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ABSTRACT

The literature on the effects of foreign direct investment (FDI) and activities of multinational enterprises (MNEs) on host-countries has been almost exclusively focused on issues of productivity, growth and wages. We argue that this leaves quite a bit of important unexplored areas of inquiry, particularly those connected with the interactions of local communities and governments with MNEs. As an example, we provide a novel analysis of local corporate philanthropy, which shows significant differences between local- and foreign-owned corporations. We find that foreign-owned enterprises are less likely to give, but that when they do give, it is substantially more in magnitude than domestic firms, everything else equal. This evidence is consistent with the hypothesis that foreign-owned firms would prefer to use corporate social responsibility (CSR) activities on a more international scale, but will strategically use CSR activities for public relation motives when the MNE faces greater local scrutiny and/or bias.

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1. Introduction

The effect of foreign direct investment (FDI) on host countries is a topic of much interest to both the academic community and policymakers. FDI has been growing faster than trade over the past couple decades, and multinational enterprises (MNEs) are often seen as potential drivers of innovation and growth for not only the world economy, but especially for the locations where MNE affiliates reside. Indeed, locations often compete for FDI through lowered tax rates and other incentives.¹

In this paper, we first provide an overview of the main topics covered by prior literature on the effects of FDI on host countries, which have primarily examined the effects on host-country productivity, growth, and wages. We then discuss how many topics connected with FDI and host countries have been left unexplored to this point, particularly ones that examine how foreign firms and local communities interact, and how these interactions may vary from those between domestic firms and local communities. For example, foreign firms may have different political goals than domestic firms, leading to differences in behavior. Relatedly, investment by foreign firms can be polarizing for a local community, which may affect optimal behavior by both the MNE and the local government.² As another example, cultural differences may matter across many various dimensions. Firms may face more difficult challenges finding suitable workers

¹ Oman (1999) provides evidence of the incentives governments offer MNEs across various countries, particularly for industries locating large plants, such as in the automobile sector. Wilson (1999) provides an overview of the literature on tax competition for investment, and the literature on this topic in recent years has been quite strong.

² For example, there is evidence that high-profile foreign investments in the United States had significant impacts on state-level gubernatorial elections.

because of such cultural differences and, relatedly, request different worker training incentives from local governments. They may also differ in the way they organize production due to corporate management differences and therefore request different local infrastructure from governments as well.

As an illustration, we provide an analysis of local corporate philanthropy using data on corporate gifts to local chapters of the United Way (UW) organization, a predominant charity organization in the United States whose local chapters coordinate giving to other charities in their communities. Our analysis finds statistically significant evidence that foreign-owned firms differ substantially from domestic-owned firms in their local corporate philanthropy. Foreign-owned firms are less likely to give, but give proportionately more when they do give to local charities. This is particularly true for foreign-owned firms that have large plants. The overall pattern is consistent with the notion that foreign firms are less interested in giving to local charities, but do so when they have a high profile in the community and must overcome local polarization.

2. A brief review of the literature on the effects of FDI on host countries

The earliest empirical literature on the effect of FDI on host countries primarily consists of a more macroeconomic focus on how FDI affects GDP growth of the countries hosting the FDI. However, this naturally brought about both theoretical and empirical analysis to understand microeconomic foundations of how FDI could affect country-level growth. The theoretical side provided models about how foreign firms bring technology that could ultimately spill over and diffuse

through the host country (e.g., see Findlay, 1978). As richer data, particularly plant-level data, became available, empirical analyses of productivity spillovers became feasible, leading to a virtual cottage industry analyzing this topic over the past couple decades. Availability of plant-level data also allowed researchers to examine differences in wages across foreign- and domestic-owned firms, with ever more sophisticated work to understand if foreign firms pay higher wages even when controlling for firm and worker characteristics. A major empirical hurdle inherent in all of these topics is endogeneity – are foreign-owned firms affecting host-countries in these dimensions or are they simply drawn to countries with these attributes?

Lipsey (2004) provides an excellent review of the effects of FDI and economic activity of MNEs on host countries. In what follows, we will characterize his summary of the literature at the time he wrote, and highlight important developments since 2004.

2.1. FDI effects on host-country growth

Initial work to estimate the effect of FDI and host-country growth using country-level data found mixed evidence at best for a significant relationship. However, more recent evidence has found positive effects of FDI on growth for particular circumstances, including when the country has a high enough level of development (Borensztein, et al, 1998) or well-developed financial markets and institutions (Durham, 2004, and Alfaro et al. 2004). However, there has also been recent studies by Carkovic and Levine (2005), Chowdhury and Mavrotas (2006),

Hansen and Rand (2006), and Herzer et al. (2008) that use advanced econometric techniques to control for endogeneity and find little robust evidence for FDI effects on growth, even under these more particular circumstances. In general, this literature seems to have run out of steam, perhaps because the endogeneity issues make it difficult to draw strong conclusions.

2.2. FDI productivity spillovers in host-countries

The inconclusiveness of FDI-growth studies is a main reason why the recent literature has turned its focus to productivity of foreign-owned firms and the possibility that their productivity spills over to domestic firms in the host-country. Oftentimes, turning to micro-level data can help alleviate or eliminate endogeneity concerns that exist with macro-level data. This is not as true in this case. A finding that there is a positive correlation between foreign firm presence in a host country and productivity of domestically-owned firms can still suffer from endogeneity bias that is difficult to eliminate – namely the foreign firm may have been attracted to that country because of some third factor that is driving higher productivity for all firms in the country.

One clear fact that has been verified by the literature is that foreign firms are generally more productive than the average domestic firm. However, when one controls for other firm characteristics, it is no longer as clear that foreign firms are different from domestic firms. In fact, the evidence suggests that it is the attributes of MNEs in general, not ownership nationality, that leads them to be more productive than other firms. This is another issue that is not always fully

considered by previous literature – identifying whether MNEs have differing impacts on the host-country because they are from a different country (i.e., due to country-level attributes) or because they have firm-level attributes that led them to be an MNE in the first place. This obviously matters a lot for policy. Should a host country be encouraging foreign-owned companies to locate in their economy, or simply encouraging MNE presence, including their own domestic-based MNEs?

While there are clear productivity differences with MNEs, the evidence for positive spillovers from foreign-firms to domestic firms has been very mixed, despite literally hundreds of studies on the topic. This is particularly true for what are termed horizontal spillovers – those between firms in the same industry. A meta analysis by Görg and Greenaway (2004, p. 23) concludes “only limited evidence in support of positive spillovers has been reported. Most work fails to find positive spillovers, with some even reporting negative spillovers, at the aggregate level.”

A resuscitation of the literature came with Javorcik (2004), which finds strong evidence for a vertical backward linkage spillover effect; i.e., a positive impact of foreign firms on domestic-owned upstream suppliers to foreign firms in the host country. There have been many follow-up studies estimating both vertical backward and forward linkage spillovers using different countries and settings. Havranek and Irsova (2010) performs a meta analysis of these many estimates in the literature and concludes that there is evidence for a significant positive vertical backward linkage spillover, a statistically significant, but trivial, effect for a vertical forward linkage, and no evidence for horizontal spillovers.

This literature seems to be reaching serious diminishing marginal returns as well, though there have been some recent work that looks at new avenues to understand the micro-level foundations for spillovers via foreign firms. For example, Branstetter (2006) uses patent data to examine the flows of knowledge to and from Japanese-owned firms in the United States.

2.3. FDI effects on wages in host countries

Initial work in this area was empirical and established that foreign firms pay substantially higher wages than domestic-owned firms (see, e.g., Aitken et al., 1996). These “foreign premiums” for wages fall some, but are still substantial, when controlling for firm characteristics. This contrasts with productivity spillover differences that are insignificant once one controls for firm characteristics, as discussed above. More recent work has examined the next question of whether the wage premium exists, controlling for the same worker attributes – or even the same worker. OECD (2008) provides a more recent review of literature in this area.

An interesting innovation has been the use of matched firm-employee data to examine wage changes for individuals after a domestic-owned firm is acquired by a foreign-owned firm, or when a worker switches between a domestic-owned and foreign-owned firm (see, e.g., Heyman, Sjöholm, and Tingvall, 2007). While not ideal natural experiments, these studies get much closer than previous ones to truly identifying a treatment effect of foreign ownership on wages. The wage premium found in these studies is much smaller and often cannot reject that it is zero.

3. New directions for examining the impact of foreign firms on host countries

While much has been learned from the examination of FDI and MNEs on growth, productivity, and wages in host countries, it is surprising how deeply the literature has investigated these issues without branching out into other possible ways in which FDI and MNEs can affect host countries. From our perspective, there are quite a few new directions to explore, particularly with respect to how foreign firms interact with the local communities in which they locate.

There are some general tensions that underlie this topic. The first is that foreign-owned firms have cultural differences with new local communities. This may not only affect how a foreign firm chooses locations, but even how it operates in that location. Relatedly, the foreign firm, and particularly its (foreign) managers may not consider the welfare of its employees and local community in its decision-making in the same way that a domestic-owned firm would. At the same time, local communities may view foreign-owned firms differently than domestic-owned firms. These inherent differences (and potential biases) may significantly alter the important interactions that take place between local communities and foreign-owned firms, from the bidding and concessions local communities make to attract and retain firm investment to the outcomes of local political elections. We next enumerate a few different topics in this area that are relatively unexplored, but potentially quite important.

Local communities often bid special incentive packages to attract investment by larger industrial establishments. For example, it is easy to find media accounts detailing incentives provided to new automobile or semiconductor manufacturing

plants. Foreign-owned firms may systematically differ from domestic-owned firms in the types of incentives they request and how local endowments and policies would affect their location decision. While there is a substantial literature examining the bidding for investment, these issues have rarely been seriously considered to our knowledge. One exception is Figlio and Blonigen (2000), which not only examines the differential impacts on wages by foreign-owned firms, but also on local public expenditures. Using data on foreign and domestic firm investment into South Carolina counties, Figlio and Blonigen find that, unlike domestic investment, new foreign-firm investment is associated with lower county-level per-pupil expenditures on public education, but higher expenditures on public safety and transportation infrastructure. Another exception is Gemmell, Kneller, and Sanz (2008), which looks at how the size and composition of public expenditures in OECD countries respond to globalization forces, including inbound FDI. They find that FDI does not correlate with any change in the public sector, but that it is associated with greater social spending. A final paper related to this issue is List, McHone, and Millimet (2004), who find that foreign firms are not affected in their location decisions in the United States by local environmental regulations, as are domestic firms.

A second area we feel has significant potential for future research is the interaction of foreign investment and local political economy. There is strong anecdotal evidence that FDI can affect local politics -- the size of incentives given to foreign-owned automobile manufacturers had a significant impact on U.S. gubernatorial elections in Alabama, Indiana, and Kentucky in the early 1990s.

(Chappell, 1994) It is quite possible that these political ramifications would not have occurred had the investment in question been by domestic-owned firms, but this has not been systematically investigated. But foreign firms may also actively pursue policy changes in local communities that domestic firms would not. An example of this is the concept of *quid pro quo* FDI, hypothesized by Bhagwati, Dinopoulos and Wong (1992), where foreign firms invest in a country to lower import barriers or the threat of import barriers. Blonigen and Feenstra (1997) find some evidence for this hypothesis using U.S. data on FDI and trade protection, while Blonigen and Figlio (1998) find a more nuanced result when examining FDI into regions and votes by national legislative representatives from those regions. FDI appears to strengthen politicians' prior trade protection stances, with increased FDI associated with free-traders more likely to vote for free trade in the future and protectionists becoming more protectionist in their stance. A related paper is Grether et al. (2001), which finds that FDI-intensive sectors in Mexico tend to have greater trade protection, *ceteris paribus*.

There are very likely many other local and national policies that foreign firms may systematically try to influence once located in the host country, yet there has been little done in this area. Likewise there has been little to examine how local politics may affect incentive packages given to foreign firms. Janeba (2004) and Branstetter and Feenstra (2002) are notable exceptions. Janeba provides a model where voters balance off FDI incentives with redistributive policies, while Branstetter and Feenstra examine and estimate how much the Chinese government

balances off the gains from trade and FDI with its preferences favoring state-owned enterprises.

A final general topic area concerns more the cultural and human dimensions of foreign firm interactions with local communities. Do these firms simply operate in an isolated manner or do they have a significant impact on cultural and international awareness of the communities in which they operate? Likewise, how much does adaptation of a foreign firm to a new culture affect the firm's own corporate culture?

Again, these are suggestions of topics that we think are potentially quite important, but have not been explored. It is not meant to be an exhaustive list and we certainly have not provided many details. As such, we next provide a more specific (and detailed) example of a type of interaction between foreign firms and local communities – local corporate philanthropy decisions. This example shows how such interactions are not necessarily straightforward to analyze and yet can clearly have important economic implications.

4. An example: Differences in corporate giving based on ownership nationality

In this section, we use data collected from local charitable organizations – United Way chapters – to examine whether foreign-owned firms differ from domestic-owned firms in their decision about whether, and how much to give to charities in the local community. We first provide a brief overview of the literature on corporate social responsibility (CSR), which includes charitable giving by firms.

We then present some hypotheses about how foreign-owned firms may differ in the charitable giving to local charities and examine these hypotheses empirically.

4.1. Corporate social responsibility literature

There is a growing literature on firm motivations for engaging in CSR activities, such as charitable donations.³ One school of thought is that it is inefficient for firms to engage in CSR. Since all individuals in a firm (workers and owners) are free to personally donate from the income they gain from the firm, some question why the enterprise itself should be involved in giving from the firms' profits. Indeed, Friedman (1970) argues that firms are organized to maximize profits for its shareholders and, thus, there is no role for CSR. Firm resources spent to make CSR decisions could be better used to maximize profits, providing greater income for the workers and owners to donate, should they so choose. As Friedman concludes, "there is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud".

An alternative view is that CSR may be a strategy used by firms to maximize profits. For example, consumers' demand for a firm's product may be positively related to whether the firm engages in CSR. Additionally, CSR may be used as a strategy to boost employee morale, creating a more energized workforce that leads to greater profitability of the firm. Porter and Kramer (2002) is a well-known

³ CSR is a general term that covers everything from firm-based community volunteering initiatives to simple corporate philanthropy of the arts, sciences or various public goods.

recent piece advocating this view and provides a number of examples of the interdependence of CSR and the firm's own economic objectives. As one example: "Apple Computer has long donated computers to schools as a means of introducing its products to young people. This provides a clear social benefit to the schools while expanding Apple's potential market and turning students and teachers into more sophisticated purchasers." Even more cynically, they note that Philip Morris spent \$100 million publicizing a charitable gift of \$75 million. In summary, this alternative view is that firms will use charitable donations in a strategic manner to increase their profits.

There have been a number of studies that have statistically examined the observable factors that affect whether a firm engages in CSR or not, and the level of their CSR activity. These studies invariably examine data on national-level CSR activities by firms. These studies have generally found that that giving (even on a per-employee basis) typically goes up with firm size (e.g., see Brammer and Millington, 2006, and Muller and Whiteman, 2009), though Amato and Amato (2007) find evidence that this mainly holds for small and large firms, but not medium-sized firms. Studies have hypothesized that firms give more when profits and cash flow are high, but have not found conclusive statistical evidence for this hypothesis (e.g., see Seifert et al., 2003). Some have also found that characteristics of the industry in which a firm operates matters. For example, Zhang et al. (2010) find that Chinese firms in industries where advertising is important were more likely to donate to the 2008 Sichuan earthquake efforts in China, especially in industries where the market was very competitive for customers. This suggests CSR can be

motivated by the possibility of increasing market share and profits of the firm.

4.2. Giving to local United Way organizations

Unlike these prior studies, we provide a statistical analysis of local (not national) corporate giving. We focus on direct corporate giving to local UW organizations and have collected a sample of establishment-level observations from three UW organizations on the West coast. Our presumption is that corporate gifts to the local UW organization are a good measure of overall local CSR by a firm, as UW organizations in the U.S. are often the primary agency in a local area that coordinates fundraising and volunteer efforts for local social services. UW organizations work with community leaders, government agencies, schools, and local non-profit organizations to identify community needs, and then direct funding to the various local agencies and charitable organizations to address these needs. There are presently over one thousand local UW chapters in the U.S. and they have well-recognized and publicized local fundraising campaigns each year.

A significant share of UW contributions comes from direct corporate donations. By direct corporate donations, we refer to donations given by corporations from their profits, not the contributions from their employees. The 2009 Annual Report of UW provides a number of examples where firms gave millions of dollars directly for various UW programs, and many firms also provide direct corporate gifts by matching their employees' giving to UW.⁴ The UW of Greater Knoxville webpage reports that 30% of their donations come from direct

⁴ See page 15 of http://unway.3cdn.net/04b58dce33919e32fb_alqm6v8jg.pdf.

corporate gifts, and it is not unreasonable to think that this is representative of other UW organizations.⁵

4.3. Hypotheses on the effect of foreign ownership

Our main interest is the extent to which foreign-owned firms may differ from domestic-owned firms in terms of their giving behavior to the local UW organization, everything else equal. Our null hypothesis is that foreign-owned firms do not differ in this way, on the assumptions that firms will make CSR decisions from a strict profit-maximization perspective, and that ownership does not influence the profit-maximization environment of a firm. However, both of these assumptions may be violated and lead to alternative hypotheses.

An alternative hypothesis is that foreign firms are less likely to give and/or give less than domestic-owned firms. There are a couple reasons why this may be true. First, a larger portion of final demand for a foreign-owned firms' product may be non-local and, thus, the firm prefers to direct their CSR toward their non-local consumers. This stems from a profit-maximizing motive where charitable giving is part of a firm's marketing efforts, but foreign ownership is systematically correlated with different final markets for the firms' products. A different justification for this alternative hypothesis is that foreign-owned firms often have foreign managers, who may more likely direct corporate CSR back to their home country due to personal preferences biased toward their home country. This justification views corporate CSR as motivated more by managers' utility maximization than profit-

⁵ See <http://www.unitedwayknox.org/ways-to-give.shtml>.

maximization considerations. While these two justifications are quite different, they both stem from “foreignness” of the foreign-owned firm, not due to other attributes of the firm connected with its MNE status. Thus, these effects should be present statistically, even after controlling for size and other firm attributes.

A second alternative hypothesis is that foreign firms are more likely to give and/or give more than domestic-owned firms. One reason this may be true is that the foreign firms’ corporate culture differs from domestic-owned firms toward engaging in more CSR.⁶ A second, more intriguing, reason is that foreign firms may have more political and cultural barriers to overcome in a local community than domestic firms and therefore use local philanthropy as a means to mitigate these barriers. This motive is compatible with a profit maximization view of CSR, where philanthropy is used as part of a firm’s public relations strategy.⁷ Goyal (2006) provides a game theoretic model where MNEs may use CSR to signal that they are an accommodating firm to a host region and thereby receive more favorable location incentive packages. Importantly, the reasons supporting this alternative hypothesis are again connected with the “foreignness” of the firm, not simply attributes that would be common to all MNEs, regardless of ownership.

4.4. Empirical specifications

To examine our hypotheses, we employ the following empirical specification:

$$Donation_{ijt} = \alpha + \beta Foreign\ Ownership_{it} + \gamma X_{ijt} + \theta_j + \varepsilon_{ijt},$$

⁶ Of course, they may differ with foreign firms systematically less inclined to engage in CSR as well.

⁷ This is consistent with Findlay’s (1978) seminal model of foreign investment and technology transfer assumes that foreign firms pay higher wages “for purposes of good public relations.” (p. 9)

where $Donation_{ijt}$ is a variable measuring the local corporate donation activity of establishment i to the local United Way chapter j in year t , $Foreign\ Ownership_{ijt}$ is an indicator variable of foreign ownership of establishment i in year t , X_{ijt} is a matrix of other control variables, θ_j is a set of indicator variables of the local United Way chapters to reflect differences in how well each chapter is able to raise charitable donations, and ε_{ijt} is an error-term assumed to have a mean of zero. The parameters, α , β , and γ are coefficients to be estimated.

We explore our hypotheses using two different, but related, measures of corporate donations to local charities. The first is simply an indicator variable of whether establishment i donates any non-zero amount to its local United Way chapter j in year t . This allows us estimate the factors affecting the probability of local corporate giving using Probit maximum likelihood estimation techniques. Our second measure is the amount of donation given by establishment i to its local United Way chapter j in year t , which we log due to skewness in the variable. We estimate the specification with this dependent variable using ordinary-least squares estimation on only the sample of establishments that gave a non-zero amount. Thus, these estimates provide evidence on the magnitude of local corporate donations conditional on the firm deciding to give locally.

To avoid omitted variable bias, we include a number of control variables. We note that estimates of the effect of these variables may be of interest in their own right since the factors affecting local corporate giving may be quite different than what motivates national- and international-level corporate giving, which has been the only focus of the prior literature. First, we include the number of employees of

the establishment (*Employees_{it}*) as an observable measure of its size. While prior studies find that total (national and international) corporate philanthropy goes up with firm size, this may not be true when examining the corporate philanthropy patterns of a local establishment. For example, it may be more profitable for larger firms to engage in CSR at a national level than to coordinate local giving in all the many markets where their consumers may be located. Thus, larger firms may actually give less in a given location because they are more likely serving national, not local, markets.

These considerations suggest a couple further control variables. Establishments that are locally-owned and sell primarily to the local market should be more likely to give locally, everything else equal. While we do not have direct information on whether an establishment is locally-owned, we expect that single location establishments (*Single Plant_{it}*) are more likely to be locally-owned and, thus, more likely to give locally than a branch plant that is part of a multi-plant firm. We also include a variable indicating whether a local establishment is headquarters (*Headquarters_{it}*) for a firm. This attribute implies the establishment is part of a multi-plant firm, which suggests less local corporate philanthropy given the discussion above. However, a firm may be more likely to give to the local community in which it is headquartered. Thus, we have no clear prediction for the sign of the coefficient on this variable. We also include a set of Standard Industrial Classification (SIC) 1-digit industry variables since this may also influence whether an establishment is more likely to sell to local markets or to national and

international markets.⁸ For example, manufacturing firms that send their goods around the world may be less likely to give locally than homeowners insurance firms that rely on their agents developing relationships with local consumers. Finally, we include a time trend, since there has been a national trend of lower giving to UW chapters over the past decade, but inflation contributes to seeing higher nominal donation amounts.⁹

4.5. Data

The focus variable of our analysis is corporate giving to the local UW. While corporations may give to a number of local organizations, the local UW serves as an “umbrella” agency to fund raise and distribute funds to local charities. Thus, we expect UW donations to capture a representative pattern of corporate giving to local charities and community. We were able to collect records of all business enterprise donations to three of the United Way organizations located on the West coast of the United States, one covering a large metropolitan area and its outlying suburbs, and two covering smaller metropolitan areas under 500,000 in population. The records are for a number of years in the 2000s and provide firm names, addresses, corporate donations, and employment numbers in some circumstances. As we are only interested in philanthropy motives of the manager and owners of the firm, the

⁸ We get qualitatively identical results when we use 2-digit SIC indicator variables though many of these are dropped due to multicollinearity issues. Use of industry indicator variables at even finer levels of disaggregation introduce severe multicollinearity issues and related convergence issues in our probit estimates.

⁹ We get qualitatively identical results when using year indicator variables.

corporate donation amount excludes the money given by a firm's employees. When a firm had multiple plants in the local area, we combined these into one observation.

We use Dun and Bradstreet (DB) corporate directories to supplement the information we have from the UW organizations. First, we gather employment data on the enterprises in our sample from the DB directories when missing in the original UW data. Second, the DB directories provide information on whether the enterprise is domestic- or foreign-owned, as well as whether it is a single-enterprise firm or an affiliate of a multi-location firm. We also can distinguish from the DB data whether the enterprise is a headquarters for a multi-location firm. Third, the DB directories provide the main 4-digit Standard Industrial Classification (SIC) code for each enterprise. Fourth, we use the DB directories to randomly sample other enterprises in the same area as the enterprises in our UW data in order to get a control set of enterprises that did not give to the local UW. Finally, our focus is on whether foreign-owned firms differ in their corporate donation behavior than domestic-owned firms. We were able to obtain the nationality of ownership for various plants using the online directory service of Uniworld Online (uniworldbp.com). We verified these through corporate webpages.¹⁰

We end up with 7990 usable observations, of which 2890 (or about 36%) of the 7990 enterprises gave to the UW organizations we sample. We did not collect data on all non-giving enterprises, only a random sample of non-givers, thus the true percentage of giving enterprises is much lower. Of the 7990 enterprise-year observations in our sample, 282 are connected with foreign-owned enterprises, of

¹⁰ There were 8 firms which the Uniworld Online database indicated were foreign-owned, but which we could not verify through other sources. Thus, we excluded these observations.

which 31 observations have non-zero donations to the local UW. Of course, this lower giving rate by foreign-owned firms may be due to other reasons, such as the industry to which they belong. Our regression analyses will be able to determine to what extent these various factors affect giving by foreign-owned firms.

4.6. Results

As we mentioned earlier, we examine two different dependent variables. The first is the “giving probability” – the likelihood that a firm gives any nonzero corporate gift to its local UW. The second is the “giving level” – how much a firm gives to the UW. We examine the donation level only for the sample of enterprises that give some non-zero amount. We next provide results for each of these analyses in turn, before exploring a few extensions.

4.6.1. What determines the probability of giving?

Our first analysis examines the factors that affect the probability of an enterprise giving to the local UW. We use Probit maximum likelihood techniques to estimate coefficients, but report the marginal effects of each independent variable on the giving probability to easily interpret the magnitude of our estimated effects. Thus, each marginal effect indicates the percentage point change in the corporate giving probability (in decimal form) for a one-unit change of a variable. This can be compared to our sample average of about a 36% probability of an establishment donating to the local UW.

The results of our statistical analysis on local corporate giving probabilities are in Table 1. In the first column, we provide results from a specification where we only include the *Foreign Ownership_{ijt}* variable. The sign of the effect is clearly negative and statistically significant at the 1% level. The magnitude is also large, indicating that foreign-owned establishments have a local giving probability that is 29 percentage points less than domestic-owned establishments.

In the next two columns of Table 1, we sequentially add control variables. Column 2 adds our vector of control variables and local UW organization indicator variables, while column 3 adds these plus a set of 1-digit SIC industry indicator variables. Inclusion of controls clearly increases the fit of the empirical specification, with the pseudo-R² measure rising from 0.02 to 0.18. The magnitude of the effect of foreign-ownership falls in half, but is still highly statistically significant and indicates that a foreign-owned establishment is about 16 percentage points less likely to engage in corporate giving to the local United Way chapter than a domestic-owned enterprise even after controlling for size, industry, and other attributes.

Many of the marginal effects of the control variables are statistically significant and provide results that are new to the CSR literature. First, firm size is actually negatively correlated with *local* corporate giving, in contrast to prior results showing that total firm CSR is positively associated with size. Our estimates indicate that each additional 100 employees decreases an establishment's probability of local corporate giving by 2.2 percentage points. Relatedly, single-plant firms (which are likely locally owned and focused) have local giving probabilities that are 13.4

percentage points higher than other establishments. And finally, establishments that are headquarters actually have lower giving probabilities, by about 4.7 percentage points.

4.6.2. What determines giving amounts for those enterprises that give?

We now turn our focus to examining how various factors affect the amount given for the enterprises that choose to give to the UW. The average annual donation amount from a donating enterprise in our sample is \$1,224.57, and ranges from \$5 to \$90,000. We use the same regressor set as for our regressions examining the probability of local corporate giving, though we log the donation amount and the employee size variable.

Table 2 provides results from these statistical analyses, displaying the same sequential inclusion of controls as in Table 1. The first column shows that foreign ownership has a statistically positive impact on the local corporate donation level for the sample of establishments that give to their local United Way chapter, with a coefficient that suggests that foreign-owned establishments 106% more than domestic-owned establishments. After including a full set of controls (column 3 estimates) this difference goes down to about a 38% difference in giving levels, but is statistically significant and obviously economically significant as well. Putting this together with earlier results, foreign-owned firms are much less likely to engage in local philanthropy, but when they do, it is at giving level that are quite high. One reason for this may be that foreign firms only give locally when their presence is obvious to the community and they then face cultural hurdles and bias. This

suggests that there may be interactions with foreign-ownership and establishment size, which we will explore in the next subsection.

A similar result obtains for establishment employee size. While larger firms are less likely to give, our results in Table 2 suggest local corporate giving levels for those firms that give are positively associated with the establishment's size - a 10% increase in an establishment's number of employees is associated with a 2.7% increase in local corporate donation levels. The coefficient on single-plant establishments and headquarters are likewise of opposite sign. Putting these effects together with the estimates in the prior sections, our general results are that larger multi-plant firms are less likely to give to the local UW, but when they do give, it is significantly more than smaller, single-plant firms. These results are intriguing, as they suggest that there are two very different types of large, multi-plant firms when it comes to local giving. One type does not give to local UW organizations at all, perhaps choosing instead to focus their CSR at the national or international level. The other type gives quite generously at the local level. These differences remain even when we control for the type of industry the firm is connected with. Thus, our analysis here cannot uncover why there are these two types of large, multi-plant firms, but future research efforts should consider examination of this question.

4.6.3. Foreign-ownership interactions with establishment size

Larger establishments likely receive much greater attention and scrutiny by their local communities. For example, it is common to see local media report any significant changes in employment at larger employers in their communities. This

extra scrutiny may accentuate any local bias against foreign-owned firms, and increased use of local corporate philanthropy as a way to generate positive public relations may be one way of mitigating these effects. This suggests that the probability of giving locally and/or the amount donated to the local United Way chapter may increase as the size of the foreign-owned firms increases. To examine this, we add to our specifications a variable that interacts our indicator for foreign ownership with the establishment's number of employees. Our expectations are that the coefficient on this variable will be positive.

Columns 1 and 2 of Table 3 provide these results. The coefficient on the interaction variable is positive and statistically significant for both our empirical specifications. With respect to the probability of giving, the results suggest that each additional 100 employees increase the foreign establishment's likelihood of local corporate giving by 2.1 percentage points. While this is not trivial in magnitude, it is not a large effect, as one would need an increase of over 800 employees to counteract the independent effect of foreign ownership (an 18 percentage point lower likelihood of local corporate giving than a domestic-owned establishment). The effect of establishment size on the foreign-ownership effect for the amount given is much larger. A one-unit log change in employment at an establishment essentially doubles the amount by which foreign-owned establishments local giving exceeds domestic-owned establishments.

While obviously far from a direct test, these results are consistent with the hypothesis that larger foreign-owned establishments receive greater local scrutiny, leading them to strategically use local corporate philanthropy to mitigate these

effects. Data collection of local media stories on establishments in the sample would allow one to get a measure of local community scrutiny and examine this hypothesis more directly. However, this would be an arduous task that we leave for future work.

4.6.4. Heterogeneous foreign-ownership interactions by country source

One final issue we examine is whether there is heterogeneity in the foreign ownership effect across different MNE nationalities. For example, Pinkston and Carrol (1994) and Bennett (1998) survey MNEs regarding their CSR activities and find that corporate procedures and decisions regarding CSR activities vary systematically according to the nationality of the MNE. The vast majority of foreign investors on the West coast of the United States are from Asia, Canada, and Europe. Therefore, in our sample, 47% of the foreign-owned establishments have European owners, 29% are from Asian countries (primarily Japan), and 17% are from Canada. In columns 3 and 4 of Table 3, we include indicator variables in our empirical specifications for whether an establishment is not only foreign-owned, but also Asian or European in its ownership. The excluded group is thus primarily Canadian-owned establishments. As results in column 3 show, there are no differences across nationality for the probability that a foreign-owned firm will engage in local corporate philanthropy. Column 4 results, however, suggest that European firms who donate to the local United Way chapters do not give more than domestic-owned firms, unlike other foreign-owned firms.

5. Conclusion

Prior literature on the effect of FDI and MNEs on host countries has been primarily focused on the effects for growth, productivity, and wages. This paper first discusses new possibilities for future research in this area that center on the interactions between the local community and foreign firms. As an example, we analyze why and how corporate philanthropy by foreign firms to local charities may differ in important ways from domestic firms. Using data on corporate giving to local United Way chapters, we find that foreign-owned enterprises are less likely to give, but that when they do give, it is substantially more in the amount given than domestic firms, everything else equal. This evidence is consistent with the hypothesis that foreign-owned firms would prefer to use CSR on a more international scale, but will strategically use CSR for public relation motives when the MNE faces greater local scrutiny and/or bias.

We think examination of interactions between foreign firms and local communities is not only interesting, but important, as it has the potential to affect location of FDI, infrastructure development of local communities, and local and national politics. Our paper's discussion and analysis has mainly been centered on issues for local communities in a developed economy, but the stakes and range of issues may be even greater for less-developed areas of the world. Calvano (2008) provides examples of conflicts between MNEs and local communities in the less-developed countries and discussion of the factors that contribute to such conflict.

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TABLE 1: Effect on Giving Probability (Marginal Effects)

Foreign ownership	-0.291** (0.015)	-0.162** (0.018)	-0.156** (0.019)
Employee size (hundreds)		-0.024** (0.001)	-0.022** (0.001)
Single plant		0.125** (0.011)	0.134** (0.011)
Headquarters		-0.059** (0.013)	-0.047** (0.013)
Trend		-0.025** (0.001)	-0.026** (0.001)
United Way effects	No	Yes	Yes
Industry effects	No	No	Yes
Likelihood Ratio Test: Chi-squared Statistic (p-value)	167.07 (0.000)	1663.43 (0.000)	1848.23 (0.000)
Pseudo R ²	0.02	0.16	0.18
Observations	8115	7990	7990

Notes: Table reports marginal effects and their standard errors from a standard maximum likelihood Probit specification on a dependent variable indicating whether a firm donated to their local United Way chapter in a given year. United way effects are a set of binary variables to indicate different local United Way organizations, while industry effects are binary variables to indicate 1-digit SIC industry of the firm. ** denotes statistical significance at the 1% level, while * denotes statistical significance at the 5% level.

TABLE 2: Effect on Giving Level (In logs) For Those Firms That Give

Foreign ownership	1.060** (0.217)	0.382* (0.161)	0.378* (0.161)
Log employee size		0.259** (0.011)	0.266** (0.012)
Single plant		-0.042 (0.035)	-0.048 (0.036)
Headquarters		0.120* (0.050)	0.110* (0.051)
Trend		0.022** (0.005)	0.021** (0.005)
United Way effects	No	Yes	Yes
Industry effects	No	No	Yes
Likelihood Ratio Test: Chi-squared Statistic (p-value)	23.89 (0.000)	462.25 (0.000)	254.94 (0.000)
Pseudo R ²	0.01	0.50	0.51
Observations	2902	2738	2738

Notes: Table reports coefficients and their standard errors from a standard ordinary least squares specification for the sample of firms that donated to their local United Way chapter in a given year. United way effects are a set of binary variables to indicate different local United Way organizations, while industry effects are binary variables to indicate 1-digit SIC industry of the firm. ** denotes statistical significance at the 1% level, while * denotes statistical significance at the 5% level.

TABLE 3: Firm Size and Country Source Effects

	Firm Size Effects		Country Source Effects	
	Who Gives?	How Much?	Who Gives?	How Much?
Foreign ownership	-0.177** (0.018)	0.346* (0.161)	-0.178* (0.035)	0.756* (0.350)
Asian-owned			0.115 (0.115)	0.150 (0.453)
European-owned			0.029 (0.095)	-0.878* (0.419)
Employee size (hundreds)	-0.023** (0.002)	0.264** (0.012)	-0.022** (0.001)	0.266** (0.012)
Foreign ownership × Employee size	0.021** (0.006)	0.339** (0.104)		
Single plant	0.133** (0.011)	-0.047 (0.036)	0.133** (0.011)	-0.045 (0.036)
Headquarters	-0.048** (0.013)	0.111* (0.051)	-0.046** (0.013)	0.119* (0.051)
Trend	-0.026** (0.001)	0.021** (0.005)	-0.026** (0.001)	0.022** (0.005)
United Way effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
Likelihood Ratio Test: Chi-squared Statistic (p-value)	1854.29 (0.000)	235.40 (0.000)	1849.64 (0.000)	217.01 (0.000)
Pseudo R ²	0.18	0.51	0.18	0.51
Observations	7990	2738	7990	2738

Notes: Columns 1 and 3 of the results report marginal effects and their standard errors from a standard maximum likelihood Probit specification on a dependent variable indicating whether a firm donated to their local United Way chapter in a given year. Columns 2 and 4 report coefficients and their standard errors from a standard ordinary least squares specification for the sample of firms that donated to their local United Way chapter in a given year. United way effects are a set of binary variables to indicate different local United Way organizations, while industry effects are binary variables to indicate 1-digit SIC industry of the firm. ** denotes statistical significance at the 1% level, while * denotes statistical significance at the 5% level.