What is the Role of Institutional Investors in Mergers and Acquisitions? Cross-Country Evidence*

Miguel A. Ferreira — ISCTE Business School
Massimo Massa — INSEAD
Pedro P. Matos — University of Southern California

Abstract:

We study the role of institutional investors in the market for corporate control around the world. Using comprehensive ownership data of worldwide institutional investors' stock holdings, we examine a large sample of mergers and acquisitions (M&A) deals for 26 countries over the years 2000 to 2005. Institutions can influence takeover outcomes as they hold more than 40% of the world stock market capitalization. We uncover evidence that institutions are associated with higher M&A activity within and across countries. We show that the number of cross-country completed cross-border deals increases in the amount of equity holdings by foreign institutions based in the same country as the acquirer firm. We argue that institutional shareholders facilitate merging outcomes of firms from their country of origin with the firms of countries in which they invest. We provide also firm-level evidence that (especially foreign) institutions build "bridges" for more international M&A deals to take place and larger takeover premiums to accrue to shareholders of target firms. We also conclude that investor protection motives in M&A activity are of second order importance to financial integration worldwide as captured by institutional cross-country holdings.

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1. Introduction

Mergers and acquisitions (M&As) are an important mechanism to reallocate corporate control. The last decade has witnessed a surge in international M&As. In the tidal wave of M&As of the 1990s, Weston, Mitchell and Mulherin (2003) document that international deals accounted for over two-thirds of total world volume: U.S. firms and foreign firms buying one another or deals not involving U.S. companies (both cross- and within-border transactions). A spike in the international takeover activity has taken place in recent years, with deal flow close to peak levels, according to Financial Times (2005).

The literature has related the intensity and pattern of M&As around the world to differences in legal and regulatory environments, economic development and cultural and geographical barriers (e.g., Rossi and Volpin(2004)). However, one potential (and hitherto largely unexplored) determinant in the flurry of activity in M&As is the rise of institutional investors as major (minority) shareholders of corporations around the world. Institutions have become major players in world markets with total assets under management exceeding US$45 trillion of which US$20 trillion in equities, according to estimates by International Monetary Fund (2005).

Business press reports highlight frequently the importance of institutional investors in determining takeover outcomes. Institutional investor votes are credited with determining the outcome of high stakes contests. For example, at the time of the largest ever takeover battle – the hostile bid by Vodafone (UK) for Mannesmann (DE) – Mannesmann was reported to be held by a majority of foreign institutional investors and the battle for shareholder support by management and bidder was largely focused on this investor group.[1] Target and bidder firm

[1] Hopner and Jackson (2004) report that Mannesmann, the largest DAX-30 index firm at the time, had the most international ownership structure of any German firm with over 60 percent of its shares held by foreign investors

managers frequently engage in substantial investor relation activities with professional money managers to influence their merger voting or share tendering decisions.

Institutional investors and professional money managers that focus on maximizing returns are likely to facilitate value-enhancing cross-border mergers and resist "economic patriotism". For example, when the French government recently intervened with plans to merge Gaz de France with Suez (a water and power group) to ward off a possible hostile bid from Enel, an Italian utility, the large institutional investors were the more outspoken critics (Financial Times (2006)).[2,3] However, there is a lack of substantive academic evidence supporting the claim that institutional investors are influential in the global market for corporate control.

In this paper, we employ a novel database of institutional equity holdings around the world to study how institutions are influential in international takeover activity. We compare the role of institutions to the standard role attributed to external governance (legal and regulatory environments), economic development, cultural and geographical barriers. The data set contains holdings at stock-investor level from over 5,300 institutions from 26 countries, with positions totaling US$18 trillion as of December 2005. Over our sample period from 2000 to 2005, the institutional ownership data we use accounts, on average, for over 40% of the world stock market capitalization. Institutional ownership is highest in the U.S., but professional money managers from other latitudes also control sizeable pools of assets.

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and 40 percent alone by U.S. and British investors. All shareholders holding stakes of 0.1 percent or more were institutional investors (with the exception of Hutchinson Whampoa, a diversified Hong Kong conglomerate). German mutual funds controlled 13 percent, while UK and US mutual funds controlled over 19 percent.

[2] Public comments were made by Mr de Castries, head of AXA, largest French asset manager with more than EUR 1,000bln assets under management, including about 2 per cent of Suez and a smaller holding in GdF. He also condemned the "double-talk" of France for refusing hostile bids from foreign groups when several French companies had launched unsolicited bids for foreign companies (Axa's bid for UAL of the U.S. or Saint Gobain's bid for BPB of the UK).

[3] "Economic patriotism" is not a monopoly of the French as illustrated by resistance to the takeover of Unocal by a Chinese acquirer in the U.S. or the portrayal of "new conquistadores" in the English press of acquisitions undertaken by Spanish banks.

These institutional investors could be a U.S.-based mutual fund manager (like Fidelity) but also a domestic bank trust or insurance company (like BNP Paribas and AXA in France), or a global non-U.S.-based pension fund (like Norway's State Petroleum Fund). If we concentrate on non-U.S. stocks, out of a total of over $5.2 trillion in holdings, over $3.9 trillion were held by foreign institutions (of which U.S.-based institutions accounted for $2 trillion).

We first investigate the role played by institutional ownership in M&A activity at the country-level. For this purpose, we analyze a sample of 3,584 mergers and acquisitions completed between 2000 and 2005 across 26 countries. We compute the total percentage of market cap held by institutional investors per country of nationality. We find that the volume of M&A activity is significantly larger in countries with higher institutional ownership. Countries with more 10% of institutional ownership had 2% to 3% of their publicly listed firms targeted over our sample period. These results hold also if we control for economic development, cultural and geographical barriers, as well as if we exclude the U.S. as a target country. Overall, these findings provide evidence for a strong role played by institutional investors as equity owners, facilitating the level at which corporations change hands via M&A deals in each country.

We then look at cross-border merger transactions. In our sample, cross-border deals are one-fourth of total transaction value, but over 40 percent of deals involving non-U.S. targets. We show that the fraction of M&A deals that are cross-border rather than domestic increases with the presence of foreign institutions in the home country of the target firm. Even after we control for law, regulatory and economic indicators for the target firm's country, we find that foreign (but not always domestic) institutional money managers facilitate the level of takeovers by foreign bidders.

We run a horse-race between institutional ownership and the standard measures of accounting standards and shareholder protection (e.g., Rossi and Volpin (2004)). We also control for economic development, cultural and geographical barriers. We show that not only the role of institutional (and above all foreign) ownership is robust, but the standard measures of shareholder protection lose significance when we properly control for the role of institutional investors. These results hold also if we exclude the U.S. market.

To analyze this further, we focus on country pairs. This allows us to control for the characteristics of both target and acquirer firms. We find that the number of completed deals involving target firms from country *i* and acquirer firms from country *j* increases with the amount of equity holdings by foreign institutions based in the same country (*j*) as the acquirer firm. This suggests that institutional shareholders build "bridges" between firms internationally, facilitating merging outcomes of firms from their country of origin with the firms of contries in which they invest.

We then focus on individual M&A transactions and look at whether indeed the specific composition of the target firms' institutional shareholder base affects the probability of the bid to be made by a foreign or a domestic acquirer. We concentrate on non-U.S. firms. In line with the country-level evidence above, firm-level tests indicate that higher institutional ownership is positively associated with the likelihood of being a cross-border deal. When we break down the fraction of shares held by domestic and foreign institutions, we find that one standard deviation change in foreign institutional ownership increases the chance of transaction being cross-border by over 20%..A same effect is not found for domestic institutional ownership.

Finally, we explore whether a larger institutional shareholder base affects the returns going to shareholders of the target firms. We find that institutional investor presence is positively

associated with takeover premiums. This is especially true for the case of foreign institutions. To give a sense of the economic magnitude, a target firm with an institutional ownership 10% higher than average will command a premium that is 1.2% higher than the average. This may be explained with firms with higher institutional ownership attracting more competing bids and therefore commanding a higher winning bidder.

Our paper offers new insights on the role of institutional investors, but the growth in institutional ownership around the world has not gone unnoticed by the academic literature. Gillan and Starks (2003), in their study of global corporate governance, highlight the role of institutional investors as dominant players in financial markets. In the U.S., the evidence is mixed as Parrino, Sias, and Starks (2003) find that institutional selling influences decision of board of directors to fire a CEO while Gillan and Starks (2003) find typical small stock price reactions to shareholder proposals by activist institutions. Certain types of institutional investors, however, are found to exert substantial influence in M&As. Gaspar, Massa and Matos (2005) find that (short-term) institutional investors enhance the likelihood of a takeover and lower its cost. Long-term investors defend management from takeovers (by making bids more expensive) but also prevent overbidding and value-reducing acquisitions. Chen, Harford and Li (2006) also confirm the monitoring role of long-term and independent institutions. In earlier papers, however, Ambrose and Megginson (1992) did not find a significant impact for the level of ownership on the likelihood of a bid, while Stulz et al. (1990) had concluded that higher institutional ownership was associated with lower acquisition premiums. To our knowledge, however, there have been no studies examining cross-country evidence of the role of institutional investors in the market for corporate control.

Previous literature on international M&As has focused on country-level governance standards. Rossi and Volpin (2004) find a more active market for corporate control in countries with stronger investor protection. The authors also find that in cross-border M&A deals, targets are on average from countries with poorer investor protection than their acquirers' countries, suggesting a convergence in governance standards. Bris and Chabolis (2005) offer firm-level evidence by examining cross-border mergers and find a higher takeover premium if the shareholder protection and accounting standards of the acquirer company's country is better than those of the target firm's country. We contribute to this body of literature by highlighting the role played by institutional investors. With comprehensive ownership data of worldwide institutional investors' stock holdings, this paper o? ers a first exploration of the topic.

The remainder of the paper is organized as follows. Section 2 presents the institutional holdings data and the sample of M&A events. In section 3, we conduct country-level tests of how institutional ownership influences M&A activity. In section 4, we analyze firm-level evidence regarding takeover probability and premiums. Section 5 concludes and discusses the implications of our work.

2. Data

2.1. Sample of Mergers and Acquisitions

Our sample contains all mergers and acquisition announced between January 2000 and December 2005, drawn from the Securities Data Corporation (SDC) Platinum database. We select only acquisitions where both target and acquirer firms are listed in a stock exchange. We want to relate our results to the existing literature and, in particular, to Rossi and Volpin (2004), so we construct the data following their criteria: (1) the transaction is for a majority of shares of

the target firm (percentage sought after the deal is above 50%); and (2) the deal is completed by the end of our sample period (December 2005). Also, as in Bris and Cabolis (2005), we exclude leverage buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, minority stake purchases, and privatizations.

Columns (6) to (8) of Table 1 shows the level of M&A activity by country of nationality of the target firm. The total sample contains 3,584 M&A deals for target firms from 26 countries for which we have institutional ownership data (as described in the next section). Target firms from more than 21 other countries (e.g., Argentina, Brazil, and China) for which we have no data on domestic institutional investors (see section below) are grouped into the "other countries" category. Aggregate volume of transactions adds up to US$3.8 trillion.

Similarly to Rossi and Volpin (2004), we define M&A volume per country as the percentage of the publicly traded firms contained in WorldScope-Datastream that are targets in successful mergers and acquisitions over the 2000-2005 sample period. Column (8) of Table 1 presents summary statistics at the country level. Volume is the highest in the U.S. (with 14.6% firms targeted in our period) and the lowest in Hong Kong (2.1%). We also use an alternative measure of M&A volume - the value of completed deals divided by stock market capitalization - and our primary results are not affected.

We define the cross-border ratio as the percentage of completed deals in a country in which the acquirer is from a different country than the target. Cross-border ratios per target country are presented in the last column of Table 1. Firms from Japan and the U.S. are the least targeted by foreign acquirers.

Our sample of mergers is geographically fairly diversified. Panel A of Table 2 presents the number of completed deals for each pair of target firm country (in row) and acquirer firm

country (in column). A total of 765 deals are cross-border (value of US$0.9 trillion), while a large majority of 2,819 deals (value of US$2.8 trillion) are within country borders. Panel B, however, shows that over 40% of deals involving non-U.S. targets are cross-border.

2.2. Institutional Investors Holdings Data

The institutional investor holdings data are drawn from the FactSet/LionShares database, which is a leading information source for global institutional ownership that data feeds leading financial information providers such as Reuters. This dataset has been previously used by Ferreira and Matos (2006) in their study of determinants of institutional investor presence in firms around the world. FactSet/LionShares data sources are public filings by investors (such as 13-F filings with S.E.C. in the U.S.), companies, and security regulatory agencies around the world. Institutions are defined as professional money managers: mutual fund companies, pension funds, bank management divisions, and insurance companies.[4] A more detailed description of this dataset can be found in Ferreira and Matos (2006).

We use the historical filings of the FactSet/LionShares database from January 2000 to December 2005. We consider all types of stock holdings (ordinary shares, preferred shares, ADR, GDR, and dual listings) and handle the issue of different report frequency by institutions from different countries by getting the latest holdings update at each year-end. The data comprises institutions located in 26 different countries (K) and stock holdings from 48 destination countries stock markets (F).[5] This data set offers a unique worldwide K x J panel

[4] U.S.-based institutions are by far the largest group of professional managers of equity assets. Some of the leading institutions in December 2005 are fund families (Barclays Global Investors, Capital Research and Management, Vanguard in the U.S.). However, others are divisions of banks (Dresdner Bank Inv Mgt in Germany, Credit Agricole in France, UBS in Switzerland), or insurance companies (AXA in France) or pension funds (Canada Pension Plan in Canada and State Petroleum Fund managed by Norges Bank in Norway). List of top 5 institutions by country can be found in Ferreira and Matos (2006).

[5] For a group of 21 "other countries" (ex: Argentina, Brazil, China, and Czech Republic) LionShares/FactSet does not have institutional holdings coverage but contains stock holdings from foreign institutions on local stocks. We

data (when aggregated at the country-level) for each quarter over the 2000-2005 period. FactSet/LionShares contains holdings data on over 35,000 stocks worldwide for a total market value of US$ 18 trillion in December 2005. The holdings are for 5,337 different institutions around the world.

To analyze the presence of institutional investors in each country, we take as the base sample of firms all publicly listed firms available in the WorldScope-Datastream dataset. The first two columns of Table 1 present the number and market capitalization of firms from each country, totaling 40,250 firms with aggregate market capitalization of over US$32 trillion.

Column (3) of Table 1 presents the fraction of each country's stock market capitalization that is held by institutions. Average values are presented for the sample years from 2000 to 2005. Institutional presence is highest in the U.S., with over 73% of U.S. market value in the hands of institutional money managers. But global institutional portfolio managers hold large fractions of stock market capitalization in countries such as Canada (38%) or Sweden (30%).[6] Overall, over our sample period from 2000 to 2005, institutional ownership accounts, on average, for over 40% of the total world stock market capitalization.

Columns (4) and (5) of Table 1 present the fraction per country held by domestic and foreign institutions. In many countries, holdings by foreign institutional investors exceed those of local money managers. The extreme case is Finland, where the market is dominated by a very large cap, Nokia, which attracts a lot of foreign institutions. In contrast, domestic institutions are prevalent in the U.S. and control more shares than foreigners in Canada and Sweden.

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keep these foreign stock positions in our tests, but the main results of the paper do not change if we restrict the sample to the 26 countries for which both institutions and stocks coverage is available.

[6] It is important to note that not all shares issued by corporations can be held by institutions, as a significant fraction is closely-held by large shareholders in some countries. Correcting for the aggregate percentage of closely-held shares (available from WorldScope), institutional ownership as a percentage of market float is high in countries like Canada (48%) or Sweden (44%).

We now present the institutional ownership variables we use in the remainder of the paper. In the first part of our paper, we employ country-level institutional ownership measures, as follows:

- IO_TOTAL is the average total institutional ownership defined as percentage of market capitalization. For each year-end, we sum all Facset/Lionshares holdings of equity issued by a given country and divide by the total market capitalization of that country from Worldscope-Datastream. We then take an average of the values for 2000 to 2005.
- IO_DOMESTIC is the average institutional ownership by domestic institutions (i.e. domiciled in the same country as the stock is issued) as a percentage of the country market capitalization.
- IO_FOREIGN is the institutional ownership by foreign institutions (i.e. domiciled in a country different from that where the stock is issued) as a percentage of the country market capitalization.

In the second part of the paper, we employ firm-level institutional ownership. These are defined as:

- Total institutional ownership (IO_TOTAL) is the sum of the holdings of all institutions in a firm's stock at the end of each calendar year divided by the end-of-year market capitalization. We sum institutional positions in local shares and ADR. Following Gompers and Metrick (2001) and Ferreira and Matos (2006), if a stock is not held by any institution in FactSet/LionShares, we set institutional ownership variables to zero.
- Domestic Institutional Ownership (IO_DOMESTIC) is the sum of the holdings of all institutions domiciled in the same country in which the stock is issued as a percentage of firm’s end-of-year market capitalization.

- Foreign Institutional Ownership (IO_FOREIGN) is the sum of the holdings of all institutions domiciled in a country different from the one the stock is issued as a percentage of firm's end-of-year market capitalization.

Table 3 presents the institutional holdings data in matrix form to summarize the stock allocations by origin country of the institution (in row) and destination stock market country (in column). By December 2005, institutions covered by FactSet/LionShares as a whole managed a total of US$ 18 trillion of equity assets of which US$ 5.2 trillion are holdings in non-U.S. stocks (i.e., excluding the 26th row in the matrix - the U.S. as destination market). Focusing on all non-U.S. destination stock markets, we find that domestic institutional investors with a market value of holdings of US$ 1.5 trillion (the sum of the diagonal elements of the matrix) are on equal footing to U.S. foreign institutions with US$ 2 trillion (the sum of values on 26th column of the matrix), and non-U.S. foreign institutions with US$ 1.7 trillion (the sum of off-diagonal elements). Thus, on aggregate, non-U.S. firms across the world attract money from three institutional investor clienteles with similar pocket sizes.

3. Determinants of Country-Level M&A Activity

This section studies the determinants of M&A activity at the country-level and, in particular, the impact of institutional ownership. We articulate our analysis in three parts. First, we examine whether institutional ownership affects the overall volume of M&As. Then, we break them down on the basis of the nationality of the acquirer to see whether the presence of more institutions in the target country increases the probability that local firms will be taken over by foreign firms. Finally, we look at specific country-pair activity and test whether cross institutional ownership between pairs of counties increases the incidence of cross-border deals.

3.1. Volume

We start by testing whether the aggregate level of institutional ownership of a country affects the overall volume of M&As activity within the country. We follow Rossi and Volpin (2004) and estimate the following regression equation:

$$VOLUME_i = a + b\, IO_i + d\, X_i + e, \quad (1)$$

where the dependent variable is the percentage of firms from country *i* that are targeted in completed M&As relative to all listed firms in that country. *IO* captures the level of institutional ownership, either the overall institutional ownership (*IO_TOTAL*) or, alternatively, its domestic (*IO_DOMESTIC*) and foreign institutional components (*IO_FOREIGN*). We then consider proxies for better accounting standards and stronger shareholder protection. Following the law and finance literature, we expect stronger laws and regulations to be a major determinant of the overall level of domestic capital markets development (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998)). Thus, we include thea common law origin dummy variable (*COMMON*) and the anti-director rights index (*ANTI*), as indicators of the level of minority shareholder protection, and the quality of accounting disclosure (*ACC*).

We also include several other control variables. The first set of control variables proxy for the level of market development. They include GDP per capita (*GDP*) and GDP average annual real growth rate (*GROWTH*). We also include the degree of ownership concentration (*OWNER*) (Shleifer and Vishny (1986) and Volpin and Rossi, (2004)) as well as the average annual stock market return (*MKT_RET*). The rationale is the evidence showing the M&A market is linked to valuation waves (Shleifer and Vishny (2003)). Finally, we include a survey-based measure of product market competition (*COMPETITION*) to proxy for the availability of target firms in a

given country. All variables are time series averages over the 2000-2005 period. Table A.1. in the appendix presents the variable definitions and data sources.

The results are reported in Table 4. Panel A presents the results for 26 countries in our sample.[7] Column (1) replicates the previous findings of Rossi and Volpin (2004) that the frequency of M&As is higher in common-law countries, with better investor protection. Column (2) adds our variable of interest: the total institutional ownership variable (*IO_TOTAL*) per country. Columns (3)-(7) report the results of several robustness regressions including different sets of controls.

We find that the *IO_TOTAL* coefficient is positive and significant, providing evidence that the frequency of M&As is higher in countries in which institutions hold a bigger proportion of the stock market capitalization. The effect is not only statistically significant, but also economically significant. An extra 10 percentage points in total institutional ownership translates into between 1.2% to 1.9% more firms being targeted in a given country over the 2000-2005 period.

The proxy of investor protection based on the type of legal system (*COMMON*) is also positive and significant, as in Rossi and Volpin (2004). But the other proxies of investor protection – anti-director variables, the quality of accounting standards – as well as ownership concentration, and stock market return in that country are instead usually insignificant. The degree of product market competition has a negative and significant impact on M&A volume.

Column (8) then examines separately the role played by domestic and foreign institutions. We find that both domestic and foreign institutional ownership are positively associated with the

[7] We run cross-sectional ordinary least squares regressions, but results are similar using a Tobit model (not tabulated here) that takes into account that the dependent variable is a percentage which is bounded between zero and one.

frequency of M&A deals. In the next section, we further explore the role of the geography of institutions in the frequency of cross-border deals.

Panel B of Table 4 excludes from the sample the U.S. as a target country. Also in this case, the frequency of M&As in a country is directly related to the share held by institutions in the stock market. The *IO_TOTAL* coefficient is significant and of higher magnitude than in Panel A, suggesting the effect of institutional ownership in the market for corporate control is stronger outside the U.S.

3.2. Cross-Border Deals

We now classify M&A transactions on the basis of the nationality of the acquirer to see whether the presence of more institutions increases the probability that firms from a given country will be taken over by foreign firms. We estimate:

$$CROSS\_BORDER_i = a + b\, IO_i + d\, X_i + e \qquad (2)$$

where the dependent variable is the cross-border ratio, i.e. the percentage of completed M&A deals that involve a foreign acquirer (cross-border) over all deals that target firms of each country. *IO* is the level of total institutional ownership (*IO_TOTAL*) or, alternatively, domestic (*IO_DOMESTIC*) and foreign institutional ownership (*IO_FOREIGN*) in the target country. The other control variables are defined as in section 3.1. We also include a survey-based measure of the attitude towards cross-border deals (*OPEN*).

The results are reported in Table 5. In column (2) we find a positive but not significant effect of total institutional ownership variable (*IO_TOTAL*) on the frequency of cross-border deals relative to domestic deals. Column (3) breaks down total institutional ownership into domestic and foreign ownership. *IO_FOREIGN* is positive and significant, while *IO_DOMESTIC* is insignificant. This is evidence that foreign institutions have a particularly important role as

"facilitators" of cross-border deals, in contrast to domestic institutions. Columns (4)-(8) conduct alternative specifications and the overall message is that foreign (but not domestic) institutional money managers facilitate the level of takeovers by foreign bidders. Once we properly account for institutional ownership, we find that the role of external governance on M&As disappear. That is, unlike Rossi and Volpin (2004), we do not find evidence that cross-border M&As target more civil-law countries nor that external governance factors attract foreign bidders.

Panel B of Table 5 excludes the US as a target country. In this case, we find that institutional ownership is positively and significantly related to M&As, overall (*IO_TOTAL*), as well as in its domestic and foreign components (*IO_DOMESTIC*, *IO_FOREIGN*). So, outside the U.S. all institutions are associated with more international acquisitions.

3.3. Cross-Border Deals: Country-Pairs Analysis

In the previous section, we find evidence that the incidence of cross-border deals is spurred by foreign institutions and that external governance standards do not play a detectable role. To examine further whether institutions are indeed building "bridges" between firms across countries, we examine whether firms from a country are more likely to target a firm from another country if their home investors are already present in such country. For example, in the case of the Mannesmann takeover, Hopner and Jackson (2004) report that foreign investors were predominant in the shareholder structure and that 40 percent alone of stocks were held by U.S. and British investors. In this case, does Vodafone (a U.K. firm which had control of Airtouch, a U.S. operation) find it easier to target a German firm if its home investors are already present in that foreign market?

To explore this hypothesis, we combine the worldwide matrix of (27 x 27) matched pairs of cross-border M&A deals in Table 2 with the cross-border portfolio investment of institutions in Table 3. The matched-pairs regression equation is

$$CROSS\_BORDER(i,j) = a + b\ IO(i,j) + d\ X(i,j) + e, \quad (3)$$

where *CROSS_BORDER(i,j)* is the number of deals in which the target is from country *i* and the acquirer is from country *j* as a percentage of the total number of deals with target in country *i* (sum of row). *IO(i,j)*, is the total holdings of institutions from country *j* (country of acquirer firm) of stocks of firms from country *i* (country of target firm) as a percentage of market capitalization of country *i*. We hypothesize that a higher *IO(i,j)* institutional ownership from country *j* (institution origin) to country *i* (destination market) positively impacts *CROSS_BORDER(i,j)*, i.e. makes it more likely that a firm from country *i* is targeted by a firm from country *j*. Other regressors include the difference in economic development, investor protection, accounting standards, and stock market returns between country *j* and country *i*. We also include two dummy variables that equal one when target and acquirer firm's country share a common language (*SAME_LANG*) and belong to the same geographical region (*SAME_REG*). These variables control for proximity and familiarity motives in cross-border deals.

Table 6 reports the results of the country-pairs analysis. In column (2), we introduce our focus variable: ownership of firms by institutions from the country of the acquiring firms. We find that the *IO(i,j)* coefficient is positive and significant. This evidence supports the hypothesis that the presence of institutional investors as shareholders facilitates the completion of deals across countries.

Columns (3)-(6) consider alternative specifications controlling for many other factors that may explain the volume of M&A activity between two specific countries. In line with Rossi and

Volpin (2004), we find that acquirers usually come from countries with strong investor protection (*ANTI(i)-ANIT(j)*) and higher level of economic development relative to the target country (*GDP(j)-GDP(i)*). M&A activity is enhanced when the countries share the same language or geographical region. The degree of economic integration between two countries as measured by the level of bilateral trade is also a positive and significant determinant. In the last column of Table 6, we also include fixed effects for target and acquirer countries to control for all cultural and institutional characteristics of the two countries. In all the specifications, regardless of the type of controls, cross-country institutional ownership is always a relevant factor. Finally, in Panel B of Table 6, we report the results for the sample that excludes the U.S. as a target country. The findings are consistent with the results in Panel A.

4. Firm-level Evidence

We now move on to firm-level data. We focus on individual M&A transactions to explore whether there is firm-level evidence that institutional ownership is an important factor in the international M&A market. For this purpose, we merge the sample of M&A transactions from SDC with Datastream-WorldScope to obtain target firm characteristics. Given that country-level evidence seems to suggest institutional investors play stronger role outside the U.S., we concentrate on non-U.S. target firms in this section. The resulting base sample consists of 1,272 events that have non-missing data for the variables used in the regressions later in this section. Summary statistics of the sample are provided in Table 7. We notice that over 32% of our sample are cross-border deals. Table A.2. in the Appendix details the variable definitions and data sources. We proceed as follows. First, we focus on the probability of a firm being targeted in a

M&A deal and we see how it is affected by institutional ownership. Then, we see how institutional ownership affects the M&A premium for the target firm.

4.1. Cross-Border Takeover Probability

We study how the probability of an international M&A if affected by the presence of institutions owning stakes in the target firm. We estimate the following probit regression:

$$\text{Prob } (\textit{Deal is Cross-Border})_i = a + b\, X_i + c\, IO_i + e \qquad (4)$$

where the dependent variable is dummy that takes the value of one if the M&A deal is cross-border and zero if it is domestic. The regressors include the percentage of shares held by institutions in the target firm one quarter prior to the deal announcement (*IO_TOTAL*) and a set of other firm-level control variables. We consider both the overall institutional ownership as well as the ownership by domestic and foreign institutions. The former is proxied by the percentage of shares held by money managers domiciled in the same country as the target (*IO_DOMESTIC*), while the latter is proxied by the percentage of shares held by money managers domiciled in foreign countries (*IO_FORIEGN*). In this test we can control for more specific characteristics of target firm, besides country-level factors, such as target firm size (*SIZE*), valuation and recent returns (*BM*, *RET*), investment opportunities (*INVOP*) and accounting and financial indicators (*ROE*, *LEV*, *CASH*). Other potential determinants for cross-border mergers could be firm visibility. This is proxied by whether the firm is a member of an international index (*MSCI*) or lists its shares in the U.S. via an ADR (level 2 and 3) program (*ADR*). All firm-level variables are described in Table A.2. in the Appendix.

Table 8 presents the results. We find that total institutional ownership (*IO_TOTAL*) increases the likelihood of a firm being targeted by a foreign bidder. If we consider separately the fraction held by domestic and foreign investors in the target firm (columns (3) and (4)), we find that

foreign investor presence (*IO_FOREIGN*) positively and significantly affects the probability of a merger deal taking place. A one standard deviation increase in foreign institutional ownership increases by over 20% the chances of deal being cross-border instead of within-border. The presence of domestic investors, instead, does not significantly impact whether a M&A is cross-border. These findings validate the country-level evidence in the previous section. In terms of control variables, we find that larger firms attract more attention of foreign bidders (*SIZE*), but other firm characteristics seem to play little role in a firm being targeted by international over domestic bidders.

4.2. Takeover Premiums

We now move on to the premium and explore whether a larger institutional shareholder base affects the returns accruing to the shareholders of the target firms. We explore the impact of institutional investors on the target takeover premium by estimating:

$$PREMIUM\_TARGET_i = a + b\,X_i + c\,IO_i + e, \qquad (5)$$

where the target firm's abnormal return (*PREMIUM_TARGET*) is regressed on the levels of institutional ownership in the target at the last quarter-end prior to the merger announcement date (*IO_TOTAL, IO_DOMESTIC, IO_FOREIGN*) as well as a set of control variables as defined before. We control for various characteristics of target firms commonly used in the M&A literature to predict target premiums. Takeover premiums are measured as the abnormal return of target firm's stock on trading days -1 to +1 around the bid announcement. Target firm abnormal returns are calculated against a two-factor market model using the local market and the world market index daily returns for a full year prior to the announcement. As can be seen in Table 7, average abnormal returns in this sample are 7.7%. This goes up to 9.9% for cross-border deals, a figure close to the levels documented by Bris and Cabolis (2005).

Table 9 presents the results. We find that institutional investor presence is positively associated with takeover premiums, especially the presence of foreign institutions (*IO_FOREIGN*). To give a sense of the economic magnitude of these findings, firms with an extra 10 percentage points in institutional ownership, on average, display target premiums more than 1% higher. This may be explained by the fact that firms with more foreign institutional ownership may attract more competing bids and therefore enjoy a higher premium. The theory of takeovers predicts that the premium paid by bidder should be higher the more diffuse is the target's ownership structure and more ability of target shareholders to hold-out the bidder (Grossman and Hart (1980)).

In terms of other control variables, we find some evidence that the target's premium is negatively related to the target's size (*SIZE*), as in Rossi and Volpin (2004) and Schwert (2000) for the U.S. Also, in line with Rossi and Volpin (2004), firms from countries with more investor friendly legal and disclosure environments benefit from higher premiums.

5. Conclusion

We study the role of institutional investors in the volume and pattern of mergers and acquisitions around the world. Using a comprehensive ownership data of worldwide institutional investors' stock holdings, we examine a large sample of M&A deals for 26 countries in the 2000 to 2005 period. We find that institutions are associated with higher M&A activity within and across countries. We provide also firm-level evidence that (especially foreign) institutions provide "bridges" between firms for more international M&A deals to take place and bigger takeover premiums to accrue to shareholders of target firms. We conclude that governance motives in M&Aa are of second order importance to financial integration worldwide as captured by institutional cross-country holdings.

Our findings contribute to link corporate governance, and one of its most prominent mechanisms – the market for corporate control – to the ownership structure of firms worldwide. Our results indicate a central role of foreign institutions in M&A activity, especially in cross-border deals. This brings to light an important instance where institutional shareholders are playing a central role in prompting change in governance environments around the world. Some markets, like continental Europe, still have substantial barriers to enable efficiently functioning capital markets. This is evidenced by the failure to pass a European takeover directive. However, our findings in this paper suggest that the rise in institutional investor ownership is bringing about changes. Recently, also, hedge funds specialized in takeovers - a particular (albeit small) fraction of institutional investors – have been credited with impacting several takeover contests in Europe by facilitating deals although not ending up being owners in the merged companies (Financial Times (2005b)). We believe exploring the role of institutional investors in these and other corporate events is an attractive avenue for future research.

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Table 1
Mergers and Acquisitions and Institutional Ownership by Target Country

This table presents number of Datastream/Worldscope firms and total market capitalization (in million US dollars) per country. Columns 3-5 present the aggregate levels of institutional ownership as a percentage of market capitalization per country: total, by domestic institutions, and by foreign institutions. These values are averages of annual figures for years 2000-2005. Columns 6-8 present the number of all completed M&A deals announced in the sample years, the total transaction value (in million US dollars) and the percentage of listed firms that are targeted per country. See text for the sample definition. Columns 9-11 show the number, value (in million US dollars), and percentage of firms targeted in cross-border deals relative to all completed deals. The sample period is from 2000 to 2005.

	Sample of Firms		Institutional Ownership (%)			All Deals			Cross-Border Deals		
	Number	Market Cap	Total	Domestic	Foreign	Number	Total Value	% of Firms	Number	% of Firms	Ratio (%)
Australia (AU)	1,753	584,469	6.40	0.86	5.54	190	77,300	10.84	33	1.88	17.37
Austria (AT)	180	62,072	8.70	0.68	8.02	6	8,821	3.33	3	1.67	50.00
Belgium (BE)	259	219,469	10.54	3.30	7.24	12	30,769	4.63	3	1.16	25.00
Canada (CA)	1,746	888,813	38.39	20.64	17.75	423	188,842	24.23	113	6.47	26.71
Denmark (DK)	314	109,511	18.70	7.35	11.34	17	16,930	5.41	4	1.27	23.53
Finland (FI)	223	202,065	35.52	3.33	32.19	11	13,760	4.93	5	2.24	45.45
France (FR)	1,491	1,556,741	18.33	5.85	12.49	85	125,561	5.70	31	2.08	36.47
Germany (DE)	1,308	1,122,865	17.51	7.05	10.46	71	57,037	5.43	42	3.21	59.15
Greece (GR)	247	76,536	4.85	0.26	4.58	8	1,987	3.23	2	0.81	25.00
Hong Kong (HK)	1,074	519,263	8.72	1.47	7.26	23	45,088	2.14	6	0.56	26.09
India (IN)	393	218,769	10.27	1.57	8.71	37	2,357	9.41	7	1.78	18.92
Ireland (IE)	127	89,732	30.39	0.63	29.75	4	1,858	3.15	4	3.15	100.00
Italy (IT)	456	676,377	12.24	2.47	9.77	20	19,685	4.39	6	1.32	30.00
Japan (JP)	4,070	3,414,759	7.68	1.52	6.16	248	148,538	6.09	9	0.22	3.63
Luxembourg (LU)	54	47,110	16.87	0.71	16.16	3	4,723	5.56	3	5.56	100.00
Netherlands (NL)	372	748,685	22.44	1.24	21.20	28	38,176	7.53	20	5.38	71.43
Norway (NO)	330	111,425	18.21	6.58	11.64	27	8,829	8.18	18	5.45	66.67
Poland (PL)	52	26,467	8.31	2.23	6.09	2	99	3.85	1	1.92	50.00
Portugal (PT)	137	66,648	9.29	1.24	8.05	7	828	5.11	5	3.65	71.43
Singapore (SG)	617	168,734	8.76	1.05	7.71	23	16,739	3.73	4	0.65	17.39
South Africa (ZA)	772	220,671	9.47	2.33	7.14	34	9,603	4.40	7	0.91	20.59
Spain (ES)	278	493,337	15.03	1.87	13.16	18	15,070	6.47	6	2.16	33.33
Sweden (SE)	550	295,888	29.16	16.32	12.83	35	10,436	6.36	17	3.09	48.57
Switzerland (CH)	392	781,184	17.80	3.00	14.80	17	9,556	4.34	9	2.30	52.94
United Kingdom (UK)	3,592	3,047,705	18.78	7.51	11.28	227	433,768	6.32	81	2.26	35.68
United States (US)	11,753	13,992,086	73.33	67.91	5.41	1,711	2,311,756	14.56	222	1.89	12.97
Other	7,710	2,531,083	16.98	0.13	16.85	297	140,340	3.85	104	1.35	35.02
World	40,250	32,272,467	40.98	31.92	9.06	3,584	3,738,453	10.01	765	1.96	23.83
World (excluding US)	28,497	18,280,381	16.23	4.37	11.86	1,873	1,426,697	6.53	543	2.02	32.13

Table 2
Mergers and Acquisitions by Target and Acquiror Country

Panel A presents the number of completed deals for each pair of target firm country (in row) and acquiror firm country (in column). Panel B presents the number and value (in million US dollars) of all completed deals and those involving non-US target firms. The sample period is from 2000 to 2005.

Panel A: Number of M&A Deal

Target Country	Acquiror Country																											
	AU	AT	BE	CA	DK	FI	FR	DE	GR	HK	IN	IE	IT	JP	LU	NL	NO	PL	PT	SG	ZA	ES	SE	CH	UK	US	Other	Total
AU	157			7				1					1							1	3			2	5	9	4	190
AT		3						1																	2			6
BE			9													1							1			1		12
CA	3			310	1	1	4	2							1		1				1	1		2	16	75	5	423
DK	1				13																		2			1		17
FI						6		1															2		1	1		11
FR			2	1	1		54	5					3	2	1	2						2	1	3	2	6		85
DE		3	1	1		1	2	29					3		1	2	1						1	3	6	16	1	71
GR									6																1	1		8
HK										17				1						1						1	3	23
IN		1									30					1				1			1			1	2	37
IE																									2		2	4
IT								2					14													3	1	20
JP			2				1			1				239											3	2		248
LU							1																			2		3
NL		1	4		2		1						1			8						3	1	2	1	4		28
NO				1			2	1								1	9						5		1	2	5	27
PL																		1								1		2
PT							1												2			4						7
SG				1						1				1						19						1		23
ZA				1									2								27				4			34
ES							1						1			1						12		1	2			18
SE				2	1	1								1		1							18	1	2	7	1	35
CH			1					2		1						1							1	8	1	2		17
UK	6		1	3	3		7	9					2	1		3				3	2	2	1	4	146	31	3	227
US	9		3	52	2	6	13	18		3	1		6	4		14	2			1	1	3	6	6	44	1,489	28	1,711
Other	8	1	2	6	3	1	10	4	3		1		4	1	1	2	3	1	2	4	2	5	4	2	11	23	193	297
Total	184	9	25	385	26	16	97	75	9	23	32		37	250	4	37	16	2	4	30	36	32	44	34	250	1,679	248	3,584

Panel B: Summary of M&A Deals

	All Deals		Non-US Targets Deals	
	Number	Value	Number	Value
Intra-Border Deals	2,819	2,824,674	1,330	826,827
Cross-Border Deals	765	913,779	543	599,870
All Deals	3,584	3,738,453	1,873	1,426,697
Deals with U.S. Acquiror Firm			190	119,237

Table 3
Institutional Stock Holdings by Destination and Origin Institution Country

Panel A presents the market value (in billion US dollars) of institutional stock holdings for each pair of destination country of stock held (in row) and country of origin of the institution (in column). Panel B presents market value (in billion US dollars) of institutional stock holdings of all firms and non-US firms. Values are for December 2005.

Panel A: Market Value of Institutional Stock Holdings

Destination	Origin Institution Country																										
Country	AU	AT	BE	CA	DK	FI	FR	DE	GR	HK	IN	IE	IT	JP	LU	NL	NO	PL	PT	SG	ZA	ES	SE	CH	UK	US	Other	Total
AU	23			3				3		2			1	3		1	1			3					12	34		91
AT		1					1	2																	4	5		18
BE			9				6	6								1									6	10		43
CA				361			3	2								2	2						1	3	21	237	1	638
DK					18			2									1						1		4	8		39
FI			1			12	4	10					1				2						3	2	8	31	1	79
FR			8	6	3	3	177	68				5	9	1	3	6	6					5	5	9	54	119	4	491
DE			5	4	3	2	23	118				3	6		2	4	4					3	4	9	42	91	4	329
GR							1	2																	4	5		17
HK				2				3		14				3		1				6					9	31	4	80
IN							1	1		3	21									4					5	28		67
IE				2			2	4				1													8	19		41
IT			3	2			14	23				5	25		2	2	2					2	1	3	22	29	1	138
JP	1		2	11	5		12	21		3		3	9	147	3	6	6			6		1	6	10	62	236	16	567
LU							2	1							1	13	3					2	2	6	42	111	6	258
NL			4	4	2	1	17	34				2	4												3	9		18
NO							1	3									17						2		7	13		48
PL																		4							4	2		14
PT																			1						1	3		9
SG								1		2										4					3	11		26
ZA																					16				7	18	2	48
ES			3	2	1		9	26				1	2			2	2					19	2	3	18	30	3	125
SE				1	2	2	2	5								3	4						93	1	10	23	1	151
CH			2	4	2	2	9	23				3	4		2	4	4					1	5	38	35	115	4	260
UK			6	17	6	4	17	48		2		7	11	3	4	10	12			1	2	2	13	11	371	286	14	851
US	4	2	11	134	15	2	307	70				20	19	43	8	49	30					5	33	86	312	11,653	22	12,829
Other	2	2	2	11	6	1	20	13		26		3	4	5	3	9	4			21		1	10	7	102	499	21	772
Total	35	10	60	568	69	33	631	491	2	56	21	58	102	209	33	119	104	5	4	47	20	44	189	195	1,176	13,654	108	18,045

Panel B: Summary of Market Value of Institutional Stock Holding

	All Firms	Non-US Firms
Domestic Institutions	13,180	1,527
Foreign Institutions	4,865	3,869
All Institutions	18,045	5,216
US Foreign Institutions		2,001

Table 4
Determinants of the Volume of Mergers and Acquisitions Across Countries

This table presents the estimates of the cross-sectional regression of the volume of mergers and acquisitions by country. The dependent variable is the percentage of listed firms (out of WorldScope firms in each country) that were targeted in completed M&A deals from 2000 to 2005. Panel A presents the estimates using a sample of all 26 countries. Panel B presents the estimates using a sample that excludes the U.S.. IO_TOTAL is the average total institutional ownership as a percentage of market capitalization. IO_DOMESTIC is the average institutional ownership by domestic institutions as a percentage of market capitalization. IO_FOREIGN is the institutional ownership by foreign institutions as a percentage of market capitalization. GDP is the average log GDP per capita in US dollars. GROWTH is the GDP average annual real growth rate. COMMON is a dummy variable that equals one for common law countries. ANTI is an index of minority shareholders rights. ACC is an index of the quality of accounting disclosure. OWNER is the average equity stake by the three largest shareholders in the ten largest non-financial firms. MKT_RET is the average annual stock market return. COMPETITON is a survey-based measure of product market competition. Robust t-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All Countries								
IO_TOTAL		0.1567	0.1562	0.1908	0.1614	0.1196	0.1916	
		(2.78)	(2.72)	(3.04)	(2.66)	(1.89)	(3.92)	
IO_DOMESTIC								0.1769
								(3.34)
IO_FOREIGN								0.2633
								(2.52)
GDP	0.0008	-0.0077	-0.0072	-0.0120	-0.0097	-0.0153	0.0051	0.0040
	(0.09)	(-0.89)	(-0.81)	(-0.82)	(-0.70)	(-1.53)	(0.56)	(0.43)
GROWTH	-1.4117	-1.2187	-0.9478	-0.1677	-1.2576	-1.5017	-1.4296	-1.6954
	(-1.74)	(-1.71)	(-1.46)	(-0.17)	(-1.14)	(-1.83)	(-2.09)	(-2.20)
COMMON	0.0658	0.0455			0.0493	0.0448	0.0483	0.0550
	(2.73)	(2.04)			(1.90)	(1.79)	(2.37)	(2.47)
ANTI			0.0133					
			(1.91)					
ACC				0.0005	0.0002			
				(0.45)	(0.15)			
OWNER						-0.0008		
						(-1.33)		
MKT_RET							0.1271	0.1359
							(1.31)	(1.38)
COMPETITION							-0.0415	-0.0432
							(-2.87)	(-2.92)
Constant	0.0732	0.1312	0.0911	0.1225	0.1402	0.2525	0.2466	0.2646
	(0.73)	(1.45)	(0.96)	(0.91)	(1.11)	(2.19)	(2.43)	(2.51)
Observations	26	26	26	23	23	24	25	25
R-squared	0.25	0.46	0.44	0.39	0.50	0.53	0.67	0.68
Panel B: Excluding US								
IO_TOTAL		0.2543	0.2343	0.3056	0.3513	0.2218	0.3139	
		(3.01)	(2.65)	(2.61)	(3.50)	(2.32)	(4.72)	
IO_DOMESTIC								0.5123
								(4.63)
IO_FOREIGN								0.1798
								(2.06)
GDP	-0.0006	-0.0103	-0.0094	-0.0085	-0.0026	-0.0175	0.0016	0.0017
	(-0.06)	(-1.20)	(-1.05)	(-0.57)	(-0.20)	(-1.78)	(0.19)	(0.23)
GROWTH	-1.2193	-1.4697	-1.0585	0.2460	-0.9643	-1.8521	-1.8292	-1.2696
	(-1.47)	(-2.07)	(-1.63)	(0.23)	(-0.97)	(-2.21)	(-2.91)	(-2.02)
COMMON	0.0554	0.0528			0.0689	0.0559	0.0594	0.0463
	(2.13)	(2.38)			(2.77)	(2.18)	(3.19)	(2.57)
ANTI			0.0141					
			(2.02)					
ACC				-0.0002	-0.0012			
				(-0.12)	(-1.01)			
OWNER						-0.0006		
						(-1.04)		
MKT_RET							0.1209	0.0799
							(1.41)	(0.99)
COMPETITION							-0.0440	-0.0405
							(-3.42)	(-3.42)
Constant	0.0834	0.1477	0.1022	0.1045	0.1155	0.2581	0.2864	0.2635
	(0.82)	(1.67)	(1.08)	(0.78)	(1.02)	(2.30)	(3.13)	(3.14)
Observations	25	25	25	22	22	23	24	24
R-squared	0.18	0.44	0.40	0.35	0.56	0.51	0.72	0.78

Table 5
Determinants of the Incidence of Cross-Border Mergers and Acquisitions

This table presents the estimates of the cross-sectional regression of the cross-border deals ratio by country. The dependent variable is the percentage of completed M&A deals that involve a foreign acquiror (cross-border) over all deals that target firms of each country (see last column of Table 1). Panel A presents the estimates using a sample of all 26 countries. Panel B excludes the U.S.. IO_TOTAL is the average total institutional ownership as a percentage of market capitalization. IO_DOMESTIC is the average institutional ownership by domestic institutions as a percentage of market capitalization. IO_FOREIGN is the institutional ownership by foreign institutions as a percentage of market capitalization. GDP is the average log GDP per capita in US dollars. GROWTH is the GDP average annual real growth rate. COMMON is a dummy variable that equals one for common law countries. ANTI is an index of minority shareholders rights. ACC is an index of the quality of accounting disclosure. OWNER is the average equity stake by the three largest shareholders in the ten largest non-financial firms. MKT_RET is the average annual stock market return. OPEN is a survey-based measure of the attitude towards cross-border deals. Robust t-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All Countries								
IO_TOTAL		0.0390						
		(1.49)						
IO_DOMESTIC			0.0184	0.0095	0.0262	0.0160	0.0115	0.0208
			(0.68)	(0.37)	(1.08)	(0.61)	(0.42)	(0.83)
IO_FOREIGN			0.1259	0.1273	0.1280	0.1494	0.1340	0.1543
			(2.45)	(2.58)	(2.17)	(2.40)	(2.63)	(3.28)
GDP	0.0041	0.0020	0.0000	0.0004	-0.0033	-0.0023	-0.0035	-0.0016
	(1.05)	(0.48)	(-0.00)	(0.10)	(-0.59)	(-0.41)	(-0.84)	(-0.36)
GROWTH	0.0219	0.0700	-0.2252	-0.3688	-0.3941	-0.6135	-0.6341	-0.7001
	(0.07)	(0.21)	(-0.65)	(-1.25)	(-1.01)	(-1.39)	(-1.68)	(-1.98)
COMMON	-0.0018	-0.0068	0.0009			0.0123	0.0100	0.0121
	(-0.17)	(-0.66)	(0.08)			(1.05)	(0.89)	(1.10)
ANTI				0.0029				
				(0.94)				
ACC					0.0000	-0.0001		
					(0.09)	(-0.25)		
OWNER							-0.0001	
							(-0.40)	
MKT_RET								0.0601
								(1.29)
OPEN								0.0004
								(0.04)
Constant	-0.0164	-0.0019	0.0143	0.0057	0.0470	0.0479	0.0590	0.0279
	(-0.39)	(-0.05)	(0.35)	(0.14)	(0.92)	(0.94)	(1.25)	(0.56)
Observations	26	26	26	26	23	23	24	25
R-squared	0.06	0.15	0.29	0.32	0.33	0.38	0.39	0.44
Panel B: Excluding US								
IO_TOTAL		0.1134						
		(3.21)						
IO_DOMESTIC			0.1298	0.1109	0.1845	0.1727	0.1353	0.1309
			(1.93)	(1.65)	(2.82)	(2.63)	(2.13)	(2.18)
IO_FOREIGN			0.1033	0.1086	0.1055	0.1258	0.1170	0.1281
			(2.05)	(2.22)	(2.03)	(2.31)	(2.48)	(2.82)
GDP	0.0043	-0.0001	0.0001	0.0004	-0.0013	-0.0004	-0.0032	-0.0016
	(1.08)	(-0.02)	(0.03)	(0.10)	(-0.25)	(-0.07)	(-0.84)	(-0.38)
GROWTH	-0.0097	-0.1214	-0.0777	-0.2448	-0.1805	-0.3879	-0.5225	-0.5553
	(-0.03)	(-0.41)	(-0.23)	(-0.84)	(-0.52)	(-0.99)	(-1.51)	(-1.66)
COMMON	-0.0001	-0.0012	-0.0022			0.0114	0.0085	0.0102
	(-0.01)	(-0.13)	(-0.22)			(1.13)	(0.83)	(1.00)
ANTI				0.0019				
				(0.63)				
ACC					-0.0004	-0.0005		
					(-0.87)	(-1.17)		
OWNER							0.0000	
							(0.02)	
MKT_RET								0.0391
								(0.88)
OPEN								-0.0018
								(-0.22)
Constant	-0.0180	0.0106	0.0085	0.0038	0.0450	0.0458	0.0469	0.0372
	(-0.42)	(0.29)	(0.22)	(0.10)	(1.01)	(1.04)	(1.08)	(0.80)
Observations	25	25	25	25	22	22	23	24
R-squared	0.07	0.38	0.39	0.40	0.53	0.56	0.52	0.55

Table 6
Determinants of Cross-Border Mergers and Acquisitions: Country Pairs

This table presents the estimates of the regression of cross-border M&A deals between matched country pairs. The dependent variable is the number of cross-border deals between target firms from country i and acquiror firms from country j as a percentage of the total of number of deals with target firm from country i. Panel B excludes all county pairs with US as the target country. IO(i,j) is the average total stock holdings of institutions from country j (same country as acquiror firm) in firms from country i (same country of target firm). GDP is the average log GDP per capita in US dollars. SAME_LANG is a dummy variable that equal one if the target and acquirer firms come from countries with the same official language. SAME_REGION is a dummy variable that equal one if the target and acquirer firms come from countries from the same geographical region. ANTI is an index of minority shareholders rights. ACC is an index of the quality of accounting disclosure. MKT_RET is the average annual stock market return. OPEN is a survey-based measure of the attitude towards cross-border deals. BILATERAL_TRADE is the average value of imports by country i from country j as a percentage of total imports by country i. Robust t-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: All Countries Pairs							
IO(i,j)		1.0612	1.2152	1.2015	1.2006	0.6424	0.6512
		(3.09)	(4.90)	(4.92)	(4.90)	(1.80)	(2.17)
GDP(j) - GDP(i)	0.0060	0.0042	0.0001	0.0007	-0.0006	-0.0018	-0.0009
	(2.01)	(1.40)	(0.05)	(0.36)	(-0.32)	(-1.03)	(-0.06)
SAME_LANG	0.0218	0.0141	0.0122	0.0122	0.0122	0.0019	0.0168
	(2.32)	(1.82)	(2.04)	(2.04)	(2.04)	(0.25)	(2.05)
SAME_REG	0.0081	0.0090	0.0117	0.0117	0.0117	0.0012	0.0046
	(1.67)	(2.01)	(2.91)	(2.90)	(2.90)	(0.29)	(0.86)
ANTI(j) - ANTI(i)	0.0040	0.0026		0.0006			
	(3.28)	(2.30)		(0.58)			
ACC(j) - ACC(i)			0.0004	0.0003	0.0003	0.0004	0.0007
			(1.78)	(1.37)	(1.66)	(1.99)	(2.18)
MKT_RET(j) - MKT_RET(i)					-0.0192		
					(-0.81)		
BILATERAL_TRADE(i,j)						0.3214	
						(2.05)	
Constant	0.0089	0.0038	0.0029	0.0030	0.0030	0.0019	
	(2.55)	(1.12)	(1.79)	(1.78)	(1.84)	(0.86)	
Target (i) country dummies	No	No	No	No	No	No	Yes
Acquiror (j) country dummies	No	No	No	No	No	No	Yes
Observations	507	507	421	421	421	421	421
R-squared	0.05	0.15	0.21	0.21	0.21	0.30	0.28
Panel B: Excluding US as Target							
IO(i,j)		1.0572	1.2134	1.2008	1.2000	0.6241	0.6476
		(3.07)	(4.88)	(4.89)	(4.88)	(1.73)	(2.14)
GDP(j) - GDP(i)	0.0061	0.0043	-0.0001	0.0005	-0.0008	-0.0020	-0.0087
	(1.96)	(1.38)	(-0.08)	(0.25)	(-0.40)	(-1.14)	(-1.33)
SAME_LANG	0.0237	0.0152	0.0133	0.0133	0.0133	0.0026	0.0180
	(2.31)	(1.80)	(2.06)	(2.06)	(2.05)	(0.33)	(2.13)
SAME_REG	0.0083	0.0093	0.0115	0.0116	0.0116	0.0007	0.0039
	(1.68)	(2.01)	(2.76)	(2.85)	(2.78)	(0.18)	(0.68)
ANTI(j) - ANTI(i)	0.0042	0.0027		0.0006			
	(3.25)	(2.30)		(0.52)			
ACC(j) - ACC(i)			0.0004	0.0003	0.0004	0.0004	0.0004
			(1.79)	(1.39)	(1.69)	(2.00)	(0.62)
MKT_RET(j) - MKT_RET(i)					-0.0189		
					(-0.76)		
BILATERAL_TRADE(i,j)						0.3301	
						(2.05)	
Constant	0.0085	0.0035	0.0030	0.0030	0.0030	0.0021	
	(2.40)	(1.01)	(1.73)	(1.76)	(1.72)	(0.90)	
Target (i) country dummies	No	No	No	No	No	No	Yes
Acquiror (j) country dummies	No	No	No	No	No	No	Yes
Observations	485	485	401	401	401	401	401
R-squared	0.05	0.15	0.21	0.21	0.21	0.30	0.28

Table 7
Summary Statistics of Firm-Level Sample

This table presents the number of observations, mean, standard deviation, minimum and maximum of variables for the sample of non-US targeted firms. Our base sample consists of 1,272 events recorded in the SDC database that have non-missing data for the variables used in Tables 8 and 9. All variables are as defined in the Appendix. The sample period is from 2000 to 2005.

		N	Mean	Std Dev	Min	Max
Target Cross-Border Dummy	CROSS_TARGET	1,272	0.324	0.468	0.000	1.000
Target Abnormal Premium	PREMIUM_TARGET	1,221	0.077	0.133	-0.348	0.695
Total Institutional Ownership	IO_TOTAL	1,272	0.082	0.125	0.000	0.987
Domestic Institutional Ownership	IO_DOMESTIC	1,272	0.056	0.106	0.000	0.981
Foreign Institutional Ownership	IO_FOREIGN	1,272	0.030	0.066	0.000	0.718
Market Capitalization	SIZE	1,272	11.530	1.856	5.136	18.045
Book-to-Market	BM	1,134	-0.360	0.855	-3.232	3.144
Investment Opportunities	INVOP	1,084	0.144	0.403	-0.741	2.902
Annual Stock Return	RET	1,255	-0.121	0.597	-2.459	1.625
Dividend Yield	DY	1,170	0.016	0.023	0.000	0.141
Return-on-Equity	ROE	1,041	-0.013	0.334	-2.151	0.708
Leverage	LEV	1,053	0.279	0.223	0.000	1.205
Cash Holdings	CASH	1,092	0.161	0.185	0.000	0.882
ADR Listed Dummy	ADR	1,271	0.017	0.130	0.000	1.000
MSCI Membership Dummy	MSCI	1,272	0.075	0.264	0.000	1.000
GDP Per Capita	GDP	1,272	10.174	0.621	6.131	10.906
Common Law Dummy	COMMON	1,272	69.985	6.636	36.000	83.000
Quality of Accounting Disclosure Index	ACC	1,272	0.482	0.500	0.000	1.000

Table 8
Determinants of the Probability of Being Targeted in a Cross-Border Deal

This table presents the estimates of coefficients of probit model for the target cross-border dummy variable (TARGET_CROSS) that equals one if a cross-border deal is announced for a firm in a given year and zero otherwise using the sample of WorldScope/Datastream non-US firms. The firm-level regressors include log market capitalization (SIZE), log book-to-market equity ratio (BM), investment opportunities (INVOP), stock return (RET), dividend yield (DY), return-on-equity (ROE), leverage (LEV), cash holdings (CASH), ADR listed dummy (ADR), and MSCI index membership dummy (MSCI). The country-level regressors include GDP per capita (GDP), common law dummy (COMMON), and quality of accounting disclosure index (ACC). Regressions include year fixed-effects. The sample period is from 2000 to 2005. Robust t-statistics are in parentheses.

	(1)	(2)	(3)	(4)
IO_TOTAL	1.4560	1.5713		
	(4.28)	(3.58)		
IO_DOMESTIC			0.5814	0.9200
			(1.48)	(1.71)
IO_FOREIGN			2.9125	3.6252
			(4.04)	(4.00)
SIZE	0.0628	0.0579	0.0540	0.0434
	(2.98)	(1.52)	(2.50)	(1.13)
BM		-0.0806		-0.0768
		(-1.17)		(-1.12)
INVOP		0.1228		0.0976
		(0.89)		(0.69)
RET		0.1090		0.1429
		(0.92)		(1.20)
DY		-0.2514		-0.0533
		(-0.11)		(-0.02)
ROE		-0.1532		-0.1393
		(-0.88)		(-0.80)
LEV		-0.3861		-0.3493
		(-1.28)		(-1.15)
CASH		1.0249		1.0863
		(2.67)		(2.80)
ADR		0.3024		0.2900
		(0.68)		(0.62)
MSCI		0.0063		-0.0441
		(0.03)		(-0.22)
GDP	-0.1038	-0.1174	-0.1019	-0.1176
	(-1.42)	(-1.26)	(-1.40)	(-1.26)
COMMON	0.0215	0.0342	0.0573	0.0613
	(0.17)	(0.21)	(0.46)	(0.37)
ACC	0.0075	0.0085	0.0087	0.0098
	(0.82)	(0.72)	(0.95)	(0.82)
Observations	1,272	733	1,272	733

Table 9
Determinants of the Target Premium

This table presents the estimates of coefficients of the OLS regression for the non-US target firm's abnormal premium, defined as the cumulative abnormal return in US dollars for trading days [-1,1] relative to the deal announcement day measured relative to a two-factor international market model using a year of prior daily data. The firm-level regressors include log market capitalization (SIZE), log book-to-market equity ratio (BM), investment opportunities (INVOP), return-on-equity (ROE), leverage (LEV), and cash holdings (CASH). The country-level regressors include GDP per capita (GDP), common law dummy (COMMON), and quality of accounting disclosure index (ACC). Regressions include year fixed-effects. The sample period is from 2000 to 2005. Robust t-statistics are in parentheses.

	(1)	(2)	(3)	(4)
IO_TOTAL	0.1166	0.1451		
	(2.81)	(2.57)		
IO_DOMESTIC			0.0933	0.1302
			(1.81)	(1.85)
IO_FOREIGN			0.1807	0.1619
			(3.30)	(2.50)
SIZE	-0.0032	-0.0045	-0.0038	-0.0053
	(-1.51)	(-1.39)	(-1.85)	(-1.64)
BM		-0.0005		0.0000
		(-0.07)		(-0.01)
INVOP		0.0036		0.0020
		(0.28)		(0.16)
ROE		0.0226		0.0272
		(1.17)		(1.39)
LEV		-0.0651		-0.0672
		(-2.53)		(-2.65)
CASH		0.0345		0.0300
		(0.77)		(0.68)
GDP	0.0061	0.0163	0.0062	0.0168
	(1.00)	(2.48)	(1.02)	(2.56)
COMMON	0.0128	0.0275	0.0137	0.0274
	(1.09)	(1.77)	(1.17)	(1.75)
ACC	0.0028	0.0008	0.0027	0.0008
	(3.25)	(0.77)	(3.17)	(0.71)
Observations	1,221	737	1,221	737

Appendix

Table A.1
Country-Level Variables Definition

	Panel A: Country-Level M&A Variables	
Volume of M&A	VOLUME	Percentage of listed firms (Worldscope) that were targeted in a completed M&A deal. Source: SDC.
Cross-border M&A deals ratio	CROSS_BORDER	Percentage of completed M&A deals that involves a foreign acquiror. Source: SDC.
Cross-border M&A deals pair	CROSS_BORDER(i,j)	Number of deals in which the target is from country i and the acquiror is from country j as a percentage of the total number of deals with target in country i. Source: SDC.
	Panel B: Country-Level Institutional Ownership Variables	
Total institutional ownership	IO_TOTAL	Total institutional ownership, defined as the sum of the holdings of all institutions stocks of firms of target country (i) divided by the end-of-year market capitalization ; an average IO_TOTAL per country i is calculated for 2000-2005. Source: FactSet/LionShares.
Domestic institutional ownership	IO_DOMESTIC	Domestic institutional ownership, defined as the sum of the holdings of all institutions domiciled in the same country in which stocks were issued as a percentage of end-of-year market capitalization; an average IO_DOMESTIC per country i is calculated for 2000-2005. Source: FactSet/LionShares.
Foreign institutional ownership	IO_FOREIGN	Foreign institutional ownership, defined as the sum of the holdings of all institutions domiciled in countries different from country i as a percentage of country i's end-of-year market capitalization; an average IO_FOREIGN per country i is calculated for 2000-2005. Source: FactSet/LionShares.
Cross-country institutional ownership	IO(i,j)	Cross-country institutional ownership, defined as the total holdings of institutions from country j (country of acquiror firm) of stocks of firms from country i (country of target firm) as a percentage of market capitalization of country i; an average IO(i,j) per pair of countries is calculated for 2000-2005. Source: FactSet/LionShares.
	Panel C: Country-Level Control Variables	
GDP per capita (log)	GDP	Annual log gross domestic product per capita in US$. Source: World Bank WDI.
GDP growth	GROWTH	Average annual growth rate of gross domestic product. World Bank WDI.
Common law dummy variable	COMMON	Dummy variable that equals one when a country has an English common law origin, zero otherwise. Source: La Porta et al. (1998).
Anti-director rights	ANTI	Index of the level of protection of minority shareholders. Source: La Porta et al. (1998).
Accounting standards	ACC	Index of the quality of accounting disclosure. Source: La Porta et al. (1998).
Ownership concentration	OWNER	Average equity stake owned by the three largest shareholders in the ten largest nonfinancial firms. Source: La Porta et al. (1998).
Stock market return	MKT_RET	Average annual stock market return. Source: Datastream.
Market dominance	COMPETITION	Survey-based measure of the level of competition in product markets. Source: Global Competitiveness Report (1998).
Openess	OPEN	Survey-based measure of openness of the market of corporate control to foreign investors trying to acquire control of a domestic firm. Source: Global Competitiveness Report (1998).
Same language	SAME_LANG	Dummy variable that equals one when target and acquiror countries share the same official language, zero otherwise. Source: World Factbook.
Same geographical area	SAME_REGION	Dummy variable that equals one when target and acquiror countries are form the same geographical area (America, Africa, Asia, or Europe), zero otherwise. Source: World Factbook.
Bilateral trade	BILATERAL_TRADE(i,j)	Value of imports by country i from country j as a percentage of total imports by country s. Source: ONU Comstat.

Table A.2
Firm-Level Variables Definition

	Panel A: Firm-Level M&A Variables	
Cross-border target dummy	CROSS_BORDER	Dummy variable that takes equals one if a cross-border deal is announced for a firm in a given year and zero otherwise. Source: SDC.
Abnormal premium target	PREMIUM	Cumulative abnormal return in US dollars for trading days [-1,1] relative to the deal announcement day measured relative to a two-factor international market model using a year of prior daily data. Source: Datastream
	Panel B: Firm-Level Institutional Ownership Variables	
Total institutional ownership	IO_TOTAL	Total institutional ownership, defined as the sum of the holdings of all institutions divided by the end-of-year market capitalization . Source: FactSet/LionShares.
Domestic institutional ownership	IO_DOMESTIC	Domestic institutional ownership, defined as the sum of the holdings of domestic institutions divided by the end-of-year market capitalization . Source: FactSet/LionShares.
Foreign institutional ownership	IO_FOREIGN	Foreign institutional ownership, defined as the sum of the holdings of foreign institutions divided by the end-of-year market capitalization . Source: FactSet/LionShares.
	Panel C: Firm-Level Control Variables	
Market capitalization (log)	SIZE	Log annual market capitalization in US$. Source: WorldScope (WS item 02999).
Book-to-market (log)	BM	Log of the book-to-market equity ratio (end-of-year market value of equity is from DS and book value of equity is WS item 03501).
Investment opportunities	INVOP	Two-year geometric average of annual growth rate in net sales in US$.
Annual stock return	RET	Annual (end-of-year) geometric stock rate of return (DS item P).
Dividend yield	DY	Dividend yield (WS item 09404).
Return-on-equity	ROE	Return-on-equity (WS item 08301).
Leverage	LEV	Ratio of total debt (WS item 03255) to total assets (WS item 02999).
Cash	CASH	Ratio of cash and short term investments (WS item 02001) to total assets (WS item 02999).
ADR listed dummy	ADR	ADR dummy, which equals one if a firm is cross-listed on an US exchange. Source: Depositary Institutions.
MSCI membership dummy	MSCI	MSCI member dummy, which equals one if a firm is a member of the MSCI All-country World Index.