CONVERTING WINE INTO VINEGAR:

ACQUISITIONS BY FOREIGN FIRMS IN PERIODS OF CRISIS

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Abstract

We analyze differences in the performance of target firms that are purchased by foreign and domestic acquirers in periods of crisis and in periods of stability. We build on agency theory and the concept of information asymmetries to propose that the crisis increases information asymmetries between principal and agent differently for foreign and domestic firms, altering the balance between advantages and disadvantages of foreignness. As a result, in a crisis, foreign acquirers enjoy an advantage of foreignness in access to capital that results in acquiring targets with better pre-acquisition performance, but at the same time they suffer a disadvantage of foreignness in management that leads to worse target firm post-acquisition performance. In contrast, in times of stability, the reduction of information asymmetries diminishes differences in target firm performance purchased by foreign and domestic acquirers. These arguments contribute to the literature by explaining how agency problems vary not only with changes in ownership, but also with changes in the firm's environment.

Key words: financial crisis, liability of foreignness, firm-specific advantages, cross-border mergers and acquisitions, foreignness and emerging markets

INTRODUCTION

"A crisis is a terrible thing to waste."

Stanford University economist Paul Romer speaking at a venture capital conference in 2004 (Rosenthal, 2009).

A crisis has serious negative effects on the economies and lives of those who experience it, but it also offers extraordinary opportunities for entrepreneurs and researchers. The drop in domestic company valuations triggers the entrance of foreign investors not affected by the crisis who can purchase domestic firms experiencing distress at a discount (Aguiar and Gopinath, 2005; Froot & Stein, 1991; Krugman, 1998). It is unclear, however, whether these acquisitions turn out to be profitable in the long run despite the initial discount price; the acquired firms are operating under distress and may even result in a loss after all. Unfortunately, there is little guidance on this important issue because the literature has not studied whether target firms acquired by foreign companies during crisis periods are profitable. Managers may not be able to apply the insights from studies of non-crisis periods (e.g., Bertrand & Zitouna, 2008; Danbolt, 2004; Harris & Ravenscraft, 1991) to a situation of crisis as the assumptions behind the arguments are likely to change.

Therefore, in this paper we fill these gaps in knowledge by investigating differences in the performance of target firms that are purchased by foreign and domestic acquirers in periods of crisis and in periods of stability. We build on agency theory (Ross, 1973) to propose that the crisis increases uncertainty regarding the prospects of firms in the country in crisis, heightening information asymmetries and altering agency costs. This changes the balance between advantages and disadvantages of foreignness. As a result, in a crisis, foreign acquirers have an advantage of foreignness in better access to capital than domestic firms because the former have lower information asymmetry and agency costs with sources of capital on their ability to repay loans than the latter; the main operations of foreign firms are not affected by the crisis. This advantage enables foreign acquirers to buy target firms with better pre-acquisition performance. However, at the same time, in a crisis, foreign acquirers suffer a disadvantage of foreignness in management because they face higher information asymmetries between them and their target firm; they have not developed management practices that are adapted to operating in a crisis. This disadvantage leads to worse post-acquisition performance in target firms acquired by foreign firms. All this contrasts with periods of stability, in which the lower uncertainty and information asymmetries enable domestic acquirers to reduce the agency problems with sources of funds and foreign acquirers to reduce the agency problems with their targets, lessening the differences in target performance.

These arguments add to two streams of literature. First, they help clarify a long-standing debate on when foreign firms enjoy an advantage or suffer a disadvantage of foreignness in comparison to domestic companies. Some studies have discussed the advantage that foreign firms have in comparison to domestic ones (Buckley & Casson, 1976; Dunning, 1977; Vernon, 1966; for a review see Tallman & Yip, 2001), while other studies have discussed a disadvantage (Mezias, 2002; Zaheer, 1995, for a review see Eden and Miller, 2004). It is unclear when one of these forces dominates the other because whereas some empirical studies find that foreign firms have higher performance and survival rates than domestic firms (e.g., Kronborg & Thomsen, 2009; Taymaz & Ozler, 2007), other studies find the contrary (e.g., Zaheer, 1995, Zaheer & Mosakowski, 1997). We clarify the debate by proposing that these two forces operate simultaneously and that one dominates the other depending on the host country conditions. We also argue that the dominance varies with the outcome observed. These two novel contingencies on the balance between advantage and disadvantage of foreignness complement prior studies that have discussed contingencies based on the comparison made (Mata and Portugal, 2002; Nachum, 2010) and on the type of advantage or disadvantage (Cuervo-Cazurra, Maloney and Marakhan, 2007; Tallman and Yip, 2001).

Second, the arguments help extend agency theory to provide a better understanding of how agency costs vary with changes in a firm’s environment. The literature on agency theory (Ross, 1973; Jensen and Meckling, 1976) has focused mostly on shareholder-manager relationships, discussing how agency costs change with changes in ownership (for reviews see Becht, Bolton, & Roell, 2003; Berger, Clarke, Cull, Klapper, & Udell, 2005). Here we go beyond the traditional realm of the theory by discussing instead agency problems between company-sources of funds and acquirer-target. We also add novelty to the theory by explaining how agency costs vary with changes in the conditions of firm operation, not just changes in ownership. By building on agency theory we add theoretical scaffolding to the concepts of the advantage and disadvantage of foreignness. Thus, we go beyond the idea that information asymmetries in the form of exclusion from information networks contribute to the liability of foreignness (Zaheer, 1995, 2002) and discuss how information asymmetries play a role in both the disadvantage as well as the advantage of foreignness.

In addition to contributing to theory, the paper contributes to the empirical literature by being one of the first to provide a causal analysis of target performance in times of crisis and times of stability. We construct a new dataset and employ a difference-in-differences approach combined with propensity score matching to create an appropriate control group of domestically acquired firms that closely resembles the group of foreign acquired firms prior to acquisition. Such analysis of matched M&As during crisis and non-crisis periods enables us to find target firm performance differences during crisis that previous literature on M&As had missed. These findings highlight the importance of this paper and issue a cautionary note to future research to pay more attention to the conditions of the firms studied.

The paper is also useful to policy makers and managers. For policy makers, the paper provides insights into whether or not the government should facilitate domestic or foreign acquisitions in order to ameliorate the effects of a crisis. Contrary to the idea that foreign investors deserve preferential treatment because they can help domestic firms survive a crisis thanks to their easier access to foreign capital, the paper indicates that domestic acquirers may facilitate a more profitable transformation of target firms in crisis periods. For managers of foreign firms, the paper provides important insights into the best timing of foreign entry using acquisitions. It suggests that although a crisis may provide an opportunity to cheaply acquire domestic firms that appear to be good, the acquired firms may perform poorly later on, thus cautioning against rushing into a country in crisis because there appears to be a “fire sale.”

THEORETICAL BASES

The Balance between the Advantage and Disadvantage of Foreignness

A long-standing unresolved debate revolves around when foreign firms have an advantage or a disadvantage in comparison to domestic counterparts. One strand of literature has highlighted that foreign firms have an advantage over domestic firms (see Tallman & Yip, 2001, for a review). For example, Hymer (1976) argues that MNCs have monopoly power over some assets; Vernon (1966) and Buckley and Casson, (1976) propose that MNCs have superior technology; Dunning (1977) posits that MNCs benefit from ownership, location and internalization advantages; and Bartlett and Ghoshal (1989) and Kogut and Zander (1993) argue that MNCs are better at creating and transferring knowledge and innovations. Another strand of the literature has highlighted the disadvantages that foreign firms suffer in comparison to domestic companies (see Cuervo-Cazurra, Maloney & Manrakhan, 2007, and Eden & Miller, 2004, for reviews). For instance, Hymer (1976) argues that foreign firms suffer from costs of doing business abroad that domestic companies do not incur; Buckley and Casson (1976) suggest the costs of managing across borders and government discrimination; and Zaheer (1995) introduces the term the liability of foreignness and discusses how foreign firms suffer from the exclusion from relationship networks in the country.

Although the literature has proposed that the advantages enable the multinational company to compensate for the disadvantages, the conditions under which this is the case remain unclear. Empirical studies show conflicting findings. Some studies find that, in comparison to domestic firms, foreign firms have lower performance (Zaheer, 1995), lower survival rates (Zaheer & Mosakowski, 1997) and more labor lawsuits (Mezias, 2002). In contrast, other studies find that foreign firms have better performance (Taymaz & Ozler, 2007), higher growth (Kimura & Kiyota, 2007) and higher survival rates (Kronborg & Thomsen, 2009) than domestic firms.

To solve the debate, some studies have argued that the advantage or disadvantage depends on the comparison that is made. Thus, Mata and Portugal (2000, 2002) argue that subsidiaries of foreign firms have lower survival rates than established domestic firms and similar survival rates as new domestic firms. Similarly, Nachum (2010) argues that subsidiaries of foreign firms have better performance than purely domestic firms but similar performance compared to domestic multinational companies.

Here we introduce another solution to the debate by arguing that one force dominates another depending on the conditions of operation and on the outcome studied. We study this in the context of M&As and explain the differences in the crisis and non-crisis period and in the pre- and post-acquisition performance of targets purchased by foreign and domestic acquirers.

Agency Theory and Information Asymmetries

Information asymmetries have become one of the key concepts in microeconomics and finance literatures. Information asymmetries exist when one contracting party has more relevant information than the other. Information asymmetries affect contracting in two ways: adverse selection and moral hazard. Adverse selection occurs when there are information asymmetries before contracting, while moral hazard exists when there are information asymmetries after contracting.

The concept of information asymmetries is counter to the neoclassical assumption of perfect and symmetric information. Hayek (1945) was among the most notable to introduce information and its imperfections into the field as a key determinant of the behavior of individuals and firms. Stigler (1961) formalizes the ideas under the concept of information economics. Akerloff (1970) discusses the problem of adverse selection and introduces two solutions to this problem, signaling and screening. Spence (1973) further developes the idea of signaling while Stiglitz and Weiss (1981) further explain the concept of screening. Arrow (1970), Spence and Zeckhauser (1971) and Holmstrom (1979) explicate the concept of moral hazard and monitoring solutions.

These concepts underpin a large literature in agency theory (Jensen and Meckling, 1976; Ross, 1973), which we use to answer the question. Agency theory analyzes the relationship between two parties in a contractual relationship. Although agency theory is commonly associated with the analysis of the relationship between shareholders and managers (see Becht, Bolton, & Roell, 2003, for a review), the core principles can be applied to other relationships in which one party in a contractual relationship, the principal, wants to the influence the behavior of another party, the agent.

Agency Relationships in M&As

In the case of M&As, there are two main agency relationships. First, there is an agency relationship between the acquirer firm, which is the principal, and the target firm, which is the agent. Before the acquisition, the acquirer suffers an adverse selection problem in choosing the best target. The asymmetric information problem arises from the target firm having better information on its current situation and future prospects than the acquirer. The acquirer has an incentive to screen multiple targets by obtaining and evaluating information on each of them to identify the best one. The target firm has the incentive to signal that it is a better company than others by providing information on its performance that would lead to a higher acquisition price. After the acquisition, the acquirer suffers from a moral hazard problem in implementing practices and systems that would ensure the best performance possible in the target firm (Roth and O'Donnell, 1996). The asymmetric information problem arises from the target firm having better information than the acquirer on which practices are best for the local conditions. The acquirer has the incentive to implement practices that are appropriate for its overall operations, while the target has the incentive to use practices that are appropriate for its particular conditions.

There is another agency relationship between the sources of funds, which are the principal, and the acquirer, which is the agent. The acquirer has to obtain funds to pay for the acquisition of the target firm. The asymmetric information problem arises from the acquirer having better information on its strategy and the role the target plays within its plan than the sources of funds, which are more interested in the rate of return on the investment. The sources of funds face an adverse selection problem in evaluating the proposal of the acquirer and its ability to repay the funds once the acquisition has been completed. The acquirer has the incentive to select targets of high quality and with good prospects to receive the funds from the external sources. Even if part of the acquisition is paid with internal funds, the acquirer still needs to convince external groups like shareholders or the board of directors, that the target is good for the firm and its future.

Although these information asymmetries affect both foreign and domestic acquirers alike, there are differences in the level of information asymmetries and associated problems between these two types of acquirers. Foreign acquirers have larger asymmetries of information on the target than domestic acquirers because as foreigners they are not as well embedded, or at all, in the networks of information in the host country (Zaheer, 1995; 2002). This is part of the more limited information that foreign firms have on the business and institutional conditions of the host country (Eriksson et al., 1997). It results in the foreign firms suffering from a disadvantage of foreignness, which is exacerbated in developing countries because they have institutional voids that foreign firms, which usually come from developed countries, find hard to address (Cuervo-Cazurra and Genc, 2008; Khanna, Palepu and Krishna, 2005).

However, at the same time, the foreign firms tend to have some superiority in their knowledge that induces them to expand abroad (Buckley and Casson, 1976; Helpman, Melitz and Yeaple, 2004). This superior knowledge enables them to transform their target firms in foreign countries once they acquire them, and achieve an advantage over domestic counterparts. Thus, the foreign firm has a lower information asymmetry in terms of the best practices that can be implemented in the target company than is the case of domestic companies. This superiority in knowledge is particularly prevalent in developing countries as foreign companies from developed countries benefit from innovating for highly demanding consumers and transferring these innovations to developing countries (Vernon, 1966).

Theoretical Boundaries

Before discussing the hypotheses, we need to clarify some of the theoretical boundaries of the paper. First, the paper analyzes differences in the target firms purchased by foreign and domestic acquirers. Thus, it does not discuss general challenges of M&As (see Hitt, Ireland & Harrison, 2001, and Shimizu et al, 2004, for reviews) or the impact of M&As on the performance of the acquirer (e.g., Conn et al., 2005). Second, the paper studies targets from developing countries which are characterized by less developed capital and information markets. Some of the arguments may need modification when analyzing targets in developed countries.

HYPOTHESIS DEVELOPMENT

The Advantage and Disadvantage of Foreignness in Acquisitions during Crisis Periods

Pre-acquisition performance: Advantage of foreignness in access to capital markets. We propose that during a crisis, foreign acquirers benefit from an advantage of foreignness in access to external funds that enables them to purchase better target firms than those purchased by domestic acquirers.

The crisis increases the agency problems between acquirers and lenders of funds, but this problem is especially pronounced in the case for domestic acquirers. In a crisis, domestic firms face an aggravation of financial constraints (see Hubbard, 1998, for a review of financial constraints). The crisis increases the uncertainty of operating in the country as their main market of operation drops in activity. This places under question the ability of the domestic firms of being able to repay funds to lenders. As a result, lenders will be more reluctant to provide funds for the domestic firm to undertake acquisitions in the country in crisis because not only they do not know whether the acquisition would be profitable given that the target firm is operating in a crisis country, but moreover, they do not know whether the domestic acquirer will be able to repay the funds lent since it is itself operating in a crisis. Thus, sources of funds would limit the funds available to domestic acquirers to engage in acquisitions.

In contrast, foreign firms, which operate in countries not in crisis, are not affected as much in their relationship with sources of funds. The foreign company can use its presence in other countries to access funds at a lower cost, using their operations in their home country as collateral, and channel funds to other countries (Aliber, 1970), acting as an internal market (Birkinshaw and Fey, 2000). Thus, although there is an increase in uncertainty regarding the prospects of acquiring a target firm that is operating in a crisis country, sources of funds can be provided with assurance that their funds will be paid from the operations of the foreign firm in countries not affected by the crisis. As a result, the foreign firm enjoys an advantage of foreignness in its better access to funds than the domestic acquirer to buy the target firm in a crisis. This advantage of foreignness is amplified as the foreign currency exchange depreciates, increasing the relative wealth of foreign investors and enabling them to invest abroad more easily (Froot & Stein, 1991). As the foreign exchange drops because of the crisis, the money the foreign firm can obtain in its country of origin enables it to pay more in the local currency of the country in crisis, further reinforcing the advantage of foreignness in access to funds.

The crisis also increases the adverse selection problem between acquirers and targets, especially for foreign acquirers, inducing them to focus more on explicit measures of performance and better target firms. The conditions of target firm operations become more uncertain with the crisis, as customers reduce orders, limiting the revenue of the target firm while some supplier go bankrupt, disrupting the production process of the target firm. Foreign firms face a more heightened adverse selection problem than domestic acquirers because they are less likely to directly observe how the crisis is affecting the target firm while domestic competitors can better understand the limitations. Moreover, the sources of funds abroad are likely to require the foreign firm to purchase target firms in the country that appear to be better. Since the foreign acquirer has better access to funds for investment, it will be able to "cherry pick" the better performing target firms prior to acquisition (Almeida, 2007; Arnold & Javorcik, 2009). It has the funds and the pressure to select target firms that exhibit better pre-acquisition performance, with the expectation that such better pre-acquisition performance is an indicator of the quality of the firm, even if it is now operating in a crisis. Domestic acquirers have limited access to funding and therefore, cannot afford the target firms with better pre-acquisition performance. These ideas lead us to hypothesize that:

Hypothesis 1. In crisis periods, target firms purchased by foreign acquirers have better pre-acquisition performance than target firms purchased by domestic acquirers.

Post-acquisition performance: Disadvantage of foreignness in management. We also propose that the crisis increases the information asymmetry between acquirer and target once the acquisition is completed, creating a disadvantage of foreignness in management as the foreign firm is less able to understand how to manage the target. This results in worse post-acquisition performance for targets purchased by foreign acquirers than targets purchased by domestic acquirers. Despite acquiring firms with better pre-acquisition performance, foreign acquirers do not know how to manage the target firms in a crisis and lead them to have worse post-acquisition performance relative to their pre-acquisition performance as well as compared to a similar group of target firms acquired by domestic firms. Thus, foreign acquirers end up converting wine into vinegar during a crisis period.

Crises increase the challenges of integrating target firms and transferring knowledge and operating practices to them that could improve their performance. Foreign acquirers, which usually hail from countries not in crisis, face large problems in managing a new company that is operating in a crisis, because of large asymmetries of information in terms of best practices to implement in a target that is operating in a country in crisis. The knowledge, practices and operation procedures of the foreign firm, developed in a non-crisis country, may not only be inappropriate but also be counterproductive for a target firm located in a crisis country. The foreign firm will install procedures and routines in the host company that assume the stability of the home country in which these have been created. In most cases, the management team is replaced by expatriates to ensure the necessary control from headquarters and the integration of the strategy of the target within the network of subsidiaries of the foreign firm. Moreover, in its search for coordination and standardization of practices across countries (Bartlett and Ghoshal, 1989), it will likely dismiss indigenous practices that the target could implement. All this will result in poor target firm performance because the target is using the wrong set of practices for the conditions of the country and not being able to adapt or create its own practices. Local managers who may have the knowledge on how to operate in the crisis are replaced by expatriates who lack such knowledge and instead have the mandate and incentive to integrate the target.

In contrast, domestic acquirers are experiencing the crisis in their main operations. They have to deal with the drop in demand and problems with supplies. This experience provides them with strategies and actions that are useful for dealing with the crisis not only in their main operations but also in the target firm. The result is lower asymmetry of information in terms of best practices for the firm. Domestic acquirers can create and transfer practices to the target firm that are better suited for the conditions of operation of the firm, as well as implementing controls that better reflect the crisis conditions. Since their knowledge base is better suited for integrating and transforming the target firm in crisis, this can translate in better post-acquisition target firm performance than in the case of target firms acquired by foreign companies. These arguments lead us to hypothesize that:

Hypothesis 2. In crisis periods, target firms purchased by foreign acquirers have worse post-acquisition performance than target firms acquired by domestic acquirers relative to pre-acquisition performance levels.

The Advantage and Disadvantage of Foreignness in Acquisitions during Non-Crisis Periods

In contrast to these arguments, we propose that the balance between the advantage and disadvantage shifts in periods of stability. The reduction in the uncertainty regarding the current and future operations of the target firm changes the agency problems that foreign and domestic firms face, reducing the advantage and disadvantage of foreignness, in particular in developing countries.

Pre-acquisition performance: limited advantage of foreignness in access to capital markets. In non-crisis periods, the advantage of foreignness in access to capital is reduced because domestic acquirers face lower financial constraints as their home country is restored to economic stability. Hence, both foreign and domestic acquirers are able to purchase good target firms.

Foreign acquirers have a reduced advantage of foreignness in access to capital markets during non-crisis periods. They still have an advantage in accessing more developed capital markets more easily because of their presence in such markets and the lower information asymmetries with sources of capital in their home country. This easier access in developed countries is also translated in lower cost of capital than that prevailing in most developing countries. However, foreign acquirers no longer enjoy an additional advantage that the drop in the foreign exchange provides during crisis periods because during non-crisis periods currency movements are not necessarily favorable for foreign investors. Moreover, during non-crisis periods, domestic companies are able to reduce information asymmetries with sources of funds. They enjoy their own information advantages in their home country as the sources of funds know them better than foreign companies. Moreover, domestic companies may even be able to tap sources of funds in developed countries and obtain lower costs of capital; although they have to reduce information asymmetries with funds abroad, they may be able to do this during non-crisis periods when their prospects are not tainted by the crisis. Hence, we hypothesize that:

Hypothesis 3. In non-crisis periods, target firms purchased by foreign acquirers have better pre-acquisition performance than target firms purchased by domestic acquirers, but the difference is lower than in crisis periods. .

Post-acquisition performance: limited disadvantage of foreignness in management. We propose that during non-crisis periods foreign acquirers enjoy a limited advantage of foreignness in management that results in their target firms experiencing better post-acquisition performance than target firms acquired by domestic acquirers. This is the traditional argument presented in the literature that discusses the advantages of advanced economy MNEs over domestic competitors in developing countries.

Foreign acquirers, especially those from developed countries, tend to have developed world-class management practices and superior technology that they transfer to their subsidiaries, including newly acquired companies in developing countries. These world class practices tend to give their subsidiaries an advantage over domestic companies, even if such practices are not fully adapted to the conditions of the local market. These foreign acquirers benefit not only from exposure to demanding and sophisticated consumers in their home markets that induce them to generate innovative products (Vernon, 1966) but also from their presence in multiple countries that provide them with access to alternative sources of innovation (Bartlett and Ghoshal, 1989; Doz, Santos and Williamson, 2001), especially since some of the subsidiaries become centers of excellence for the multinational company (Birkinshaw and Hood, 1998). Thus, foreign acquirers have a lower information asymmetry with best in class practices that many of the domestic acquires lack. Additionally, their multiple operations has induced them to develop operating procedures adequate for integrating new operations in the network of subsidiaries, designing the incentive and information systems that would make best use of the practices transferred. These incentive and information systems further enables foreign firms to reduce agency costs with the acquired target firm and thus ensure that it achieves superior performance. In contrast, domestic acquirers, especially those that only operate in the home country, have lower exposure to best in class practices and may not have developed the controls and information systems that facilitate the control of the newly acquired target firm. Thus, the target firms purchased by domestic firms may not be able to achieve superior performance. The empirical literature on M&A appears to support this arguments because it tends to find that target firms acquired by foreign companies perform better than those acquired by domestic companies, even when the acquisitions have taken place in developed countries (e.g., Bertrand and Zitouna, 2008; Conyon et al., 2002; Danbolt, 2004; Harris and Ravenscraft, 1991). These arguments lead us to hypothesize that:

Hypothesis 4. In non-crisis periods, target firms purchased by foreign acquirers have better post-acquisition performance than target firms acquired by domestic acquirers.

RESEARCH DESIGN

Data

Data on cross-border M&As come from SDC Platinum Global Mergers. We choose Latin America because these developing countries have experienced multiple crises and followed a similar process of development (Skidmore & Smith, 2005). In order to obtain performance data, we only include deals that have a publicly listed target firm. Based on the name and industry of the publicly traded Latin American target firms, we compile their firm-specific financial accounting information using Economatica. We also obtain the target firm stock price information in Economatica and the equity market index for each country from Datastream. In the period 1990-2008, we identify 1,664 observations in SDC with a public target located in the set of Latin American countries for which we have financial accounting data in Economatica (Argentina, Bolivia, Brazil, Chile, Columbia, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela). About half of the transactions involve a foreign acquirer and a domestic target.

Definition of Crisis Periods

We classify a year as a crisis year if one or more of the following definitions is satisfied: 1) depreciation, 2) banking crisis, and 3) drop in capital inflows and GDP. Following Kalemli-Ozcan et al. (2009) we define a depreciation as an increase in the real exchange rate of more than 25% compared to the value of the exchange rate a year earlier. Following Reinhart and Rogoff (2008) we define a banking crisis as the existence of bank runs that lead to their closure, merger or takeover by the government. Lastly, following Calvo, Izquierdo and Mejias (2008) we define a crisis as a decline in capital flows by more than two standard deviations below the country's sample mean. A reduction in the financial account surplus could potentially be the optimal response to a positive trade shock. To rule out such a case as a crisis episode, we require that a sudden stop be accompanied by a recession. Following Cavallo and Frankel (2008), we add the requirement that the country exhibits a fall in the current account deficit and a fall in GDP per capita either in the year of analysis or the following year. Using these three criteria we identify the following crises: Argentina (1995, 1999, 2001-2002), Brazil (1995, 1999), Chile (1998-

1999), Colombia (1998-1999), Mexico (1994-1995), Peru (1997-1999), and Venezuela (1994, 1999-2001).

Empirical Methodology

Difference-in-differences matching estimation. Ideally, in order to evaluate the impact of foreign versus domestic M&A we would like to compare the performance of a firm that receives foreign investment to the performance of the firm's identical twin with domestic investment. In might also be the case that foreign investors select target firms that have better performance prior to the acquisition. We address these issues by using propensity score matching to identify a control group of domestically acquired target firms that closely match the foreign acquired target firms. A firm is "selected" into the control group if it is sufficiently similar to the foreign acquired firms on the basis of key determinants of the acquisition decision.

Our empirical design follows closely that in Chari, Chen and Dominguez (2009). Let $A_{i,t} \in \{0,1\}$ be a dummy variable indicating whether a target is acquired by a foreign (domestic) firm at time *t* and let $y^1_{i,t+u}$ ($y^0_{i,t+u}$) denote target-firm performance outcome variables *u* periods after the acquisition takes place. For a given target firm, we only observe performance outcome variables in one of the two states; foreign acquisition ($y^1_{i,t+u}$), or domestic acquisition ($y^0_{i,t+u}$). The average effect of a foreign firm acquisition of a target is the following:

$$E\left[y^1_{i,t+u} - y^0_{i,t+u} \mid A=1\right] = E\left[y^1_{i,t+u} \mid A=1\right] - E\left[y^0_{i,t+u} \mid A=0\right] - \left\{E\left[y^0_{i,t+u} \mid A=1\right] - E\left[y^0_{i,t+u} \mid A=0\right]\right\}.$$

The term in the first line is the average treatment effect on the foreign treated, and the term in braces in the second line is a "selection" term, which is zero if the assignment to the treatment and control groups is random. Our assumption is that firms have observable characteristics, **X**, that make them attractive targets for foreign investors. Our approach is to match foreign acquired and domestically acquired firms on the basis of these **X**s and then calculate the treatment differential on each of the outcome variables of interest. Formally, Angrist and Krueger (1999) show that effect of the treatment on the treated is given by:

$$E\left[y^{1}_{i,t+u}-y^{0}_{i,t+u}\mid A=1\right]=E\left\{E\left[y^{1}_{i,t+u}\mid A=1\right]-E\left[y^{0}_{i,t+u}\mid A=0\right]\mid A=1\right\}=E\left[\Delta_{X}\mid A=1\right],$$

where $\Delta_{x}=E\left[y^{1}_{i,t+u}\mid A=1\right]-E\left[y^{0}_{i,t+u}\mid A=0\right]$. The underlying assumption is that all firms (whether foreign or domestically acquired) have the same expected performance under domestic ownership. This is referred to as the conditional independence assumption:

$$E\left[y^{0}_{i,t+u}\mid X,A=1\right]=E\left[y^{0}_{i,t+u}\mid X,A=0\right]=E\left[y^{0}_{i,t+u}\mid X\right].$$

For the conditional independence assumption to be satisfied, the vector **X** should contain all variables that affect both foreign acquisition and performance outcomes. The choice of variables included in **X** is described in more detail below. Another assumption required for matching is that it should not be possible to predict the probability of a foreign vs. a domestic acquisition perfectly, i.e. $0<\Pr\left(A=1\mid X\right)<1$. Matching on a vector of variables is difficult because it requires weighting differences in one dimension against another. Rosenbaum and Rubin (1983) provide a solution to this dimensionality problem by matching firms on propensity scores, which in our context is the conditional probability of being acquired by a foreign firm given X.

In our analysis, after we generate the propensity scores using a probit estimation, we apply propensity score reweighting paired with difference-in-differences. Essentially, the reweighting method ensures that domestically acquired target firms that are very similar to the treated foreign acquired target firms receive more weight than those domestically acquired target firms that do not. This matching technique allows us to take into account differences in observable characteristics across the firms in our database.

The second step (difference-in-difference) of the estimation procedure allows us to eliminate the differences between the foreign acquired and control firms that are unobservable and time invariant. We measure all performance differences relative to the base year of two years prior to the acquisition. The difference-in-difference procedure also allows us to control for other covariates that might also impact a firm's performance such as controlling for industry, year and country fixed effects (see Ho et al., (2007) for an overview of the benefits of combining propensity score matching with standard parametric methods).

A caveat that remains is that while propensity score matching attempts to identify matched twins in the control group and difference-in-differences estimation accounts for time-invariant, unobservable differences across foreign acquired and matched domestically acquired target firms and hidden bias may remain because matching only controls for observed variables. Thus, in line with the literature, we are unable to control for unobservable and time-variant differences in firm characteristics across foreign and domestically acquired target firms. However, it is not clear what unobservable and yet time-varying firm characteristics could vary across the two groups of target firms.

Difference-in-difference-in-difference matching estimation. So far, our methodology enables us to differentiate domestic target vs. foreign target performance. An alternative way, however, is to determine whether the crisis causes target performance to differ between foreign and domestic acquisitions. In order to investigate this question, we employ a difference-in-difference-in-difference estimator in combination with propensity score reweighting. The first difference is the performance difference between foreign and domestically acquired target firms, the second difference is the pre- and post-acquisition relative to the base year, and the third difference is between crisis and non-crisis periods. This triple difference estimator exploits three dimensions of variation. The first is temporal and comes from comparing the periods before and after the acquisition, the second is cross-sectional and comes from target firms purchased by foreign and domestic acquirers. The third one comes from comparing acquisitions completed during crisis periods and acquisitions completed during non-crisis periods. The strategy therefore consists of comparing target performance before and after by crisis versus non-crisis periods and domestic versus foreign acquisitions. In order to control for selection, we apply the triple difference estimation in combination with propensity score matching. In our particular case, pre-acquisition performance is evaluated two years before the acquisition. Post-acquisition performance is evaluated at years zero through five after the acquisition in comparison to the two years before the acquisition.

Before we explain the results, we need to remind of the limitations in the database. First, we are studying publicly traded companies rather than privately held companies. Second, we are analyzing firms that continue their existence as separate legal entities rather than being absorbed in the acquirer and thus disappearing as separate entities. Third, we are unable to measure directly the arguments that foreign firms have better access to capital and transfer less valuable managerial skills that domestic firms during crisis period, but these differences lessen during non-crisis period. Instead, we are capturing the impact of these effects indirectly through the differences in differences in differences estimation. Fourth, we cannot control for some variables such as diversification (Wan and Yiu, 2009) because we lack information on these variables in the database. However, it is unclear that foreign firms would be systematically more diversified than domestic firms and diversification may be driving the findings, especially given that there are differences in the findings in crisis and non-crisis periods.

RESULTS

Descriptive Statistics

Table 1 includes summary statistics for firm and transaction characteristics for the acquisitions included in our samples. Panel A lists the distributions of target firm countries. The top four target nations are Chile, Brazil, Argentina and Mexico. The total number of domestic M&A transactions outweighs that of cross-border M&A deals during non-crisis periods. In crisis episodes, however, the number of cross-border M&A transactions is slightly larger than that of domestic M&A deals. Panel B displays information on deal and target firm characteristics. The data also show differences in median transaction size values. The median cross-border M&A deal values are about 1.3 times higher than that of domestic acquisitions in non-crisis-periods, but over 2 times higher during crisis periods. This drop in difference is a result of the decrease in domestic acquisition transaction values, whereas foreign acquisitions retain the same level of transaction value in and out of crisis periods. The distribution by industrial sector for domestic and foreign acquirers and target firms are fairly similar. The changes in the distribution between crisis and non-crisis episodes also resemble each other across domestic and foreign acquisitions. Panel C summarizes the financial accounting data on the target firms during the year of acquisition. We use yearly nominal exchange rates from the IMF's IFS database to convert the financial accounting data from local currency into U.S. dollars. On average, during non-crisis periods, target firms purchased by foreign acquirers exhibit lower profitability measured by ROA than target firms bought by domestic acquirers. This difference disappears during crisis periods. Domestic acquirers choose crisis period target firms that have higher gross profits, EBIT, and size as indicated by plant, property, and equipment (PPE) than those during non-crisis episodes. The differences in foreign-acquired target firms between crisis and non-crisis periods are more subtle apart from the ROA variable. This simple table, however, indicates, that it is crucial to control for target performance prior to acquisition, when measuring the post-acquisition performance.

*** Table 1 goes about here ***

Table 2 displays a correlation matrix among all firm characteristic variables of interest, incorporating all countries and years. We separate the sample into crisis and non-crisis periods. For the crisis period acquisitions, the dummy variable foreign (1 if acquirer is a foreign firm) is significantly and negatively correlated with ROA, gross profits, total assets, and PPE. A purchase made by a foreign acquirer is accompanied by higher price of acquisition as well as higher book value. This pattern is almost reversed if M&A takes place during a non-crisis year. Now foreign-acquired target firms have higher ROA, revenues, and total assets. The price over book value is still positively correlated with a foreign-acquired target firm. This dichotomy in results might explain why previous papers in this literature that lump crisis and non-crisis periods together find mixed evidence.

*** Table 2 goes about here ***

Predicting Foreign vs. Domestic Acquisition

The results in Table 3 support Hypothesis 1 but not Hypothesis 3. To test Hypothesis 1 and 3, we estimate a probit model of the binary outcome of a firm becoming acquired by a foreign firm equaling one and acquired by a domestic firm equaling zero, with observable target firm characteristics as explanatory variables. All explanatory variables are lagged by two years.[1] We believe that observable characteristics are a good starting point as potential investors rely heavily on basic observable information based on the target's balance sheets. Therefore, we include variables that explain performance such as the ROA and gross profit, that account for tangible assets such as revenues, total assets, inventories, cost of goods sold (COGS) and property, plant and equipment (PPE), and that capture intangible assets such as book value to market value. Moreover, since our sample is pooled over various industries, countries and years, we also include 2-digit NAICS industry, year and target country fixed effects. We run the probit regression separately for M&As during crisis and non-crisis episodes. The estimation results, presented in Table 3, indicate that foreign acquirers pick systematically different target firms than domestic acquirers during crisis periods. In particular, foreign acquirers pick target firms with significantly higher ROA in year two before the acquisition than target firms that are eventually picked by domestic acquirers. When the acquisition year falls in a non-crisis period, the differences are not as stark. Although foreign investors choose target firms that have larger total assets but are smaller in PPE than those that are picked by domestic investors; there are no differences in profitability. These systematic differences during crisis periods indicate that foreign and domestic investors choose different target firms in and out of crisis periods, and foreign acquirers focus on what appear to be better performing firms when they purchase a firm in a crisis period. To be clear that these firms are in fact better performers before the acquisition, we construct the selection on observable characteristics that are two years prior to the acquisition. Thus, we put ourselves in the shoes of the foreign acquirer who makes a decision over acquisition during the crisis year and has target firm information available for the years preceding the crisis year. Given that this foreign acquirer has better access to capital and funding than a domestic acquirer, it is likely to pick the target with better performance *prior* to the acquisition year.

*** Table 3 goes about here ***

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[1] We chose two years preceding the acquisition instead of one year in order to prevent "Ashenfelter Dip" type of performance in the target firm. This term is based on the finding in Ashenfelter (1978) that in job program evaluations, participants tend to experience a temporary decline in earnings prior to enrolling in a program. Another reason is to avoid performance changes during the year preceding the crisis period that might have been due to effects of the upcoming financial crisis.

Propensity Score Matching Estimates: Foreign Acquired vs. Domestically Acquired Target Post-Acquisition Performance in and out of Crisis

The results of the analyses presented in Table 4 support Hypothesis 2 and 4. Based on the probit regression above, we predict the probability of a target firm receiving foreign acquisition vs. domestic acquisition. These predicted probabilities are the base for our propensity scores as described in the methodology section. Then we perform difference-in-difference regressions using the propensity score weights in order to derive the post-acquisition results. The performance analysis uses year two before the acquisition as the base period and determines the changes in performance over five years following the acquisition as well as in the year of the acquisition. Our main performance variable of interest is ROA. We also analyze other firm characteristics such as revenues, COGS, total assets and PPE in order to unveil restructuring processes behind the acquisitions.

Panels A-C in Table 4 display the difference-in-difference propensity score reweighted results on the post-acquisition performance measure of ROA (column 1) for acquisitions in and out of crisis periods as well as for other firm financial variables such as revenues, COGS, total assets and PPE. $t = \{0, 5\}$ denotes the post-acquisition year. The base year for the changes in ROA is year two preceding the M&A. The estimates in Panel A indicate that for acquisitions taken place in crisis years, ROA for foreign acquired firms declines significantly compared to the matched firms that are acquired by domestic firms and relative to the base year. In fact, this decline is statistically significant for years 1-4 following the acquisition. On average, target firms that are purchased by foreign acquirers in a crisis year decline in ROA by 4.8% over the four years following acquisition compared to those matched target firms that are purchased by domestic acquirers and relative to the base year. Over the same period, we observe that COGS increases significantly as well as total assets and PPE.

*** Table 4 goes about here ***

In contrast, there are significant positive performance differences in the year of acquisition and in year 5 after the acquisition between target firms that are purchased by foreign and domestic acquirers that have taken place during non-crisis episodes (Panel B of Table 4). During the year of acquisition, foreign acquired target firms record a gain of 1.1% in ROA relative to the base year and compared to domestically acquired target firms. In year five after the acquisition, the gain in ROA is 1.7% compared to the same group of domestically acquired target firms and given the base year result. Other target firm financial variables show fewer significant changes than during crisis periods. Only revenue, COGS, and total assets show significant increases in year 4 after the acquisition. This non-crisis period result is in stark contrast to the estimates from crisis-period acquisitions. Target firms appear to be benefiting from being purchased by foreign acquirers during non-crisis periods, whereas they suffer when the purchase takes place during crisis periods.

Alternatively, we are also interested in whether crisis affects the differences in post-acquisition performance in target firms purchased by foreign and domestic acquirers[2]. Panel C in Table 4 displays the estimation results using the propensity score weights in combination with a difference-in-difference-in-difference estimation. The first column indicates that the differences in target firms' post-acquisition performance between foreign and domestic acquirers vary between crisis and non-crisis periods. More specifically, foreign acquired target firms tend to experience declines in ROA in years 4-5 after the acquisition that are statistically significantly more severe than when comparing ROA measures with matched domestically acquired target firms during non-crisis periods and relative to the base year performance. The results shown in Panel C are in line with the results in Panels A and B and validates that the difference in performances between foreign and domestically acquired target firms are negative during crisis-periods, whereas they are positive during non-crisis periods. In other words, compared to a similar group of target firms purchased by domestic acquirers prior to the acquisition, target firms that are selected by foreign acquirers during crisis periods perform worse following the acquisitions, whereas target firms selected by foreign acquirers during a non-crisis period perform better after the acquisition. This trend is further supported by the findings in the restructuring variables of the target firms. COGS and

[2] We implicitly assume that foreign managers undertake M&As as long term investments. There is a possibility that the foreign firm "flips" its target after the crisis, but Acharya, Hsin & Yorulmazer (2007) find that the probability of a foreign firm reselling its target during the first five years after acquisition is only 6% when the acquisition took place during the South East Asian crisis.

PPE experience significantly higher increases in crisis periods between target firms purchased by foreign and domestic acquirers than during non-crisis periods and relative to the base year.

Robustness Tests and Alternative Explanations

We run additional tests to ensure the robustness of the findings to alternative comparisons and explanations; these analyses are available upon request. First, we compare firm performance between acquired firms (domestic and foreign acquired) to that of non-acquired firms as well as only foreign acquired firms to that of non-acquired firms during crisis, employing the same propensity score matching methodology as before. The results show that being acquired (or foreign acquired) during the crisis does not lead to significant changes in ROA in the years following acquisition. Recalling our advantage and disadvantage hypotheses, it is evident that both factors are interacting with each other. In these last types of comparisons, it is not clear which advantage or disadvantage would outweigh the other. Whereas previous research has used non-acquired firms as the standard control group, given our findings, that earlier results might have missed important post-acquisition effects. Second, we run analyses including a control for the bidding premia for the companies for which we have this information to address the influence of premium on the decision. The results show similar support to the ones presented. Third, the results could be interpreted as evidence of mean reversion. However, the matching procedure accounts for initial differences in the firms. Hence, the results presented are not evidence of mean reversion taking place. Fourth, we run the prediction of a foreign acquisition excluding highly correlated variables one by one to address the potential existence of collinearity. The results of these analyses support similar conclusions to the ones presented in the paper. Fifth, for the firms for which we have information, we introduce additional controls for firm intangible resources. Again, the results of these analysis yield similar support to the conclusions presented.

DISCUSSION

The arguments and findings of the paper contribute to a better understanding of several strands of the literature.

Contingencies in the Advantage and Disadvantage of Foreignness

The paper contributes to the analysis of the advantage and disadvantage of foreignness by providing a detailed understanding of the interaction between these two forces. These are complex phenomena that have been discussed as single concepts. Most of the literature tends to view them as the ultimate outcome of several effects and discuss its impact on a measure of performance of the company. Such discussions have helped draw attention to the complexities and systemic nature of the ultimate performance of the firm, but have left many questions unanswered. The paper makes two contributions to the literature by unpacking some of the contingencies of these two forces, proposing that the dominance of one over the other depends, first, on the conditions of operation of the firm and, second, on the measure of performance selected. These two ideas add to other studies that have addressed the complexity of these concepts by separating them into their components and by establishing different types of comparisons. Our analysis results in four sets of contingencies: types, comparison, conditions, and measures.

First, the advantage and disadvantage of foreignness varies depending on the type of advantage or disadvantage analyzed. Whereas we tend to discuss the concepts advantage and disadvantage of foreignness, each of these broad concepts has multiple components that foreign firm may not enjoy in every single host country in which it competes. Thus, the types of the advantage of foreignness that a foreign firm may enjoy over a domestic one have been discussed as being of three broad types: the competitive advantage that the foreign firm has created in its home country and other countries in which it operates and that it transfers to the new host country, the comparative advantage that the foreign firm enjoys in its home country and in other countries in which it operates and that it transfers to the host country, and the multinational advantage that the foreign firm enjoys from operating in multiple countries and that the multinational arbitrages in the new host country (Ghemawat, 2007; Kogut, 1985; Rugman and Verbeke, 1992;Tallman and Yip, 2001). Within each of these broad sources of advantage, the foreign firm enjoys specific ones in the host country depending on the conditions of comparative advantage of the host country, competitive advantages of host country incumbent competitors, and competitive advantage transferred and developed in the host country in the satisfaction of consumer needs. Additionally, the types of disadvantage of foreignness that a foreign firm may suffer in relation to domestic competitors can be separated into three broad groups: lack of transfer of the competitive advantage to the new host country, creation of a competitive disadvantage in the new host country, or lack of complementary resources in the new host country (Cuervo-Cazurra, Maloney and Manrakhan, 2007; Eriksson et al, 1997). Again, within each of the groups, the foreign firm may suffer different types of specific disadvantages depending on the conditions, competitors and customers of the host.

Second, the advantage and disadvantage of foreignness vary depending on the comparison that one establishes. The initial literature compared firms that were owned by foreign investors with firms that were owned by domestic ones. However, the ultimate advantage or disadvantage varies depending on the type of domestic competitors that one compares the foreign firms against. Thus, foreign firms suffer a disadvantage that is reflected in the survival rate when compared with incumbent domestic competitors but not when compared to new domestic competitors (Mata and Portugal, 2000, 2002), while foreign firms enjoy an advantage that is reflected in performance when compared to domestic companies that are not multinationals but not when compared with domestic companies that are multinationals (Nachum, 2010).

Third, the advantage and disadvantage of foreignness varies depending on the conditions of operation in the host country. In this paper we have argued and provided evidence that during a crisis period the foreign firm enjoys an advantage of foreignness in better access to external capital that enables it to buy target firms with better pre-acquisition performance whereas such advantage is reduced during non-crisis periods because domestic firms are less constrained in their access to sources of funds. We have also argued that during a crisis the foreign firm suffers a disadvantage of foreignness in worse management practices that leads to worse post-acquisition performance in target firms whereas such disadvantage becomes an advantage during non-crisis period because the foreign firm has superior managerial capabilities. In a similar vein, Wan and Yiu (2009) find that acquisition in crisis periods, especially when the firm has excess funds, have a positive effect on accounting performance, while they have a negative impact during non-crisis periods.

Fourth, the identification of the advantage and disadvantage of foreignness varies depending on the measure of performance use. Thus, in this paper we show that during the period of crisis, the conclusions vary depending on the measure use. One would find that foreign firms have an advantage of foreignness if the measurement of performance analyzed is the pre-acquisition performance of the target, but would find that foreign firms have a disadvantage of foreignness if the measurement of performance studies is the post-acquisition performance of the target. Thus, the conclusions of the study can vary significantly depending on the measures used. This is a novel approach to the topic, especially given that most of the literature on advantage and disadvantage of foreignness tends to use only one measure of performance rather than multiple ones. This is related to the idea that a company may achieve an advantage in an activity and thus superior performance in such activity but this advantage may be undermined by disadvantages elsewhere that result in low overall performance (Ray, Barney and Muhanna, 2004).

Taking all these studies together, our understanding of the differences between foreign and domestic companies advances. It results in a more complex picture, as the simplifications that other studies made no longer hold, but at the same time, it results in a deeper understanding of how foreign firms differ from domestic ones. Thus, future studies need to go beyond whether foreign firms enjoy an advantage or suffer a disadvantage and instead discuss when, that is, under which conditions and compared with whom, this is the case.

M&As in Periods of Crisis

The paper contributes to the literature on M&As by cautioning how the conditions of operation of the country may alter the conclusions of the studies.

The empirical literature on target firm performance tends to find that target firms purchased by foreign acquirers perform mostly better than those purchased by domestic acquirers, but it is unclear whether this holds during crisis periods or not. For example, Harris and Ravenscraft (1991) analyze stock return differences between domestically acquired and foreign-acquired U.S. target firms during 1970-1987 and find that foreign acquisitions are accompanied by higher target firm stock returns. Conyon et al. (2002) find that UK target firms increase productivity after being purchased by foreign acquirers but not by domestic ones. Danbolt (2004) finds a small positive effect of foreign acquisitions of UK firms in comparison to domestic acquisitions, but differences are short lived. Weitzel and Berns (2006) find little differences in the premium paid by foreign and domestic acquirers in corrupt countries. Bertrand and Zitouna (2008) find that among French target firms, cross-border acquisitions originating from outside the European Union result in higher productivity increases than domestic acquisitions.

In contrast to these studies, we add novelty to the literature by comparing performance during crisis and during periods of stability, resulting in different results and conclusions. The analysis of performance during periods of stability is in line with previous literature. Targets acquired during stability period have better post-acquisition performance. However, such conclusion contrasts with the finding that during crisis periods post-acquisition performance of targets of foreign firms is lower. Thus, we can conclude that previous studies have a limited generalization as they only analyze firms in stable conditions. This study highlights how the assumptions behind the advantage of foreign firms during stability do not hold during crisis periods. The advantage that foreign firms have in terms of more advanced management, especially when the target is in a developing country and the acquirer comes from a developed country, do not hold during crisis periods as the acquirer does not know well how to operate in a crisis since it is not experiencing the crisis in its home operation.

Moreover, we also add novelty to the literature by analyzing both pre- and post-acquisition performance of target firms in the same study. The literature has tended to focus on either one or the other. We show that the arguments and conclusions change depending on which performance outcome one studies. Thus, if we were to do two partial studies in which we only analyze one of the outcomes in each, we would reach opposite conclusions. During crisis, one of the studies would show that targets of foreign firms are better in pre-acquisition performance, whereas the other would show that targets of foreign firms are worse in post-acquisition performance. This highlights the importance of this study and cautions regarding the generalization of other studies that have analyzed only one measure of performance. Depending on the specific measure of performance used, the conclusions differ.

In sum, although the literature in M&A tends to find that targets of foreign firm have better post-acquisition performance, such conclusion appears to only hold during stability periods and for post-acquisition performance. The analysis of periods of crisis or pre-acquisition performance may yield different conclusions.

Crisis and M&As

Finally, the paper contributes to a better understanding of firms operating in crisis countries. The fire-sale FDI literature argues that in a crisis, foreign investors snap up local corporate assets at bargain prices by taking advantage of the distressed state of local businesses. Krugman (1998) proposed that firms may be sold at a discount due to illiquidity. Zhan and Ozawa (2001) point out, however, that it is often hard to disentangle whether foreign investors received a bargain or asset prices fell because they were initially overpriced. It also remains unclear what the implications of the takeover are on the target firms themselves. Aguiar and Gopinath (2005) find that foreign acquisitions almost doubled in East Asia between 1996 and 1998, while intra-national merger activity declined. They also find that the price of acquired firms relative to book value declined dramatically in 1998, at the height of the Asian financial crisis, especially for liquidity-constrained firms. Wan and Yiu (2009) find that acquirer benefit from buying firms during crisis periods, but not so during non-crisis periods. However, the impact of the crisis on the performance of the target firm and the differences between targets acquired by foreign and domestic firms remain unclear because the literature has not studied this.

We have argued and found that the crisis period changes the predictions regarding the performance of target firms. Whereas in non-crisis periods target firms acquired by foreign company have similar pre-acquisition performance and higher post-acquisition performance as target firms acquired by domestic firms, during non-crisis periods the relationships change and target firms purchased by foreign companies have higher pre-acquisition performance and lower post-acquisition performance. We argue that this is the result of the increase in uncertainty created by the crisis and the resulting change in information asymmetries for foreign and domestic acquirers.

These arguments and findings have direct implications for understanding the 2007-2009 crisis and crisis in regions other than Latin America. The paper cautions against the fire sale argument that a crisis is a good time for foreign firms to purchase firms under distress. Whereas the fire sale argument proposes that it is a good time for foreign firms to acquire companies under distress because their valuations have dropped, we argue that what appears to be good on the surface may not be so good later on. The foreign acquirer may have access to funds and can purchase firms at a discount, but it lacks the subtle understanding on the prospects of the target firms and more importantly on how to manage in a crisis because it is not experiencing this in its home country. Thus, although the acquisition initially may appear to be positive, it can quickly turn into a problematic acquisition and a loss later on. This pattern of behavior appears to be observed in the 2007-2009 crisis when spurred by the large drop in the valuation of US banks, sovereign wealth funds from places like Singapore or China rushed to acquire US banks rather than wait for the uncertainty about the conditions of the banks to be solved. Those that rushed in early suffered as the valuations of US banks continued dropping and their exposure to risky assets continued increasing. In contrast, those that acquired firms later when the brunt of the crisis was over and uncertainty had lifted benefitted (Economist, 2009).

The findings of the paper can be generalized to other contexts beyond Latin America, especially developing countries in which economic crises are more recurrent than in developed countries and as a result domestic companies have developed the skills to manage under uncertainty. Developing country firms have been hailed as being more used to dealing with the poorly developed institutions prevalent in developing countries and have developed the skill to deal with them (Ghemawat and Khanna, 1998). Thus, the results are likely to hold especially in developing countries in which domestic companies have developed such skills. An implication of these arguments is that developing country firms may have an advantage over developed country firms in their operations in other developing countries (Cuervo-Cazurra, 2006; Cuervo-Cazurra and Genc, 2008). The former are more used to dealing with crisis in their home countries and will likely be better at evaluating and managing their targets than developed country counterparts, although they would probably be at a disadvantage over domestic competitors who have a deeper knowledge of the conditions of the targets and of how to operate in a crisis in the home country.

In sum, the fire sale argument may be a useful idea when thinking about when to invest in a country, but this idea needs to be checked against the alternative of whether the foreign investor is able to manage in a crisis and not merely buy assets at a discount. The value of a target firm is not in terms of the value of its assets but of how those assets are managed. Since most of the assets cannot be transferred to the home country but instead are tied to the host economy, rather than thinking about a fire asset, foreign investors may need to think about not getting scalded in a heated economy. Nevertheless, another implication is that when the assets are transferable across borders, buying companies in distress in another country may not necessarily be a bad idea; the foreign firm is getting assets at a discount but does not have to deal with the challenge of managing such assets in a country in crisis in which it does not have the expertise and instead can benefit from complementing its operations in the home country. Thus, the acquisition and transfer of the brand and technology from some of the developed country firms to developing country ones may result in high profitability.

CONCLUSIONS

We have analyzed differences in the performance of target firms that are purchased by foreign and domestic acquirers in periods of crises and stability. The paper clarifies the debate in the literature regarding when foreign firms have an advantage or a disadvantage over domestic firms (Buckley & Casson, 1976; Hymer, 1976; Kogut & Zander, 1993; Zaheer, 1995). We argue that foreign firms experience both advantages and disadvantages simultaneously and, depending on the circumstances, one dominates the other. We build on agency theory (Ross, 1973) and the information asymmetries literature (Akerlof, 1970) to analyze how agency problems change with the crisis and, as a result, the predictions on the advantage and disadvantage of foreignness. Thus, we propose that the crisis increases uncertainty on the prospects of the target firm, thus changing the agency problems that foreign firms face. The result is that in crisis periods, foreign acquirers enjoy an advantage of foreignness in access to capital that results in target firms purchased by foreign acquirers having better pre-acquisition performance than those purchased by domestic acquirers. At the same time, foreign acquirers suffer from a disadvantage of foreignness in management which leads to target firms bought by foreign acquirers to suffer worse post-acquisition performance than those purchased by domestic acquirers. These relationships contrast with those in periods of stability, in which the uncertainty is reduced and information asymmetries lowered. Thus, we propose that in times of stability, target firms acquired by foreign companies have lower pre-acquisition performance but better post-acquisition performance of target firms purchased by domestic acquirers.

The analyses of M&As in 11 Latin American countries support these arguments and yield novel insights. We find that during crisis years target firms purchased by foreign acquirers have better pre-acquisition performance but lower post-acquisition performance compared to target firms purchased by domestic acquirers. Over a period of four years after the acquisition that took place during a crisis year, target firms purchased by foreign acquirers experience a decline of 4.8% in ROA relative to the target firms purchased by domestic acquirers compared to pre-acquisitions levels. We also find that in periods of stability, there are few differences in pre-acquisition performance between target firms acquired by domestic and foreign acquirers, but target firms purchased by foreign acquirers have higher long-term performance than those purchased by domestic acquirers.

The arguments contribute to a better understanding of the concepts of advantage and disadvantage of foreignness. We present two novel explanation of the circumstances under which one force will dominate the other. Thus, there will be variations in the dominance of advantages and disadvantage depending not only depending on the types (Cuervo-Cazurra, Maloney and Manrakhan, 2007; Rugman and Verbeke, 1992) and comparisons made (Nachum, 2010; Mata and Portugal, 2000, 2002) as had been previously discussed, but also on the conditions of operation of the firms and on the measurement of performance used as we discussed here.

The arguments also contribute to a better understanding of the relationship between M&As and performance. By comparing pre- and post-acquisition performance of targets purchased by domestic and foreign acquirers during crisis and non-crisis periods, we add additional insights that previous literature had missed. We challenge the commonly accepted view that targets acquired by foreign firms perform better than those acquired by domestic companies. We caution about this view as it appears to hold only for post-acquisition performance during non-crisis periods. In contrast, we argue and find that in crisis periods target firms acquired by foreign companies have lower post-acquisition performance than domestic companies, even though they had better pre-acquisition performance. By doing a matched analysis we solve some of the limitations of previous papers and address alternative explanations, finding that during crisis periods that foreign companies appear to be turning wine into vinegar by purchasing target firms with better pre-acquisition performance but then managing them in a way that results in worse post-acquisition performance.

The paper sheds new light on how M&As affect target performance during crisis periods and provide useful insights for policymakers. In contrast to the fire-sale FDI hypothesis (Krugman, 1998), we find that the domestic acquirers are the ones who can substantially benefit from this time of upheaval. This important finding provides new insights for policy makers. Whereas during the South East Asian crisis of 1997, governments in crisis-stricken countries actively encouraged foreign firms to invest in their countries, our results suggest that helping domestic acquirers purchase other domestic companies might be a better option to lift acquired firms out of financial distress and return them to profitability. Our results of publicly listed Latin American target firms indicate that the long-term performance of companies bought by foreign acquirers during crisis deteriorates compared to the performance of those purchased by domestic acquirers.

These arguments and results are also useful for managers, who should be more careful when evaluating the opportunities offered by a crisis in another country. Whereas foreign acquirers may benefit from a temporary advantage over domestic acquirers in being able to buy target firms that appear to be better, such advantage may disappear in the long-run as the target firms may not excel as expected. Instead, foreign managers may want to consider purchasing firms during stable times when they are on a more level playing field with domestic acquirers because this leads to better post-acquisition target performance. The arguments point out the need to account for these subtle but important disadvantages relative to the domestic firms. The success of the foreign venture would be jeopardized if the foreign acquirers were only to focus on the perceived advantages. Moreover, it is crucial to understand how the conditions of the host country change these relative advantages and disadvantages.

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Table 1. Summary Statistics: Firm Transaction and Target Characteristics

Panel A: Country of Target Firms				
Sample Description	Crisis Periods		Non-Crisis Periods	
	Domestic M&A	Cross-Border M&A	Domestic M&A	Cross-Border M&A
Total # of Transaction	100	107	753	704
Target Firm Country				
Argentina (%Total)	17.00%	37.38%	9.69%	17.76%
Bolivia (%Total)	0.00%	1.87%	0.13%	0.28%
Brazil (%Total)	20.00%	25.23%	50.07%	37.22%
Chile (%Total)	28.00%	13.08%	13.15%	12.64%
Colombia (%Total)	5.00%	1.87%	4.52%	4.83%
Ecuador (%Total)	0.00%	0.00%	0.00%	1.56%
Mexico (%Total)	17.00%	5.61%	13.94%	15.34%
Paraguay (%Total)	0.00%	0.00%	0.13%	0.43%
Peru (%Total)	5.00%	7.48%	5.31%	5.82%
Uruguay (%Total)	0.00%	0.00%	0.13%	0.99%
Venezuela (%Total)	8.00%	7.48%	2.92%	3.13%

Panel B: Deal and Firm Characteristics				
Sample Description	Crisis Periods		Non-Crisis Periods	
	Domestic M&A	Cross-Border M&A	Domestic M&A	Cross-Border M&A
Total # of Transaction	100	107	753	704
Deal Characteristics				
Median Transaction Size ($M)	41.65	85.66	62.04	83.81
Median Shares Acquired (%)	40.00%	29.65%	47.80%	48.75%
Median Shares Owned after M&A (%)	70.45%	51.80%	75.85%	78.20%
Public Acquirer (%)	45.00%	46.73%	38.11%	48.30%
Horizontal M&A (%)	36.00%	46.73%	34.00%	43.32%
Cash Payment (%)	65.00%	69.16%	58.03%	60.80%
Target Industry				
Agr. & Natural Resources (%)	5.00%	6.54%	6.77%	7.10%
Manufacturing (%)	24.00%	27.10%	33.20%	36.22%
Utilities, Construction & Transportation (%)	28.00%	26.17%	18.99%	17.76%
Wholesale & Retail Trade (%)	4.00%	7.48%	6.37%	4.97%
Financial Services (%)	13.00%	19.63%	17.26%	17.61%
Information & Communications (%)	17.00%	10.28%	11.55%	13.49%
Real Estate & Misc Services (%)	9.00%	2.80%	5.84%	2.84%

Panel C: Target Firm Financial Characteristics				
	Crisis Periods		Non-Crisis Periods	
Average Target Firm Characteristics in year of acquisition	Selected for Domestic M&A	Selected for Cross-Border M&A	Selected for Domestic M&A	Selected for Cross-Border M&A
Return on Assets (%)	0.05%	0.05%	0.06%	-0.09%
Total Assets ($M)	5,393.34	3,093.14	5,662.79	4,214.38
Revenues ($M)	1,854.95	1,110.81	1,410.84	1,290.48
COGS ($M)	656.26	772.31	835.60	793.17
Net Income ($M)	304.14	41.47	202.02	117.21
Gross Profit ($M)	1,246.54	355.13	587.47	511.00
Plant, Property, Equipment ($M)	2,895.48	1,703.06	1,634.53	1,267.28
EBIT ($M)	582.65	178.28	283.79	225.60
Liability & Equity ($M)	3,157.17	3,074.92	6,188.11	4,167.00

Notes: The table summarizes the sample of transactions involving publicly listed target firms located in Latin America announced between 1990 and 2008. Panel A lists the target country compositions differentiate by crisis vs. non-crisis periods as well as whether the acquirer is foreign or domestic. Panel B presents displays the deal and target firm characteristics as well as acquirer industries. Horizontal is a dummy variable which denotes whether the target is in the same 4-digit NAICS industry as the acquirer. Agriculture & Natural Resources are firms with 2-digit NAICS codes 11-21; Manufacturing 31-33; Utilities, Construction & Transportation 22-23, 48-49; Wholesale & Retail Trade 42-45; Financial Services 52; Information & Communications 51; Real Estate & Miscellaneous Services 53-91. Panel C summarizes the financial characteristics of target firms during the acquisition year. Return on Assets is calculated as Operating Profit (EBIT)/Total Assets. COGS is cost of goods sold. All values except for return on assets are in millions of dollars.

Table 2. Correlation Matrix of Firm Characteristics

Panel A: Crisis Period M&As

	1	2	3	4	5	6	7	8	9	10
1. Foreign	1.000									
2. ROA	**-0.046**	1.000								
3. Gross Profit	**-0.156**	**0.486**	1.000							
4. Revenues	-0.031	**0.412**	**0.426**	1.000						
5. COGS	-0.006	**0.389**	**0.363**	**0.984**	1.000					
6. PPE	**-0.057**	**0.290**	**0.381**	**0.845**	**0.812**	1.000				
7. Inventories	0.014	**0.154**	**0.293**	**0.712**	**0.726**	**0.519**	1.000			
8. Net Income/Asset	0.001	**0.160**	0.029	**0.112**	**0.098**	**0.161**	**0.169**	1.000		
9. Total Asset	**-0.075**	**0.288**	**0.431**	**0.881**	**0.854**	**0.774**	**0.671**	**0.114**	1.000	
10. Book value	**0.116**	-0.007	**-0.101**	**0.186**	**0.200**	**0.185**	**0.268**	**0.105**	**0.067**	1.000
11. Price/Book Value	**0.050**	**-0.054**	**0.058**	**0.136**	**0.121**	**0.050**	**-0.071**	0.038	**0.189**	**-0.738**

Panel B: Non-Crisis Period M&As

	1	2	3	4	5	6	7	8	9	10
1. Foreign	1.000									
2. ROA	**0.019**	1.000								
3. Gross Profit	-0.015	**0.186**	1.000							
4. Revenues	**0.072**	**0.282**	**0.410**	1.000						
5. COGS	**0.076**	**0.277**	**0.385**	**0.983**	1.000					
6. PPE	**0.050**	**0.165**	**0.373**	**0.842**	**0.827**	1.000				
7. Inventories	**0.021**	**0.217**	**0.347**	**0.754**	**0.763**	**0.588**	1.000			
8. Net Income/Asset	-0.010	**0.257**	0.003	**0.108**	**0.075**	**0.061**	**0.094**	1.000		
9. Total Asset	**0.057**	**0.195**	**0.413**	**0.889**	**0.872**	**0.817**	**0.672**	**0.041**	1.000	
10. Book value	0.000	**0.057**	**0.060**	**0.090**	**0.084**	**0.103**	**0.091**	-0.005	**0.129**	1.000
11. Price/Book Value	**0.050**	**-0.054**	**0.058**	**0.136**	**0.121**	**0.050**	**-0.071**	0.002	**0.078**	**-0.832**

Notes: The table displays the pairwise correlation coefficients of Latin America target firms in out sample that were announced between 1990 and 2008. The variable Foreign is a dummy variable, equaling one if the acquirer is foreign. ROA is return on asset, which is operating income/asset. All values except for ROA, Net Income/Asset, and Gross Profit are in logs. Panel A presents the correlation coefficients for M&As activity in crisis periods and Panel B presents those for non-crisis periods.
All coefficients in bold indicate significance level at 1%.

Table 3. Predicting Foreign vs. Domestic Acquisition

	Crisis	**Non-Crisis**
ROA	**29.104***	1.320
	(12.970)	(0.972)
Total Asset	**-5.845***	**0.242+**
	(2.828)	(0.143)
Revenues	**22.087***	-0.431
	(10.429)	(0.288)
COGS	**-20.750***	0.371
	(8.971)	(0.258)
Gross Profit	**0.000***	0.000
	(0.000)	(0.000)
PPE	1.302	**-0.197***
	(0.902)	(0.093)
Inventories	1.620+	0.011
	(0.891)	(0.059)
Book value	**-0.676***	-0.021
	(0.327)	(0.024)
Intercept	10.080	**-2.255***
	(402.454)	(0.970)
Country FE	**yes**	**yes**
Industry FE	**yes**	**yes**
Year FE	**yes**	**yes**
Obs.	61	537
Chi2	**47.42*****	**71.03*****

Notes: These probit regressions test whether target performance prior to acquisition systematically differs between firms that are eventually acquired by domestic firms versus those that receive foreign acquisition. The dependent variable is a dummy indicating 1 for those Latin American target firms when acquired by a foreign firm and 0 if they are acquired by a domestic firm. The control variables are return on assets (operating income/total assets), revenues, property, plant and equipment (PPE), cost of goods sold (COGS), total assets, inventories, book value, and gross profits, as well as industry, country, and year fixed effects. Except for return on assets, the independent variables are expressed in log terms and all explanatory variables are lagged by two years prior to the acquisition year.
All significant coefficients are in bold and indicate that foreign investors choose systematically different target firms than domestic acquirers during crisis episodes, but not as much during non-crisis episodes. + indicates significance at 10%, * significance at 5%, ** significance at 1%. Standard errors are in parentheses.

Table 4. Post-Acquisition Performance in and out of Crisis Periods

Panel A: Foreign vs. Domestic during Crisis

t	ROA	Revenues	COGS	Total Assets	PPE
0	-0.012	**0.346+**	**0.419+**	**0.328***	**0.537****
	(0.016)	(0.194)	(0.230)	(0.134)	(0.195)
1	**-0.056****	0.254	**0.432+**	**0.301+**	**0.609****
	(0.021)	(0.228)	(0.247)	(0.161)	(0.230)
2	**-0.050****	0.484	**0.691+**	**0.334+**	**0.737****
	(0.018)	(0.381)	(0.413)	(0.182)	(0.258)
3	**-0.048***	0.526	**0.815+**	**0.451***	**0.967****
	(0.019)	(0.407)	(0.443)	(0.216)	(0.329)
4	**-0.037***	0.616	**0.966+**	**0.423+**	**1.302****
	(0.018)	(0.407)	(0.538)	(0.235)	(0.345)
5	-0.001	**0.755+**	**0.919+**	0.396	**0.801+**
	(0.027)	(0.427)	(0.461)	(0.331)	(0.458)

Panel B: Foreign vs. Domestic during Non-Crisis

t	ROA	Revenues	COGS	Total Assets	PPE
0	**0.011***	-0.025	-0.098+	0.061	-0.013
	(0.005)	(0.052)	(0.051)	(0.059)	(0.058)
1	0	0.006	-0.078	0.104	0.026
	(0.007)	(0.073)	(0.064)	(0.080)	(0.084)
2	0.004	0.03	-0.013	0.052	-0.053
	(0.008)	(0.071)	(0.086)	(0.082)	(0.079)
3	-0.001	0.081	0.095	0.084	-0.099
	(0.008)	(0.080)	(0.094)	(0.093)	(0.088)
4	0.012	**0.203****	**0.182***	**0.202****	-0.008
	(0.009)	(0.090)	(0.097)	(0.098)	(0.090)
5	**0.017***	**0.209***	0.139	**0.216***	0.029
	(0.010)	(0.109)	(0.106)	(0.113)	(0.102)

Panel C: Foreign vs. Domestic during Crisis vs. Non-Crisis

t	ROA	Revenues	COGS	Total Assets	PPE
0	-0.017	0.124	0.213	0.046	0.028
	(0.014)	(0.137)	(0.140)	(0.151)	(0.158)
1	-0.018	0.23	**0.391***	0.031	0.262
	(0.017)	(0.187)	(0.175)	(0.197)	(0.219)
2	-0.027	0.179	0.282	0.02	0.292
	(0.021)	(0.216)	(0.247)	(0.197)	(0.210)
3	-0.02	0.374	**0.488+**	0.114	**0.488***
	(0.020)	(0.251)	(0.279)	(0.216)	(0.237)
4	**-0.040+**	0.379	**0.557+**	0.212	**0.580***
	(0.021)	(0.269)	(0.313)	(0.225)	(0.255)
5	**-0.045***	0.341	**0.576+**	0.193	**0.501+**
	(0.021)	(0.272)	(0.300)	(0.249)	(0.278)

Notes: Panel A documents difference-in-differences estimates for the post-acquisition performance between foreign acquired and "matched control" firms that were acquired by domestic firms, when the M&A deal was completed in a crisis year. Panel B documents difference-in-difference estimates for the post-estimation performance between foreign acquired and "matched control" firms that were acquired by domestic firms, when the M&A deal took place during a non-crisis year. Lastly, Panel C displays the difference-in-difference-in-difference estimates for the post-acquisition performance between foreign acquired and matched domestically acquired firms in and out of crisis periods. t = {0, 5} denotes the post-acquisition year. The base year is the year preceding the acquisition year.
Estimates in bold indicate statistical significance; + indicates significance at 10%, * significance at 5%, ** significance at 1%. Standard errors are in parentheses.