Creditor Rights index, (8) a principal component for Per Capita GDP and legal environment variables, and (9) Stock Market Capitalization scaled by GDP. All variables are as defined in Table 1. z-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Independent Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Log Population	1.36***	1.37***	1.26***	1.29***	1.39***
	(7.60)	(7.96)	(6.80)	(7.22)	(7.54)
Transportation Costs	-11.95***	-12.43***	-12.28***	-12.46***	-11.41**
	(-2.71)	(-2.81)	(-2.76)	(-2.80)	(-2.53)
Tariffs	-0.04***	-0.03**	-0.03*	-0.02*	-0.03**
	(-2.60)	(-2.28)	(-1.73)	(-1.69)	(-2.17)
Corporate Tax Rate	-6.70***	-6.14***	-4.27**	-4.09**	-6.48***
	(-3.94)	(-3.65)	(-2.44)	(-2.39)	(-3.28)
SR01	2.71***	2.71***	1.86***	1.80***	2.82***
	(4.75)	(4.97)	(3.51)	(3.48)	(4.68)
SR2	1.24***	1.23***			1.29**
	(2.62)	(2.70)			(2.46)
SR4	1.63***	1.46***			1.60***
	(3.50)	(3.18)			(3.04)
SR5	1.94***	1.59***	0.35		1.67**
	(3.44)	(2.66)	(0.67)		(2.54)
Creditor Rights	-0.58***	-0.62***	-0.49***	-0.49***	
	(-4.52)	(-4.90)	(-3.89)	(-3.88)	
CR0					2.70***
					(4.12)
CR1					1.85***
					(3.64)
CR2					0.97*
					(1.86)
CR3					0.82
					(1.43)
Legal PC	0.66***	0.67***	0.70***	0.72***	0.69***
	(6.99)	(7.30)	(7.31)	(7.66)	(6.55)
Market Cap/GDP		0.44	0.65**	0.74**	0.38
		(1.40)	(1.98)	(2.49)	(1.10)
Industry Dummies	Yes	Yes	Yes	Yes	Yes
Overall R^2	0.69	0.69	0.66	0.66	0.69
Observations	213	213	213	213	213

Table 7
Sub-sample Regressions

Country-level random effect regressions of 1994 data for 7 manufacturing industries for 40 countries. The dependent variable is the natural log of assets of subsidiaries controlled by U.S. multinational firms. The independent variables are (1) Log Population, (2) Transportation Costs, (3) Tariffs, (4) the Corporate Tax Rate, (5) dummy variables representing various levels of the Shareholder Rights index (6) Creditor Rights, (7) a principal component from Per Capita GDP and legal environment variables, (8) Market Cap/GDP, (9) Auditors, and (10) Low Shareholder Rights dummy interacted with Auditors. Industry dummy variables (coefficients are unreported) are also included in each specification. Specifications 1a and 1b include high and low external financing dependence industries according to the measure presented in Rajan and Zingales (1998), respectively. Specification 2a includes observations from emerging countries, while Specifications 2b and 3 include observations from developed countries. All variables are as defined in Table 1. z-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	External Financing		**Economic Development**		
	High	**Low**	**Emerging**	**Developed**	**Developed**
Independent Variables	**(1a)**	**(1b)**	**(2a)**	**(2b)**	**(3)**
Log Population	1.49***	1.32***	1.51***	1.54***	1.32***
	(6.74)	(5.46)	(6.45)	(5.69)	(5.69)
Transportation Costs	-18.58**	-2.64	-19.27***	-2.03	-17.49**
	(-2.45)	(-0.41)	(-2.83)	(-0.28)	(-2.27)
Tariffs	-0.52*	-0.02	-0.02	0.02	-0.00
	(-1.67)	(-1.42)	(-1.12)	(0.36)	(-0.03)
Corporate Tax Rate	-6.89***	-6.00**	-4.51*	-9.27***	-6.79***
	(-3.31)	(-2.55)	(-1.89)	(-3.34)	(-2.98)
SR01	2.32***	2.91***	1.14	2.79***	3.23***
	(3.16)	(3.91)	(1.32)	(3.94)	(4.75)
SR2	1.19*	1.28**	1.37**	1.88***	1.37***
	(1.94)	(2.04)	(2.26)	(2.76)	(2.91)
SR4	1.49***	1.41**	0.84	2.03***	1.25**
	(2.61)	(2.21)	(1.26)	(3.32)	(1.98)
SR5	1.07	1.96**	0.47	2.71***	1.79***
	(1.42)	(2.40)	(0.56)	(3.39)	(2.89)
Creditor Rights	-0.56***	-0.66***	-0.87***	-0.49**	-0.46***
	(-3.16)	(-3.84)	(-4.91)	(-2.44)	(-2.79)
Legal PC	0.73***	0.66***	0.79***	0.19	-0.13
	(6.22)	(5.26)	(4.11)	(0.79)	(-0.42)
Market Cap/GDP	0.88**	-0.06	0.82**	0.26	0.31
	(2.09)	(-0.14)	(2.23)	(0.47)	(0.81)
SR01*Auditors					-0.17
					(-1.40)
Auditors					0.03**
					(2.03)
Industry Dummies	Yes	Yes	Yes	Yes	Yes
Overall R^2	0.72	0.70	0.70	0.73	0.70
Observations	88	88	91	122	104

Table 8
Robustness Regressions

Country-level random effect regressions based on 7 manufacturing industries for 40 countries. The dependent variable is the natural log of assets of subsidiaries controlled by U.S. multinational firms. The independent variables are (1) Log Population, (2) Transportation Costs, (3) Tariffs, (4) the Corporate Tax Rate, (5) dummies for various levels of the Shareholder Rights index, (6) Creditor Rights, (7) a principal component from Per Capita GDP and legal environment variables, (7) Market Cap/GDP, (8) a Christian religion dummy, (9) Ethnic Fractionalization, (10) an English Language dummy, and (11) an ADR dummy interacted with the low Shareholder Rights dummy. Specifications 1-3 (4-6) are for undeveloped (developed) countries. Industry dummy variables (coefficients are unreported) are also included in each specification. All variables are as defined in Table 1. z-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Emerging Sub-Sample			Developed Sub-sample		
Independent Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Log Population	1.69***	1.38***	1.50***	1.42***	1.48***	1.56***
	(7.74)	(6.06)	(6.67)	(5.68)	(5.64)	(4.76)
Transportation Costs	-13.01**	-14.23**	-20.19***	-4.34	-2.70	-0.88
	(-2.02)	(-2.11)	(-3.08)	(-0.60)	(-0.38)	(-0.12)
Tariffs	-0.01	-0.03*	-0.02	0.01	0.01	0.01
	(-0.45)	(-1.87)	(-1.07)	(0.20)	(0.21)	(0.28)
Corporate Tax Rate	-2.92	1.19	-4.53**	-7.63***	-7.69***	-9.31***
	(-1.31)	(0.39)	(-1.97)	(-2.82)	(-2.70)	(-2.78)
SR01	1.01	0.95	4.92***	2.49***	2.63***	2.80***
	(1.29)	(1.15)	(2.97)	(3.76)	(3.82)	(3.28)
SR2	1.84***	-0.21	1.35**	1.42**	1.70**	1.92**
	(3.25)	(-0.27)	(2.32)	(2.08)	(2.56)	(2.38)
SR4	1.12*	0.96	0.83	1.92***	1.35*	2.06***
	(1.82)	(1.50)	(1.29)	(3.54)	(1.85)	(2.81)
SR5	-0.41	-0.26	0.43	2.35***	1.59	2.74***
	(-0.50)	(-0.03)	(0.53)	(3.15)	(1.51)	(2.85)
Creditor Rights	-0.66***	-0.29	-0.86***	-0.40**	-0.46**	-0.48**
	(-3.86)	(-1.12)	(-5.05)	(-2.13)	(-2.36)	(-2.01)
Legal PC	0.85***	0.19	0.78***	0.12	0.03	0.19
	(4.82)	(0.67)	(4.23)	(0.53)	(0.12)	(0.65)
Market Cap/GDP	1.00***	1.39***	0.84**	0.63	0.73	0.23
	(2.95)	(3.44)	(2.39)	(1.15)	(1.21)	(0.36)
Christian	1.81***			0.79		
	(3.91)			(1.29)		
Ethnic Fractionalization		-4.04***				
		(-2.82)				
English Language					1.05	
					(1.54)	
SH01*ADR			-4.76***			-0.01
			(-2.63)			(-0.01)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Overall R^2	0.75	0.73	0.73	0.74	0.74	0.73
Observations	91	91	91	122	122	122

Table AI
Manufacturing Industry Descriptions

The left column lists the seven manufacturing industries used in the paper. The right column lists the industry subgroups included in each manufacturing industry. *Source: U.S. Department of Commerce, "U.S. Direct Investment Abroad – 1994 Benchmark Survey, Final Results."*

Industry	**Included Subgroups**
Food and kindred products	Grain mill and bakery products Beverages Other
Chemicals and allied products	Industrial chemicals and synthetics Drugs Soaps, cleaners, and toilet goods Agricultural chemicals Chemical products, not elsewhere classified
Primary and fabricated metals	Primary metal industries Fabricated metal products
Industrial machinery and equipment	Farm and garden machinery Construction, mining, and materials handling machinery Computer and office equipment Other
Electronic and other electric equipment	Household appliances Household audio/video and communications equipment Electronic and other electric equipment, not elsewhere classified
Transportation equipment	Motor vehicles and equipment Other
Other manufacturing	Tobacco products Textile products and apparel Lumber, wood, furniture, and fixtures Paper and allied products Printing and publishing Rubber products Miscellaneous plastics products Glass products Stone, clay, and nonmetallic mineral products Instruments and related products Other

Table AII
Correlation Matrix

Correlation coefficients for key variables used in the analysis. Total Assets, Population, and Per Capita GDP are all based on natural logs. Panel A shows variables from Table 4. Panel B shows additional environment variables considered in Table 5. p-values are reported in parentheses.

Panel A

	Total Assets	**Population**	**Per Cap GDP**	**Transportation Costs**	**Tariffs**	**Corporate Tax Rate**	**Shareholder Rights**
Population	0.09 (0.17)						
Per Cap GDP	0.45 (0.00)	-0.63 (0.00)					
Transportation Costs	-0.14 (0.05)	0.20 (0.00)	-0.35 (0.00)				
Tariffs	-0.21 (0.00)	0.57 (0.00)	-0.64 (0.00)	0.17 (0.01)			
Corporate Tax Rate	0.09 (0.19)	0.24 (0.00)	0.07 (0.28)	0.00 (0.98)	0.11 (0.10)		
Shareholder Rights	0.02 (0.72)	-0.14 (0.03)	0.05 (0.50)	-0.01 (0.94)	-0.03 (0.65)	0.03 (0.66)	
Creditor Rights	-0.16 (0.01)	-0.15 (0.03)	0.01 (0.90)	0.04 (0.53)	-0.00 (0.99)	-0.01 (0.89)	0.19 (0.00)

Table AII: continued

Panel B

	Rule of Law	Judicial Efficiency	Absence of Expropriation	Absence of Corruption	Days to Start a Business	Procedures to Start a Business	Air Freight	Phones	Employee Phones	Paved Roads	Market Cap to GDP
Judicial Efficiency	0.74 (0.00)										
Absence of Expropriation	0.84 (0.00)	0.68 (0.00)									
Absence of Corruption	0.87 (0.00)	0.78 (0.00)	0.81 (0.00)								
Days to Start a Business	-0.35 (0.00)	-0.43 (0.00)	-0.28 (0.00)	-0.47 (0.00)							
Procedures to Start a Business	-0.51 (0.00)	-0.57 (0.00)	-0.45 (0.00)	-0.57 (0.00)	0.65 (0.00)						
Air Freight	0.31 (0.00)	0.31 (0.00)	0.44 (0.00)	0.29 (0.00)	-0.16 (0.02)	0.01 (0.88)					
Phones	0.85 (0.00)	0.73 (0.00)	0.85 (0.00)	0.85 (0.00)	-0.37 (0.00)	-0.47 (0.00)	0.36 (0.00)				
Employee Phones	0.53 (0.00)	0.39 (0.00)	0.63 (0.00)	0.50 (0.00)	-0.02 (0.83)	0.01 (0.84)	0.47 (0.00)	0.71 (0.00)			
Paved Roads	0.51 (0.00)	0.39 (0.00)	0.71 (0.00)	0.58 (0.00)	-0.14 (0.06)	-0.43 (0.00)	0.33 (0.00)	0.67 (0.00)	0.44 (0.00)		
Market Cap/GDP	0.12 (0.07)	0.26 (0.00)	0.06 (0.42)	0.23 (0.00)	-0.34 (0.00)	-0.23 (0.00)	0.23 (0.00)	0.02 (0.72)	-0.10 (0.14)	0.20 (0.01)	
Per Cap GDP	0.84 (0.00)	0.69 (0.00)	0.84 (0.00)	0.85 (0.00)	-0.27 (0.00)	-0.37 (0.00)	0.37 (0.00)	0.91 (0.00)	0.77 (0.00)	0.63 (0.00)	0.08 (0.23)
Total Assets	0.38 (0.00)	0.20 (0.00)	0.51 (0.00)	0.35 (0.00)	-0.12 (0.07)	-0.05 (0.48)	0.50 (0.00)	0.37 (0.00)	0.40 (0.00)	0.23 (0.00)	0.08 (0.24)
Shareholder Rights	0.01 (0.87)	0.20 (0.00)	-0.04 (0.57)	0.17 (0.01)	-0.47 (0.00)	-0.31 (0.00)	0.04 (0.53)	0.04 (0.56)	-0.16 (0.02)	-0.14 (0.07)	0.45 (0.00)
Creditor Rights	-0.03 (0.62)	0.16 (0.02)	0.06 (0.39)	0.00 (0.97)	-0.10 (0.13)	-0.36 (0.00)	0.17 (0.02)	0.02 (0.78)	-0.05 (0.43)	0.52 (0.00)	0.40 (0.00)