

Shareholders at the Gate?

Cross-Country Evidence on the Role of Institutional Investors in Mergers and Acquisitions*

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This Version: September 2007

ABSTRACT

We study how institutional investors affect the volume and pattern of mergers and acquisitions (M&A) around the world. Using a comprehensive data set of equity holdings from 26 countries in the 2000-2005 period, we find that institutional ownership, especially by foreign institutions, is positively associated with M&A activity worldwide. Foreign institutional ownership (unlike domestic institutional ownership) is positively associated with the probability of a deal being cross-border, its success, and the probability that the bidder takes full control of the target. Furthermore, abnormal returns around announcements are higher when institutions are present as shareholders in both the target and acquirer firms. Our results suggest that foreign institutional investors build “bridges” between firms internationally and act as facilitators in the international market for corporate control.

*We thank Martinj Cremers, Todd Gormley, John Griffin, Andrew Karolyi, Florencio Lopez-de-Silanes, Marina Martynova, Enrico Perrotti, Jose-Luis Peydro, Michael Schill; participants at the Third McGill Conference on Global Asset Management Conference, the Korean Development Institute Conference on “Market For Corporate Control: Comparative Perspectives”, the 2007 European Finance Association meetings; and seminar participants at the Barclays Global Investors, European Central Bank, University of Amsterdam, University of Cologne, and University of Southern California for helpful comments. This research is supported by a research grant from the Fundação para a Ciência e Tecnologia (FCT/POCI 2010). A previous version of this paper was titled “What is the Role of Institutional Investors in Mergers and Acquisitions? Cross-Country Evidence”.

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Mergers and acquisitions (M&A) are an important mechanism to reallocate corporate control. The last few years have been characterized by an M&A boom in which, for the first time in recent history, almost half of the deals are cross-border transactions (The Economist (2007)). The record level at which corporate control is being transferred across borders has been hailed as evidence that financial markets today are truly global.

The literature has related the intensity, pattern and premiums of M&A around the world to differences in legal and regulatory environments, economic development, and cultural and geographical barriers (Rossi and Volpin (2004) and Bris and Cabolis (2007)). However, one potential (and hitherto unexplored) explanation for the flurry of activity in M&A is the increase in institutional ownership of corporations worldwide. Institutions have become major players in world markets with total assets under management exceeding US\$45 trillion (including over US\$20 trillion in equities, according to the International Monetary Fund (2005) (IMF)).

In this paper, we explore whether institutional investors, as shareholders of corporations worldwide, affect the frequency at which corporations change hands via M&A deals. Institutional investors can be particularly influential in determining the outcome of control contests.¹ Evidence of this is the fact that target and bidder firm managers frequently engage in substantial investor relation activities with professional money managers to influence their merger voting or share tendering decisions. Because of lack of data, however, the role of institutional investors in the global market for corporate control has been largely unexplored by academic research.

In cross-border mergers, foreign institutions can act as key players. Unlike domestic investors, foreigners have less business ties to target firms and can be less friendly to incumbent management. Foreign-based money managers, focused on maximizing returns, are

¹In the ABN AMRO takeover contest currently underway, TCIF, a U.K. activist hedge fund with a 1% stake is credited to have put the firm into merger talks with Barclays (U.K.) following ABN AMRO's poor stock performance. However, many of Barclays' top shareholders are opposed to bank increasing its bid in reaction to a competing offer from Royal Bank of Scotland and share price went up 3% on news that Atticus, an activist hedge fund, was pressuring it to abandon its bid (Financial Times (2007))

more likely to resist “economic patriotism”. For example, in the largest takeover battle to date – the hostile bid by Vodafone (a U.K. company) for Mannesmann in 1999 – the eventual success of Vodafone’s offer was attributed to the fact that Mannesmann had the most international ownership structure of any German firm with over 60% of shares held by foreigners.² Resistance to the takeover in the German press was driven by the outcry over control being taken away from German hands.³

We compare two hypotheses on the role played by institutional investors on the market for corporate control. Our base hypothesis is that this particular class of investors acts as a facilitator of international M&A deals. Institutional investors have a more “arms-length” relationship with the firm and effectively behave as blockholders. This helps reduce the bargaining and transaction costs associated with takeover bids. Among institutional investors, foreign institutions are the ones more likely to be interested in pure value creation as opposed to give in to local interests. Therefore, the presence of foreign institutions can offer room for more cross-border deals to take place, by making the highest bidder prevail over the domestic ones. By facilitating the working of the market for corporate control, institutional investors play a governance role. Thus, shareholder activism and the market for corporate control interact in a complementary way.

The alternative hypothesis posits that the presence of institutional shareholders and the market for corporate control substitute for one another. Institutional investors have been shown to play a critical role in corporate governance. Across countries, institutions like CalPERS in the U.S. or Hermes in the U.K. have been pioneers in investor activism, using the proxy process and other approaches to pressure corporate managers for change (Becht, Franks, Mayer, and Rossi (2007), and Gillan and Starks (2007)). If institutions are

²Hopner and Jackson (2004) report that all Mannesmann shareholders holding stakes greater than 0.1% at the time of the takeover were institutional investors (with exception of Hutchinson Whampoa, a Hong Kong conglomerate). U.K. and U.S. institutional investors had 40%, while German-based ones had only 13%.

³“Economic patriotism” is not the monopoly of any one nation as illustrated by resistance in the U.S. to the bid for Unocal by a Chinese acquirer or the portrayal of Spanish banks as “new conquistadores” in the English press.

a powerful monitoring mechanism their presence can reduce the need for the market for corporate control. We should therefore observe less M&A transactions in the presence of a large institutional shareholder base.

To explore these issues, we employ a comprehensive data set of institutional equity holdings. This data set contains holdings at the investor-stock level by over 5,300 institutions from 26 countries, with positions totaling US\$18 trillion as of December 2005. Our institutional ownership data represents, on average, over 40% of the world stock market capitalization in the 2000-2005 period. Institutional ownership is the highest in the U.S., but professional money managers from other countries also control sizeable pools of assets.⁴

We first investigate the role played by institutional ownership in M&A activity at the country-level using a sample of 3,329 completed transactions from 26 countries in the 2000-2005 period. We find that the volume of M&A activity is significantly larger in countries where institutional ownership is higher. This effect is stronger for foreign institutional ownership. A ten percentage point increase in total and foreign institutional ownership is associated with an increase in the takeover frequency of publicly listed firms targeted of roughly three percentage points. These results hold even after controlling for the other determinants of M&A activity such as legal and regulatory environments, economic development, and cultural and geographical barriers. The results are also robust when we control for the potential endogeneity of institutional ownership.

We then examine the relation between the volume of cross-border merger transactions and institutional ownership.⁵ We find that the fraction of cross-border deals increases with the presence of foreign institutions in the country of the target firm. Even after we control for legal environment and economic indicators, we find that foreign institutional ownership increases the probability of being taken over by a foreign bidder. That is, foreign institutions

⁴These 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).

⁵In our sample, cross-border deals are one-fourth of total transaction value, but over 41% of all deals involving non-U.S. target firms.

are particularly influential in facilitating deals in which ownership is transferred to foreign hands.

To analyze the effect of foreign institutional ownership further, we devise tests that directly focus on the M&A deal volume between pairs of countries. This allows us to control for the characteristics of both target and acquirer firms' countries. We find that the frequency of cross-border deals (i.e., involving a target firm located in a country different from that of the acquirer) increases with the ownership by institutions from the acquirer country in the target country. This suggests that institutions holding cross-border positions in both the acquirer and the target facilitate deals, effectively building "bridges" between firms internationally. For example, in the Vodafone-Mannesmann deal, a large fraction of the foreign investors were U.K.-based institutions.

In the second part of the paper, we examine individual M&A deals, directly focusing on the target and bidder firms' institutional ownership (one-quarter) prior to the M&A announcement date. In these firm-level tests, we can better account for the potential endogeneity of institutional ownership by using firm-specific characteristics as instruments. We use variables that potentially drive institutional ownership but are not necessarily associated with M&A activity.

First, we study the relation between the probability of a cross-border deal taking place and institutional ownership. In line with the country-level tests, the firm-level tests indicate that higher institutional ownership in the target firm (as well as in the acquirer firm) is positively associated with the likelihood of the bid being cross-border. When we break down the fraction of shares held by domestic and foreign institutions, we find that a ten percentage point increase in foreign institutional ownership is associated with an increase in the likelihood of the deal being cross-border of roughly twenty five percentage points. In contrast, domestic institutional ownership does not have a similar impact. These results hold when we control for the potential endogeneity of institutional ownership. This evidence is again supportive of institutional shareholders building "bridges" between firms internationally.

Next, we focus on the probability of success of a cross-border deal. We find that foreign institutional ownership increases the probability of success of the deal, while domestic ownership does not (even reduces it in some cases). Moreover, foreign ownership is positively associated with the probability that the deal is an offer for “full control”, i.e. the bidder takes over all the shares of the target firm, thereby most likely changing the nationality of that firm.

Finally, we explore the incentives of common institutional shareholders. We focus directly on institutions providing “bridges” between event firms by having a stake both in the bidder and in the target and we study whether they are able to earn higher returns from the deals than the rest of the market.

We find that the average cumulative abnormal return earned by common institutional shareholders to the target and acquirer firms is higher than the combined return (all shareholders) in cross-border mergers (2.6% versus 1.8%). No similar pattern is found in intra-border deals. This suggests that common shareholders are able to earn better returns as a remuneration for the “bridge-building” activity. Given that common investors may overweight the target firm, a higher return to common shareholders does not necessarily imply higher combined returns for the acquirer firm. This finding is in line with recent U.S. evidence in Matvos and Ostrovsky (2006) and Harford, Jenter, and Li (2007) on the importance of taking into account cross-ownership by institutional investors.

While our paper offers new insights on the role of institutional investors in the M&A context, the growth in institutional ownership around the world has not gone unnoticed by the academic literature. Gillan and Starks (2007) and Ferreira and Matos (2007) highlight the role of foreign institutional investors and argue that they can play a special governance role in corporations worldwide. There is also a body of literature that examines the role of institutions in M&A events for the U.S. market. Stulz, Walkling, and Song (1990) and Ambrose and Megginson (1992)) have examined the impact of overall institutional ownership, while more recent papers have looked at role played by different types of institutions (e.g.

Gaspar, Massa, and Matos (2005)), Chen, Harford, and Li (2006)).

To our knowledge, however, there have been no studies examining cross-country evidence of the role of institutional investors on cross-country M&A. Previous literature has focused on country-level governance standards. Rossi and Volpin (2004)) find a more active market for corporate control in countries with strong 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 Cabolis (2007) examine 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. Our results allow us to contribute to this literature by showing that governance motives play a second role in the M&A market in comparison to the institutional cross-country investors.

The remainder of the paper is organized as follows. In the next section we discuss our main hypothesis. Section II presents the institutional holdings data set and the sample of M&A events. In section III, we conduct country-level tests of the relation between M&A activity and institutional ownership. In section IV, we perform firm-level tests on how institutional ownership impacts the probability of a deal being cross-border, the probability of success of the deal, and returns for different investors. Section V concludes and discusses the implications of our work.

I. Main Hypotheses

We argue that institutional investors facilitate the working of the international market for corporate control by building “bridges” between target and acquirer firms. We consider several ways in which investors can build these “bridges” and provide some testable hypotheses.

Institutional investors can reduce the bargaining costs associated with takeover bids by acting as large blockholders. As suggested by Shleifer and Vishny (1986), blockholders facil-

itate takeovers by alleviating the free-rider problem when the target firm’s shareholder base is dispersed into atomistic shareholders (Grossman and Hart (1980)). Institutional investors can also reduce the information asymmetry in the market about the firm by decreasing the uncertainty about the value of the bidder. This improves the possibility of success of a M&A deal. Finally, institutional investors are more likely to have an “arms-length relationship” with respect to the firms. This reduces their potential opposition to a value-creating deal. All these reasons suggest a positive relationship between institutional investors’ ownership and the volume of M&A deals. This is in line with recent evidence that shareholder activism and the market for corporate control interact in a complementary way (Cremers and Nair (2005)). These considerations lead us to posit that countries with a larger presence of institutional investors should have a more vibrant market for corporate control. (H.1. Facilitation Hypothesis”).

On the other hand, institutional investors can improve the governance of firms they invest in (Bolton and Thadden (1998), Kahn and Winton (1998), and Maug (1998)). Institutional investors can be “activists” and monitor the companies in which they hold shares. Across countries, some institutions like CalPERS in the U.S. or Hermes in the U.K. have been pioneers in investor activism (Becht et al. (2007), and Gillan and Starks (2007)). Given that the market for corporate control is an alternative governance mechanism, there may be a substitution effect between institutional ownership and the market for corporate control. That is, countries with a larger presence of institutional investors should have a less active market for corporate control (H.2. Monitoring Hypothesis).

Based on these considerations, we lay out the first broad implication of our two alternative hypotheses:

H.1.a (Facilitation Hypothesis): *Countries with higher institutional ownership are associated with a higher frequency of M&A deals.*

H.2.a (Monitoring Hypothesis): *Countries with higher institutional ownership are associated with a lower frequency of M&A deals.*

We now turn to the core of our analysis: international M&A deals. Transaction costs are higher for cross-border deals as these transactions involve negotiations or a tender offer process between parties in different regulatory and corporate culture environments. Foreign institutional investors are better able to “handle” these costs. Indeed, by their own nature, foreign institutions can provide a fair valuation of the firm, piercing through higher information asymmetry. They are also less anchored to “cultural-specific” values, less prone to target incumbent management efforts to block M&A deals and better able to resist “economic patriotism”. In contrast, domestic institutions may be more “entrenched” and prefer that the nationality of target firm does not change or may simply be less willing to take foreign stock as a means of payment. In this context, the Facilitation Hypothesis predicts that the presence of foreign institutional investors increases the probability of success of the deal and the ability to take full control (and effectively change the nationality) of the target company.

The Monitoring Hypothesis, has a different view of the impact of foreign institutional investors on cross-border M&A deals. Aggarwal, Erel, Stulz, and Williamson (2006) find that value of non-U.S. firms is positively related to the gap between their governance and that of U.S. matching firms. If foreign institutional investors act as carriers of better governance, the existence of foreign institutional investors, reducing the governance gap between countries, would also decrease the improvement in the value of a firm being taken over by a foreign firm. Given that less of governance improvements are needed, the presence of foreign institutional investors can reduce the probability of a cross-border deals as well as the probability of success. Also, the incentive to take over 100% of the target firm and change its nationality should be lower in the presence of good governance.

Based on these arguments, we put down the main testable predictions of the two alternative hypotheses that will be the main focus of the paper.

H.1.b (Facilitation Hypothesis): *A larger presence of foreign institutional investors is associated with a higher likelihood of being targeted in a cross-border M&A deal, a higher*

likelihood of the deal being successful, and a higher likelihood that full control is being acquired in the deal.

H.2.b (Monitoring Hypothesis): *A larger presence of foreign institutional investors is associated with a lower likelihood of being targeted in cross-border M&A deals, a lower likelihood of the deal being successful, and a higher likelihood that full control is being acquired in the deal.*

Finally, we focus on the incentives for institutional investors that act as facilitators of cross-border M&A deals and ask whether institutions make good returns around these transactions. Given that facilitation is higher when there is common ownership, we focus on common shareholders (cross-owners) of both target and acquirer stock. Following Matvos and Ostrovsky (2006) and Harford et al. (2007), we directly focus on the institutional investors' returns for the combined holdings in the two event firms. These returns capture the gains accruing to the common shareholders and proxy for the benefits accruing to them for their bridge-building role.⁶

All these hypotheses, of course, are laid out against the null hypothesis that institutional ownership does not impact M&A activity.

II. Data

Our sample includes all firms in the Datastream/WorldScope database for the period from 2000 to 2005. The first two columns of Table I present the number and market capitalization of firms from each country, totaling 32,716 firms with aggregate market capitalization of over US\$32 trillion (sample period average). We draw the data for our study from several sources. The institutional ownership data are drawn from the FactSet/LionShares database.

⁶Because their relative weighting on the target and acquirer firms may not coincide with both firms' market capitalizations (for example, common investors may overweight the target firm), higher returns going to common shareholders do not necessarily mean higher combined returns for target plus acquirer shareholders of the same amount. In fact, there can be instances where M&A deal synergies are non-existent but common investors still gain from the M&A deal if profits on their target firm holdings exceed any losses on the acquirer shares they hold.

The mergers and acquisitions data are drawn from the Securities Data Corporation (SDC) Platinum database. The firm-level control variables are from the Datastream/WorldScope database.

A. Institutional Investors Holdings Data

The institutional investor holdings data are drawn from the FactSet/LionShares database, a leading information source for global institutional ownership. FactSet/LionShares data sources are public filings by investors (such as 13-F filings with the S.E.C. in the U.S.), company annual reports, and regulatory agencies around the world. Institutions are defined as professional money managers: mutual fund companies, pension funds, bank trusts, and insurance companies.⁷ A more detailed description of this data set can be found in Ferreira and Matos (2007).

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). In the case of unequal report frequency by institutions from different countries, we consider 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 (J).⁸ This data set offers a unique worldwide $K \times J$ panel data (when aggregated at the country-level) for each year-end over the 2000-2005 period. FactSet/LionShares contains holdings data by over 5,000 institutions on over 35,000 stocks worldwide for a total market value of US\$ 18 trillion as of December 2005.

Column (3) of Table I reports the fraction of each country's stock market capitalization

⁷U.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, and Vanguard in the U.S.). However, others are divisions of banks (Dresdner Bank Inv Mgt in Germany, Credit Agricole in France, UBS in Switzerland), insurance companies (AXA in France) or pension funds (Canada Pension Plan in Canada and State Petroleum Fund managed by Norges Bank in Norway). The list of top 5 institutions per country can be found in Ferreira and Matos (2007).

⁸For 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 keep these foreign stock positions in our tests, but show robustness of the results of the paper if we include also these countries.

that is held by institutions (averages over the 2000-2005 period). The presence of institutional investors is the 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%).⁹ Overall, institutional ownership represents over 40% of the total world stock market capitalization over our sample period.

Columns (4) and (5) of Table I present the fraction held by domestic and foreign institutions per country. 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., Canada and Sweden.

The institutional ownership variables we use in the remainder of the paper are:

- Total Institutional Ownership 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.
- Foreign Institutional Ownership is the fraction of shares held by institutions domiciled in a country different from the one where the stock is issued.
- Domestic Institutional Ownership is the percentage of shares held by all institutions domiciled in the same country in which the stock is issued.

Table II presents average institutional holdings in the 2000-2005 period in matrix form to summarize the stock holdings by destination stock market country (in rows) and country of origin of the institution (in columns). U.S. institutional holdings concentrate the largest pool of assets, but if we focus on non-U.S. destination stock markets, we find that domestic and non-U.S. foreign institutions matter.

⁹It 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%).

B. Mergers and Acquisitions Data

Our sample contains 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 publicly listed. Following Rossi and Volpin (2004), we select M&A deals that meet the following 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 (2007), we exclude leverage buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, minority stake purchases, and privatizations.

Columns (6) to (12) of Table I show the level of M&A activity by country of nationality of the target firm. The total sample contains 3,329 M&A deals with target firms from 26 countries for which we have institutional ownership data. Aggregate volume of M&A transactions adds up to US\$3.6 trillion. Target firms from 21 other countries (e.g., Argentina, Brazil, and China) for which we have no data on domestic institutional investor holdings are grouped into the “other countries” category.

Following Rossi and Volpin (2004), we define the M&A volume per country as the percentage of the publicly traded firms that are targets in successful mergers and acquisitions over the 2000-2005 sample period. Column (7) of Table I presents summary statistics broken down by country. M&A volume is the highest in Canada (with 24% firms targeted during our sample period) and the lowest in Hong Kong (2%). We also use an alternative measure of M&A volume defined as the value of completed deals over market capitalization (column (9)).

Our sample of mergers is geographically fairly diversified. We define the cross-border ratio as the percentage of completed deals in a country in which the acquirer is from a country different than the target. Cross-border ratios per target country are presented in column (11) of Table I. Firms from Japan and the U.S. are among the least targeted by foreign acquirers with cross-border ratios of 0.9% and 13%. The last row of Table I shows

that 683 deals are cross-border, around 21% of the overall number of completed deals in 26 sample countries. Column (13) shows that this represents close to 24% of M&A value. If one excludes U.S. target firms, then about 28% in terms of number of deals and 42% in terms of value of transactions are cross-border deals. Table III presents the number of completed deals for each pair of target firm country (in row) and acquirer firm country (in column).

III. Determinants of Country-Level M&A Activity

This section studies the impact of institutional ownership on M&A activity at the country-level using three main tests. First, we test whether institutional ownership affects the overall volume of M&A activity. Second, we examine whether a larger presence of foreign institutional investors is associated with a higher likelihood of takeovers by foreign acquirers. Third, as an additional country-level testable implication we examine whether cross-border volume between country pairs is higher if investors from the acquirer firm country also hold shares of target country firms (“cross-ownership”).

A. M&A Volume

We start by testing whether the level of institutional ownership affects the country-level volume of M&A activity. Following Rossi and Volpin (2004), we estimate the regression equation:

$$(\text{M\&A Volume})_i = \alpha + \beta(\text{Institutional Ownership})_i + \delta X_i + \varepsilon_i, \quad (1)$$

where the dependent variable is the percentage of listed firms from country i that are targeted in completed M&A. Institutional ownership is defined as the fraction of total stock market capitalization held by institutions. We also break down total institutional ownership into domestic and foreign institutional ownership.

We include several control variables (X). First, 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 a common law origin dummy variable and the anti-director rights index as indicators of the level of minority shareholder protection, and the quality of accounting standards. Second, we control for the level of economic development. Specifically, we include GDP per capita and GDP average annual real growth rate as explanatory variables. Third, because the M&A market may be linked to valuation waves (Shleifer and Vishny (2003)) we control for the local stock market annual return. Finally, we also include the degree of ownership concentration (Shleifer and Vishny (1986) and Rossi and Volpin (2004)) as well as a survey-based measure of product market competition to proxy for the availability of target firms in a given country. Appendix A presents the variable definitions and data sources.

The results of estimating regression equation (1) are reported in Table IV. Panel A presents panel data regression estimates including year dummies. Column (1) shows that institutional ownership is positively associated with the country-level volume of M&A. Columns (2)-(6) include different sets of controls variables. We find that the total institutional ownership coefficient is positive and significant, which is evidence that the frequency of M&A is higher in countries in which institutions hold a bigger proportion of the stock market.

Panel B presents cross-sectional regressions as in Rossi and Volpin (2004) where the dependent variable is sum of M&A volume per country over the 2000-2005 period, while explanatory variables are time series averages over the sample period. This estimation methodology addresses the potential serial correlation concerns of the panel regression estimates. Consistent with our panel regression estimates, we find that the total institutional ownership coefficient is positive and significant. This finding is illustrated in Figure 1, which plots M&A volume by country versus total institutional ownership for our sample of 26 countries.

Overall, this evidence is consistent with the Facilitation Hypothesis (H.1.a): countries

with a larger presence of institutional investors should have a more active and liquid markets for corporate control. The effect is not only statistically significant, but also economically significant. A ten percentage points increase in total institutional ownership is associated with an increase in the frequency of firms being targeted of roughly two percentage points.

In columns (7)-(9) we breakdown the analysis using the geographical location of the money manager: domestic and foreign institutions. We find that both domestic and foreign institutional ownership are positively associated with the frequency of M&A deals. The point estimates of the coefficients of foreign and domestic institutional ownership support the conclusion that foreign institutions seem to have a stronger effect on the market for corporate control. In the next subsection, we further explore the role of the geography of institutions in the frequency of cross-border deals.

With respect to the control variables, our panel regression estimates show that the frequency of M&A is in general higher in countries with common law origin and strong investor protection. The cross-sectional regression estimates of the investor protection variables, however, are usually statistically insignificant at the 5% level. When we control for institutional ownership, we find weak evidence that country-level governance as captured by investor protection is a significant determinant of the volume of M&A. These results differ from Rossi and Volpin (2004) that, without controlling for institutional ownership, find a role of country-level governance in explaining the country-level volume of M&A. Furthermore, stock market return is positively linked to M&A volume, while the degree of product market competition is negatively related to it. In Section III.D, we will discuss several robustness checks of the relation between the overall M&A volume and institutional ownership.

B. Cross-Border M&A

In this subsection we focus on M&A involving firms from different countries. We believe that institutional ownership, and especially foreign ownership, plays a particular important role in cross-border deals. We test whether institutional ownership increases the probability

that firms from a given country are taken over by foreign firms by estimating:

$$(\text{M\&A Cross-Border Ratio})_i = \alpha + \beta(\text{Institutional Ownership})_i + \delta X_i + \varepsilon_i, \quad (2)$$

where the dependent variable is the cross-border ratio, i.e. the percentage of completed M&A deals that involve a foreign acquirer over all deals targeting firms of country i . Institutional ownership is defined as the fraction of total stock market capitalization held by institutions in the target country. As before, we break down total institutional ownership into domestic and foreign institutional ownership. The other control variables are defined as in Section 4.1 above. We also include a survey-based measure of the attitude towards cross-border deals (Openness) as in Rossi and Volpin (2004).

The results of estimating regression equation (2) are reported in Table V. We present results for panel data regressions in Panel A and cross-sectional regressions in Panel B. Column (1) shows that institutional ownership is negatively associated with cross-border deals, although the relation is not significant at the 5% level. Column (2) shows that this negative relation is driven by domestic institutional ownership. That is, a strong presence of domestic institutions decreases the likelihood of a firm being targeted by a foreign bidder. This is not the case for foreign institutions. Columns (3)-(9) show strong evidence of a positive relationship between foreign institutional ownership and the probability of the deal being cross-border. These findings suggest that foreign institutions, unlike domestic institutions, act as facilitators of cross-border deals. This is consistent with the Facilitation Hypothesis (H.1-b): foreign-based institutions build “bridges” between firms of different countries. A more pictorial view is provided by Figure 2, which plots the ratio of cross-border M&A volume by country versus foreign institutional holdings for our sample of 26 countries. There is a clear positive relation between foreign institutional ownership and cross-border M&A volume.

It is important to notice that when we account for institutional ownership, there is weak evidence that country-level governance helps to explain the cross-border M&A volume. Un-

like Rossi and Volpin (2004), we do not find evidence that the quality of external governance directly attracts foreign bidders.

C. Cross-Border M&A: Country-Pairs Analysis

To explore further the special role that foreign institutions play in cross-border M&A activity, we examine whether firms from a country are more likely to target a foreign firm if their home country institutional investors are already present as shareholders in the foreign firm country. For example, in the case of the Mannesmann takeover, 40% of Mannesmann shares were held by U.K. and U.S. investors (Hopner and Jackson (2004)). Do we expect Vodafone (a U.K. firm) to find it easier to target Mannesmann (a German firm) if its home investors are already shareholders in that foreign market (Germany)?

To test this hypothesis, we exploit the full power of our country-level data set and combine the worldwide matrix of (26x26) pairs of cross-country M&A deals (see Table III) with the corresponding cross-border portfolio investment of institutions (see Table II). The country-pairs regression equation is

$$(\text{Cross-border M\&A})_{i,j} = \alpha + \beta(\text{Institutional Ownership})_{i,j} + \delta X_{i,j} + \varepsilon_{i,j}, \quad (3)$$

where the dependent variable 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). $\text{Institutional Ownership}_{i,j}$ is the percentage of the market capitalization of the country of the target firm i that is held by institutions based in the same country as that of the acquirer firm j .

The Facilitation Hypothesis posits that higher institutional ownership by country j (institution origin) in country i (destination market) increases cross-border deals between the two countries, i.e. it is more likely that a firm from country i is targeted by a firm from country j . Following Rossi and Volpin (2004), we also include other regressors such as the

difference in economic development, investor protection, accounting standards, and stock market annual returns between country j and country i . We also add two dummy variables to control for proximity and familiarity motives in cross-border deals. These are a dummy variable that equals one when target and acquirer firm's country share a common language, and a dummy variable that equals one when the target and acquirer firm's country belong to the same geographical region. We take into account the difference in industry structures between countries by using the sum of squared differences in stock market weights of one-digit SIC industries between country i and country j and the degree of economic integration by using the level of bilateral trade (imports by country i from country j as a percentage of the total imports by country i).

Table VI presents the results of the country-pairs analysis. We find that the country-pair institutional ownership coefficient is positive and significant. A one percentage point increase in institutional ownership between a country-pair is associated with an increase in the frequency of cross-border deals between a country-pair of roughly 1.3 percentage points. This evidence supports our hypothesis that cross-border volume between country pairs is higher if investors from the acquirer firm country already hold shares in firms of the target firm country.

Specifications in columns (2)-(6) control for other factors that may explain the volume of M&A activity between two countries. There is some evidence that M&A activity is enhanced between countries that belong to the same geographical region and that have similar industrial structures (when the country-pair industry structure variable is low). The level of economic integration (as proxied by bilateral trade) between the two countries is positively related to the level of M&A between the two countries, but it is only statistically significant in the cross-sectional regressions (Panel B). It is important to note that the level of cross-country institutional ownership is positive and significant in all the specifications.

D. Robustness Checks of Country-Level Results

We conduct several robustness checks to the country-level tests presented in Tables 4-6. A first concern we want to address is the potential endogeneity of institutional ownership. Indeed, it may be the case that a more active market for corporate control increases institutional ownership. This would introduce an endogeneity bias in our previous ordinary least squares estimates. To control for this bias we employ instrumental variables estimation (2SLS).

We need instruments that are correlated with the level of institutional ownership in a country but do not directly impact the volume of M&A. We therefore use as instruments for institutional ownership in country i : (1) the percentage of firms from country i with shares included in the MSCI World index; (2) the percentage of firms from country i with shares cross-listed on U.S. exchanges (via ordinary listings or level 2 and 3 ADRs); (3) stock market trading volume as a percentage of GDP of country i ; (4) dividend yield of country i (value-weighted average across stocks in the country); (5) a dummy variable equal to one if there are short selling restrictions in country i (Bris, Goetzmann, and Zhu (2007)); and (6) the statutory dividend tax rate of country i . These variables have been shown to increase firm visibility abroad and to drive foreign institutional holdings (Ferreira and Matos (2007)). Hansen’s overidentification tests confirm that these variables do not directly impact the volume of M&A through a channel different from their impact on institutional ownership.

Results of the 2SLS estimation are reported in column (1) of Table VII. They confirm that our findings are robust to potential endogeneity of institutional ownership. The overall volume of M&A is positively associated with total institutional ownership, while foreign institutional ownership play a special role in explaining the incidence of cross-border deals.

As additional robustness check, we also check the sensitivity of our findings to the definition of the sample of countries under examination. Column (2) excludes M&As where the target firm is from the U.S., while column (3) extends the sample to include 21 other countries where data coverage is limited to foreign institutional holdings. The results are

again consistent with the previously reported ones.

Finally, we conduct some econometric robustness checks. In column (4), we use the value of M&A deals (as a percentage of market capitalization) as the dependent variable instead of the number of deals (as a percentage of the number of listed companies). In column (5), we cluster the standard errors at the country level to correct for within-country correlation. Finally, in column (6), we estimate a Tobit model that takes into account that the dependent variable is bounded between zero and one. The results are again consistent with the previously reported ones.

IV. Firm-level Evidence

In this section we use firm-level data to test our hypotheses. We focus on individual M&A transactions to explore in more detail whether institutional ownership in the target and acquirer firms is an important factor in the international market for corporate control. For this purpose, we merge the sample of M&A transactions from SDC with the FactSet/LionShares database to obtain firm-level institutional ownership. The resulting sample consists of 2,602 events which have target institutional ownership data, and 1,491 events which have both target and acquirer institutional ownership data. Firm-level accounting and financial variables are drawn from the Datastream/WorldScope database. Table VIII presents summary statistics of the firm-level variables. Appendix B offers details on the variable definitions and data sources.

To investigate our hypotheses, we run several tests. First, we focus on the probability of a firm being targeted in a cross-border M&A deal and we test how this probability is related to institutional ownership and foreign institutional ownership, in particular. Next, we see how institutional ownership facilitates cross-border deals, by increasing the probability of success of a bid and the probability that the bidder takes full control of the target firm. Finally, we examine the announcement returns obtained by institutional shareholders.

A. Probability of Cross-Border M&A

To study how the probability of an international M&A is affected by the presence of institutions as shareholders in the target firm we estimate the following probit regression:

$$\text{Pr ob(Deal is Cross-Border)}_i = \alpha + \beta(\text{Institutional Ownership})_i + \delta X_i + \varepsilon_i, \quad (4)$$

where the dependent variable is a dummy that takes the value of one if the M&A deal is cross-border, and zero if it is intra-border. We first estimate regression equation (4) using only target firm explanatory variables. The focus explanatory variable is the percentage of shares held by institutions in the target firm one-quarter prior to the deal announcement. We consider both the percentage of shares held by money managers domiciled in the same country as the target (domestic institutional ownership) and foreign institutions (foreign institutional ownership).

We control for other characteristics of the target firm that could be correlated with the probability of being target in a cross-border deal. We include firm size, growth and investment opportunities (as proxied by book-to-market and annual sales growth), annual stock returns, profitability (as proxied by return on equity), leverage (proxied by the ratio of long-term debt to total assets), cash holdings, foreign sales (as a proportion of total sales), closely held shares (as a proportion of shares outstanding), and governance score (from Institutional Shareholder Services). Following Kang and Kim (2007), we also control for the potential level of economic synergies using a dummy variable equal to one if target and acquire firms share the same one-digit SIC code (intra-industry M&A). The regression also includes year, country, and industry dummies.

Panel A of Table IX presents the results. Columns (1)-(3) examine the effect of total, foreign and domestic institutional ownership on the cross-border deal probability. We start by controlling just for target firm size and intra-industry M&A dummy. This allows us to maximize the number of events. We find that total institutional ownership is not linked

to the likelihood of a firm being targeted by a foreign bidder. If, however, we break down institutional ownership into its components, we find that the fraction held by foreign investors positively affects the probability of a cross-border transaction taking place. In contrast, the presence of domestic investors seems to reduce the chances of a foreign bid, but the coefficient is only significant at the 10% level. These findings are consistent with the Facilitation Hypothesis (H.1.b) and confirm the country-level evidence presented in the previous section.

Columns (4)-(7) examine the effect of foreign institutional ownership on the probability of a cross-border deal controlling for additional firm characteristics. The evidence supports the finding that the presence of foreign institutions as shareholders of the target firm spurs the probability of a cross-border deal taking place. The presence of domestic institutions, instead, seems to drive away foreign bidders, although the negative coefficient is only significant in some specifications. In terms of control variables, we find that larger firms and firms with operations abroad (foreign sales) attract more attention of foreign bidders. In general, the other firm characteristics seem to play little role in affecting the probability of the bid being cross-border.

The effect of foreign institutional ownership on the cross-border probability is not only statistically significant, but also economically relevant. If we consider the estimate of the foreign institutional ownership coefficient in column (4), a ten percentage point increase in foreign institutional ownership is associated with an increase in the likelihood of the deal being cross-border of twenty five percentage points.

As we have mentioned before, a major concern with our results is endogeneity. We address this concern using instrumental variables estimation (2SLS). The instruments are: (1) a dummy variable that takes the value of one if the firm's shares are included in the MSCI World index; (2) a dummy variable that takes the value of one if a firm's stock is cross-listed on U.S. exchanges (via ordinary listings or level 2 and 3 ADRs); (3) the share turnover defined as trading volume (defined as number of shares traded divided by the number of shares outstanding); (4) the firm's dividend yield; (5) a dummy variables that

equals one if there are short selling restrictions in a firm’s country (Bris et al. (2007)); (6) the statutory dividend tax rate in a firm’s country; and (7) the number of tax treaties linking the firm’s country with other countries. Unlike the country-level regressions in Section 4, we can directly use firm-level characteristics as instruments. The results are presented in column (8) of Table IX. They confirm the previous findings. The likelihood of a cross-border deal is positively related to the presence of foreign institutions and negatively related to the presence of domestic ones.

As of now, we have restricted ourselves to focusing just on the target firm institutional ownership. We now expand the analysis and consider also the impact of the acquirer firm institutional ownership. We therefore reestimate regression equation (4) including both target and acquirer characteristics.

The results are reported in Panel B of Table IX. They show that the presence of foreign institutional ownership on both target and acquirer firms increases the likelihood of cross-border deal, consistent with hypothesis that these investors make “bridges” between firms internationally. There is no similar evidence for total or domestic institutional ownership. Furthermore, domestic institutional ownership, especially in the acquirer firm, seems to decrease the likelihood of a cross-border deal.

Consistent with the evidence in Panel A, we also find that other firm characteristics have little explanatory power for the likelihood of a cross-border deal taking place. A notable exception is firm size as there is some evidence that a cross-border deal is more likely to take place when the target firm is smaller and the acquirer firm is larger. The instrumental variables estimation in column (8) is also consistent with a positive relation between the likelihood of a cross-border deal and target and acquirer firm institutional ownership.¹⁰

¹⁰We use the same set of instruments used in Panel A but include both target and acquirer firm instruments.

B. Success of Cross-Border M&A

We now move on to test whether foreign institutions make it more likely that a cross-border deal is completed (H.1.b). To test whether foreign institutions facilitate the successful completion of the deal we estimate the following probit regression:

$$\text{Pr ob(Deal is Completed)}_i = \alpha + \beta(\text{Institutional Ownership})_i + \delta X_i + \varepsilon_i, \quad (5)$$

where the dependent variable is a dummy that takes the value of one if the M&A cross-border deal is completed, and zero otherwise. We focus on cross-border deals in which foreign institutions have a special role as facilitators. The main explanatory variable is the percentage of shares held by institutions in the target and acquirer firm prior (one-quarter) to the deal announcement. We consider both the percentage of shares held by money managers domiciled in the same country as the target and acquirer firms (domestic institutional ownership) and the percentage of shares held by money managers domiciled in different countries (foreign institutional ownership). The control variables are the same ones used in regression equation (4). The regression also includes year, country, and industry dummies.

Columns (1)-(3) of Table X present the results. In column (1), we focus on total institutional ownership. Total institutional ownership is insignificantly related to the probability of success of the deal. In columns (2) and (3), we consider foreign and domestic institutional ownership separately. Here, the geography of institutions matters. The holdings by foreign institutional investors in both the target and acquirer firm are positively associated with the probability of a cross-border deal being completed. This provides further support for the Facilitation Hypothesis (H.1.b). In contrast, domestic institutional ownership, especially in the target, seems to decrease the likelihood of the deal being completed. With respect to the other variables, the probability of success is positively related with the size of the acquirer firm, but negatively related with the size of the target firm.

A second test examines whether the decision of the bidder to take full control in a cross-border deal is related to institutional ownership. We estimate the following probit regression:

$$\text{Pr ob(Full Control)}_i = \alpha + \beta(\text{Institutional Ownership})_i + \delta X_i + \varepsilon_i, \quad (6)$$

where the dependent variable is a dummy that takes the value of one if the bidder makes a bid for 100% of the target firm shares in a cross-border deal, and zero otherwise. We estimate equation (6) using the same specifications used to estimate equation (5).

Columns (4)-(6) of Table X present the results. We find that total institutional ownership is positively and significantly related to the probability of full control (column (4)). This is consistent with our Facilitation Hypothesis. The presence of institutions facilitates deals in which the bidder takes full control of the target firm and presumably changes its nationality. Columns (5) and (6) break down the effect of institutional ownership into foreign and domestic institutions. Again, it clearly shows that the result is driven by foreign institutions, rather than domestic institutions. Holdings by foreign institutional are positively associated with the likelihood of full shares being acquired in a cross-border deal. We interpret this evidence as foreign institutions facilitating deals in which the nationality of the target firm changes as the bidder buys 100% of the target firm shares.

C. Is Bridge-Building Profitable?

Finally, we examine whether institutional investors providing “bridges” between merging firms stand to gain from these transactions. This is an important consistency check for the quality of our results as we claim that foreign institutions are more suited to favor cross-border deals as they care the profitability of the deal and less of other “cultural” motivations.

We therefore examine the returns earned by institutions around the deals announcement. We estimate abnormal returns using as benchmark model a two-factor international market model (e.g. Griffin (2002)). The factors are the local market return and the world market

return. The model is estimated using daily return data in U.S. dollars from the 260 business days prior to the deal announcement.

Table XI presents the average combined premiums earned for the M&A deals in our sample. In Panel A, we estimate separately target and acquirer firm cumulative abnormal return for (-5,+5) trading days around the deal announcement. In Panels B and C, we show the results by using alternative longer trading days window of (-10,+10) and (-63,+63 or until delisting) around the deal announcement date (Schwert (2000)).

To examine the returns accruing to the investors, we compare three figures. In the first row of each panel, we present the combined premiums accruing to an average shareholder that held stock of target and acquirer firm in proportion to the market capitalization of each firm prior to the deal. Panel A shows that average abnormal returns are 1.96% for all deals in our sample and about 1.82% for cross-border deals.

In the second row of each panel, we compute combined returns earned by foreign target and acquirer firm shareholders. Panel A shows that returns are higher (albeit only slightly) for foreign investors in cross-border deals. Finally, in the third row of each panel, we compute combined returns earned by common target and acquirer firm shareholders (these are defined as “cross-owners” in Matvos and Ostrovsky (2006) and Harford et al. (2007)). The average return earned by common shareholders to both firms is higher than the combined return (all shareholders) in cross-border mergers (2.6% versus 1.8%).. This pattern is not found for intra-border deals.

These findings suggest that common shareholders make positive returns in cross-border M&A deals from their combined holdings in the target and acquirer firms. Returns to common investors exceed those of combined target plus acquirer firm as common investors seem to be overweight on the target firms. Therefore, common investors still gain from the M&A deals that provide no economic synergies if profits on their target firm holdings exceed any losses on the acquirer shares they hold.

V. 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 set of worldwide institutional investors' stock holdings, we examine a large sample of M&A deals from 26 countries in the 2000-2005 period. We find that institutional ownership, especially foreign, is 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 cross-border M&A deals to take place and bigger takeover returns accrue to shareholders of both target and acquirer firms. We conclude that governance motives in M&A are of second order importance to financial integration worldwide as captured by institutional cross-country ownership.

We establish a link between the market for corporate control and the ownership structure of firms worldwide. Our findings indicate that foreign institutions play a central role in international M&A activity, especially in cross-border deals. In a way, companies that have more institutional investors – especially foreign ones – are experiencing their shareholders at the “gates”, which can act as “Trojan horses” to facilitate changes of control. Overall, our paper shows how institutional ownership facilitates the workings of the international market for corporate control.

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Table I
Institutional Ownership and Mergers and Acquisitions by Target Country

Columns (1) and (2) present the average number of firms and market capitalization (in million of US dollars) in our sample. Columns (3)-(5) present the average country-level of total, domestic, and foreign institutional ownership as a percentage of market capitalization (end-of-year values). Columns (6)-(9) present the number of completed merger and acquisition deals, the percentage of listed firms targeted in deals, the transaction value of deals (in million of US dollars), and the transaction value of deals as a percentage of total market capitalization. Columns (10)-(13) show the number of completed cross-border deals, the number of cross-border deals as a percentage of the total number of deals, the transaction value of cross-border deals (in million of US dollars), and the transaction value of cross-border deals as a percentage of the total transaction value. The sample period is from 2000 to 2005.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Sample of Firms		Institutional Ownership (%)			All M&A Deals				Cross-Border M&A Deals			
	Number of firms	Market capitalization	Total	Domestic	Foreign	Number of Deals		Value of Deals		Number of Deals		Value of Deals	
						Number	% of firms	Value	% of market cap	Number	% of deals	Value	% of deals value
Australia (AU)	1,753	584,469	6.40	0.86	5.54	195	11.12	77,389	13.24	35	17.95	18,484	23.88
Austria (AT)	180	62,072	8.70	0.68	8.02	6	3.33	8,821	14.21	3	50.00	8,309	94.20
Belgium (BE)	259	219,469	10.54	3.30	7.24	13	5.02	30,959	14.11	4	30.77	1,027	3.32
Canada (CA)	1,746	888,813	38.39	20.64	17.75	425	24.34	188,967	21.26	115	27.06	107,353	56.81
Denmark (DK)	314	109,511	18.70	7.35	11.34	17	5.41	16,930	15.46	4	23.53	2,977	17.59
Finland (FI)	223	202,065	35.52	3.33	32.19	12	5.38	13,788	6.82	5	41.67	10,390	75.35
France (FR)	1,491	1,556,741	18.33	5.85	12.49	85	5.70	125,561	8.07	31	36.47	30,113	23.98
Germany (DE)	1,308	1,122,865	17.51	7.05	10.46	73	5.58	57,110	5.09	42	57.53	28,666	50.19
Greece (GR)	371	108,190	5.54	0.26	5.27	15	4.04	2,742	2.53	3	20.00	842	30.69
Hong Kong (HK)	1,074	519,263	8.72	1.47	7.26	24	2.23	45,111	8.69	6	25.00	6,356	14.09
India (IN)	393	218,769	10.27	1.57	8.71	39	9.92	2,861	1.31	8	20.51	770	26.91
Ireland (IE)	127	89,732	30.39	0.63	29.75	4	3.15	1,858	2.07	4	100.00	1,858	100.00
Italy (IT)	456	676,377	12.24	2.47	9.77	20	4.39	19,685	2.91	6	30.00	1,241	6.30
Japan (JP)	4,070	3,414,759	7.68	1.52	6.16	251	6.17	148,564	4.35	9	3.59	1,259	0.85
Luxembourg (LU)	54	47,110	16.87	0.71	16.16	3	5.56	4,723	10.03	3	100.00	4,723	100.00
Netherlands (NL)	372	748,685	22.44	1.24	21.20	28	7.53	38,176	5.10	20	71.43	30,864	80.85
Norway (NO)	330	111,425	18.21	6.58	11.64	27	8.18	8,829	7.92	18	66.67	4,750	53.80
Poland (PL)	104	40,035	12.36	2.23	10.13	14	13.46	1,189	2.97	11	78.57	1,111	93.38
Portugal (PT)	137	66,648	9.29	1.24	8.05	7	5.11	828	1.24	5	71.43	349	42.18
Singapore (SG)	617	168,734	8.76	1.05	7.71	25	4.05	16,773	9.94	6	24.00	3,904	23.28
South Africa (ZA)	772	220,671	9.47	2.33	7.14	34	4.40	9,603	4.35	7	20.59	5,999	62.47
Spain (ES)	278	493,337	15.03	1.87	13.16	18	6.47	15,070	3.05	6	33.33	5,067	33.62
Sweden (SE)	550	295,888	29.16	16.32	12.83	35	6.36	10,436	3.53	17	48.57	4,816	46.15
Switzerland (CH)	392	781,184	17.80	3.00	14.80	17	4.34	9,556	1.22	9	52.94	6,572	68.77
UK	3,592	3,047,705	18.78	7.51	11.28	228	6.35	433,782	14.23	82	35.96	250,091	57.65
US	11,753	13,992,086	73.33	67.91	5.41	1,714	14.58	2,311,874	16.52	224	13.07	314,021	13.58
All countries	32,716	29,786,605	42.98	34.58	8.40	3,329	10.18	3,601,183	12.09	683	20.52	851,910	23.66
All countries (ex-US)	20,963	15,794,519	16.10	5.04	11.05	1,615	7.70	1,289,310	8.16	459	28.42	537,889	41.72
Other countries	7,340	2,333,791	16.98	0.13	16.85	302	4.11	140,430	6.02	106	35.10	97,973	69.77

Table II
Cross-Country Institutional Stock Holdings

This table reports the distribution of the average market value of stock holdings (end-of-year values in billions of US dollars) by destination stock market countries (in rows) and origin institution countries (in columns) in the 2000-2005 period. Refer to Table I for country names.

Destination Country	Origin Institution Country																								Total			
	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		
AU	5			1				1		1			1				1			2				1	5	17	37	
AT								1																1	1	2	5	
BE			7				2	3								1								1	3	4	23	
CA				183			2	1								1	1							1	7	141	34	
DK					8			1									1						1	3	5	20		
FI			1	1		7	4	8					1			1	1					1	3	1	6	35	71	
FR			5	4	1	1	91	42				3	6		1	4	3					3	3	7	35	72	283	
DE			3	2	1	1	11	79				2	4		1	3	2					2	2	6	23	50	194	
GR								1																	2	2	6	
HK				1				1		8				1		1				3					6	18	42	
IN										1	3									1					2	13	22	
IE				1			1	2				1												5	16	27		
IT			1	1	1		6	13				4	17		1	1	1					1	1	2	13	19	82	
JP			1	7	1		4	12		2		2	5	52	1	3	4			3		1	3	6	33	114	256	
LU							1																		1	4	8	
NL			3	3	1	1	9	25				1	4		1	9	2					2	2	5	27	70	165	
NO								1																	3	7	20	
PL																									1	1	5	
PT								1																	1	2	6	
SG								1		1											2					2	14	
ZA																						5			3	10	20	
ES			1	1			5	13				1	2			1	1					9		1	2	12	21	72
SE			1	1	1	1	1	3					1			1	2						48	1	7	17	85	
CH			2	3	1	1	4	16				1	3		1	3	2					1	3	23	20	51	136	
UK		1	5	11	3	2	11	35		1		4	8	1	2	7	8				1	2	9	8	229	217	564	
US	2	1	8	84	7	1	241	52				18	16	32	4	35	16			1		4	19	21	178	9,502	10,246	
Total	8	5	40	306	28	17	395	313	1	16	3	39	70	88	16	74	54	1	2	12	7	25	96	88	628	10,417	12,750	

Table III
Cross-Country Number of Mergers and Acquisitions

This table reports the distribution of the number of merger and acquisitions deals by target firm countries (in rows) and acquirer firm countries (in columns) in the 2000-2005 period. Refer to Table I for country names.

Target Country	Acquiror Country																											Total
	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	
AU	160							1					1							1	5			2	5	9	4	195
AT		3						1																	2			6
BE			9								1					1							1			1		13
CA				310	1	1	4	2							1		1					2	1	2	16	75	6	425
DK					13																		2		1			17
FI						7		1															2		1	1		12
FR							54	5					3	2	1	2						2	1	3	2	6		85
DE			3	1	1	1		2	31				3		1	2	1						1	3	6	16	1	73
GR							1			12																1		15
HK											18				1						1					1	1	3
IN			1									31				1					1		1			2	2	39
IE																												4
IT								2					14												2		1	20
JP				2			1			1				242												3	2	251
LU							1																			2		3
NL			1	4																						2		2
NO					2		1						1			8							3	1	2	1	4	28
PL			1	1			2	1								1	9								1	2	5	27
PT							1											3								3		14
SG											1								2									7
ZA				1						1	1			1						19						1		25
ES							1						2													1		34
SE													1			1												18
CH								2								1								1	2	7	1	35
SE			1		1																		1	8	1	2		17
UK		6	1	3	3		7	9					2	1		3				3	2	2	1	4	146	32	3	228
US		9	3	52	2	6	13	18		3	3		6	4		14	2			1	1	3	6	6	44	1,490	28	1,714
Other		8	1	2	6	3	1	4	3		1		4	1	1	2	3	1	2	4	2	6	4	2	11	23	196	302
Total	187	10	26	385	26	17	101	78	15	24	37	0	37	253	4	37	16	5	4	30	39	33	47	34	250	1,684	252	3,631

Table IV
Institutional Ownership and the Volume of Mergers and Acquisitions across Countries

Panel A presents the estimates of panel regressions of the volume of mergers and acquisitions by country and year. The dependent variable is the percentage of listed firms targeted in completed merger and acquisition deals. Panel B presents the estimates of cross-sectional regressions of the total volume of mergers and acquisitions by country over our sample period. The explanatory variables in Panel B are sample period averages. Refer to Appendix A for variables definition. The sample period is from 2000 to 2005. Robust *t*-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Panel Regression									
Total institutional ownership	0.0274 (5.11)	0.0273 (5.47)	0.0260 (5.28)	0.0205 (3.59)	0.0321 (6.80)	0.0291 (4.68)			
Domestic institutional ownership							0.0203 (4.14)		0.0254 (5.31)
Foreign institutional ownership								0.0466 (2.47)	0.0573 (3.06)
GDP per capita (log)		-0.0026 (-2.85)	-0.0025 (-2.87)	-0.0009 (-1.28)	-0.0003 (-0.33)	0.0010 (1.06)	0.0005 (0.47)	0.0021 (1.80)	0.0018 (1.65)
GDP growth		-0.0979 (-2.79)	-0.0996 (-3.10)	-0.0380 (-1.08)	-0.1099 (-3.18)	-0.0494 (-1.40)	-0.0518 (-1.47)	-0.0438 (-1.09)	-0.0457 (-1.22)
Common law		0.0034 (1.68)		0.0056 (2.70)	0.0031 (1.84)	0.0051 (2.96)	0.0041 (2.12)	0.0098 (3.63)	0.0075 (3.28)
Anti-director rights			0.0015 (2.69)						
Accounting standards				-0.0001 (-1.78)		-0.0001 (-1.19)	0.0000 (-0.40)	-0.0002 (-2.55)	-0.0002 (-2.11)
Ownership concentration				-0.0002 (-4.11)		-0.0001 (-1.23)	-0.0001 (-2.46)	-0.0002 (-3.68)	-0.0001 (-1.09)
Market return					0.0119 (2.11)	0.0104 (1.94)	0.0087 (1.59)	0.0099 (1.81)	0.0115 (2.12)
Market competition					-0.0081 (-5.17)	-0.0064 (-3.89)	-0.0050 (-3.04)	-0.0052 (-2.87)	-0.0071 (-4.17)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	162	156	156	138	150	138	138	138	138
R-squared	0.27	0.34	0.35	0.44	0.49	0.54	0.47	0.48	0.56
Panel B: Cross-Sectional Regression									
Total institutional ownership	0.1592 (2.75)	0.1658 (2.69)	0.1583 (2.58)	0.1275 (1.92)	0.1840 (3.07)	0.1886 (3.07)			
Domestic institutional ownership							0.1350 (1.89)		0.1674 (2.77)
Foreign institutional ownership								0.3014 (1.82)	0.3775 (2.71)
GDP per capita (log)		-0.0166 (-1.70)	-0.0157 (-1.63)	-0.0056 (-0.42)	-0.0150 (-1.51)	0.0097 (0.75)	0.0050 (0.33)	0.0171 (1.08)	0.0159 (1.22)
GDP growth		-1.0085 (-1.36)	-0.9719 (-1.43)	-0.4169 (-0.41)	-1.4682 (-1.92)	-0.2867 (-0.32)	-0.3868 (-0.37)	-0.2132 (-0.20)	-0.1819 (-0.21)
Common law		0.0285 (1.25)		0.0373 (1.47)	0.0369 (1.63)	0.0312 (1.42)	0.0256 (0.96)	0.0613 (2.23)	0.0460 (1.98)
Anti-director rights			0.0108 (1.50)						
Accounting standards				-0.0007 (-0.57)		-0.0005 (-0.49)	-0.0001 (-0.10)	-0.0015 (-1.15)	-0.0012 (-1.08)
Ownership concentration				-0.0009 (-1.26)		-0.0003 (-0.46)	-0.0007 (-0.89)	-0.0011 (-1.55)	-0.0003 (-0.44)
Market return					0.1260 (1.06)	0.1462 (1.37)	0.1131 (0.93)	0.1448 (1.15)	0.1722 (1.66)
Market competition					-0.0105 (-1.67)	-0.0391 (-2.22)	-0.0305 (-1.54)	-0.0306 (-1.53)	-0.0432 (-2.53)
Constant	0.0407 (3.03)	0.2242 (2.17)	0.1908 (1.82)	0.1804 (1.36)	0.2691 (2.20)	0.2133 (1.60)	0.2261 (1.46)	0.1710 (1.09)	0.1887 (1.46)
Observations	26	26	26	23	26	23	23	23	23
R-squared	0.24	0.39	0.41	0.53	0.50	0.69	0.59	0.59	0.74

Table V
Institutional Ownership and the Incidence of Cross-Border Mergers and Acquisitions

Panel A presents the estimates of panel regressions of the ratio of cross-border of mergers and acquisitions by country and year. The dependent variable is the percentage of completed merger and acquisition completed deals that involve a foreign acquiror (cross-border) relative to all deals that target firms of a country. Panel B presents the estimates of cross-sectional regressions of the ratio of cross-border of mergers and acquisitions by country over our sample period. The explanatory variables in Panel B are sample period averages. Refer to Appendix A for variables definition. The sample period is from 2000 to 2005. Robust *t*-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Panel Regression									
Total institutional ownership	-0.2919 (-1.84)								
Domestic institutional ownership		-0.6417 (-7.63)							0.0173 (0.14)
Foreign institutional ownership			2.2306 (6.16)	1.9419 (4.82)	2.0921 (6.33)	1.9034 (4.86)	1.9738 (5.30)	1.9268 (4.89)	1.9336 (4.76)
GDP per capita (log)				-0.0168 (-0.65)	-0.0167 (-0.58)	0.0390 (1.51)	0.0321 (1.04)	0.0582 (1.80)	0.0577 (1.79)
GDP growth				1.8527 (1.35)	1.0357 (0.70)	-0.6605 (-0.45)	0.4736 (0.38)	-0.5873 (-0.41)	-0.5927 (-0.41)
Common law				-0.2887 (-5.66)		-0.1266 (-2.04)	-0.1389 (-2.09)	-0.0876 (-1.25)	-0.0888 (-1.26)
Anti-director rights					-0.0928 (-4.79)				
Accounting standards						-0.0034 (-0.91)		-0.0038 (-1.01)	-0.0038 (-0.97)
Ownership concentration						0.0063 (3.60)		0.0057 (3.14)	0.0058 (2.77)
Market return							0.0450 (0.18)	-0.0744 (-0.32)	-0.0725 (-0.30)
Openness							-0.2078 (-2.43)	-0.0800 (-0.93)	-0.0813 (-0.91)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	114	114	114	114	114	104	111	104	104
R-squared	0.05	0.13	0.21	0.36	0.34	0.43	0.39	0.44	0.44
Panel B: Cross-Sectional Regression									
Total institutional ownership	0.0358 (0.10)								
Domestic institutional ownership		-0.4856 (-1.28)							-0.0826 (-0.24)
Foreign institutional ownership			2.0199 (3.10)	1.7555 (2.48)	1.9226 (2.68)	1.2760 (1.88)	1.8993 (2.97)	1.3368 (1.81)	1.3106 (1.69)
GDP per capita (log)				0.0180 (0.33)	0.0119 (0.21)	-0.0076 (-0.13)	0.0245 (0.46)	-0.0065 (-0.08)	-0.0053 (-0.07)
GDP growth				3.6358 (0.83)	1.6263 (0.40)	-6.0628 (-1.36)	-0.7714 (-0.18)	-5.9525 (-1.21)	-6.0262 (-1.18)
Common law				-0.2059 (-1.66)		0.0004 (0.00)	-0.0576 (-0.45)	-0.0132 (-0.10)	-0.0065 (-0.05)
Anti-director rights					-0.0468 (-1.18)				
Accounting standards						-0.0023 (-0.41)		-0.0023 (-0.39)	-0.0025 (-0.40)
Ownership concentration						0.0024 (0.89)		0.0026 (0.82)	0.0023 (0.68)
Market return							0.6173 (0.98)	0.2470 (0.42)	0.2326 (0.38)
Market competition							-0.0894 (-2.30)	0.0314 (0.26)	0.0355 (0.28)
Constant	0.4167 (4.85)	0.4549 (8.13)	0.1814 (2.03)	-0.0001 (0.00)	0.1787 (0.29)	0.5055 (0.88)	0.4392 (0.66)	0.2922 (0.37)	0.2864 (0.35)
Observations	26	26	26	26	26	23	26	23	23
R-squared	0.01	0.06	0.29	0.38	0.34	0.46	0.54	0.47	0.47

Table VI
Cross-Country Institutional Holdings and Cross-Border Mergers and
Acquisitions: Country Pairs

Panel A presents the estimates of panel regressions of cross-border mergers and acquisitions between matched country pairs in each year. 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 presents the estimates of cross-sectional regressions of cross-border mergers and acquisitions between matched country pairs over our sample period. The explanatory variables in Panel B are sample period averages. Refer to Appendix A for variables definition. The sample period is from 2000 to 2005. Robust t -statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Panel Regression						
Institutional ownership $_{i,j}$	1.3135 (5.26)	1.2605 (5.07)	1.4609 (6.97)	1.4703 (7.01)	1.4638 (6.96)	1.4301 (4.44)
GDP per capita $_j$ - GDP per capita $_i$ (log)		0.0018 (2.01)	0.0012 (1.02)	0.0014 (1.16)	0.0013 (1.08)	0.0014 (1.14)
Same language		0.0047 (1.18)	0.0031 (0.80)	0.0029 (0.72)	0.0027 (0.67)	0.0024 (0.64)
Same geographical region		0.0051 (1.85)	0.0055 (1.59)	0.0056 (1.60)	0.0060 (1.65)	0.0055 (1.49)
Anti-director rights $_j$ - Anti-director rights $_i$		0.0012 (1.85)	0.0007 (0.96)	0.0007 (0.96)	0.0006 (0.83)	0.0006 (0.98)
Accounting standards $_j$ - Accounting standards $_i$			0.0001 (0.71)	0.0001 (0.73)	0.0001 (0.87)	0.0001 (0.85)
Market return $_j$ - Market return $_i$				0.0075 (0.93)	0.0068 (0.84)	0.0070 (0.88)
Industry structure $_{i,j}$					-0.0017 (-2.64)	-0.0016 (-2.65)
Bilateral trade $_{i,j}$						0.01 (0.19)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,236	2,150	1,826	1,826	1,826	1,826
R-squared	0.10	0.10	0.12	0.12	0.12	0.12
Panel B: Cross-Sectional Regression						
Institutional ownership $_{i,j}$	1.4791 (2.92)	1.4232 (2.79)	1.1803 (4.99)	1.1688 (4.98)	1.1805 (5.26)	0.5777 (1.71)
GDP per capita $_j$ - GDP per capita $_i$ (log)		0.0011 (1.05)	-0.0007 (-0.68)	-0.0012 (-1.01)	-0.0012 (-1.06)	-0.0003 (-0.23)
Same language		0.0071 (1.14)	0.0073 (1.65)	0.0073 (1.66)	0.0065 (1.41)	0.0004 (0.07)
Same geographical region		0.0101 (2.65)	0.0121 (3.32)	0.0121 (3.32)	0.0129 (3.40)	0.0019 (0.47)
Anti-director rights $_j$ - Anti-director rights $_i$		0.0016 (2.03)	0.0003 (0.40)	0.0003 (0.39)	0.0003 (0.37)	0.0016 (2.12)
Accounting standards $_j$ - Accounting standards $_i$			0.0003 (1.40)	0.0003 (1.36)	0.0003 (1.37)	0.0002 (1.31)
Market return $_j$ - Market return $_i$				-0.0153 (-0.76)	-0.0149 (-0.74)	0.0046 (0.20)
Industry structure $_{i,j}$					-0.0033 (-2.30)	-0.0014 (-1.16)
Bilateral trade $_{i,j}$						0.3313 (2.12)
Constant	0.0081 (4.32)	0.0024 (1.12)	0.0027 (2.08)	0.0027 (2.11)	0.0038 (2.46)	0.0019 (0.97)
Observations	676	650	506	506	506	506
R-squared	0.18	0.19	0.21	0.21	0.21	0.31

Table VII
Robustness Checks of Country-Level Tests

This table presents robustness checks of country-level tests: panel regressions of the volume of mergers and acquisitions by country and year (Panel A); panel regressions of the ratio of cross-border of mergers and acquisitions by country and year (Panel B); and panel regressions of cross-border mergers and acquisitions between matched country pairs in each year (Panel C). Column (1) uses 2SLS estimation with the percentage of firms from a country with shares included in the MSCI World index, the percentage of firms from a country with shares cross-listed on U.S. exchanges, stock market trading volume as a percentage of GDP, dividend yield (value-weighted average across stocks in a country), a dummy variable equal to one if there are short selling restrictions in a country, and the statutory dividend tax rate of a country used as instruments for institutional ownership. Column (2) excludes mergers and acquisitions deals that involve a target firms from the U.S. Column (2) extends the sample to include 21 additional countries “other countries” where data coverage is limited to foreign institutional holdings. Column (4) the uses the value of mergers and acquisitions deals (relative to market capitalization in Panel A, and total transaction value in Panels B and C) as dependent variable. Column (5) uses standard errors adjusted for country-level clustering. Column (6) presents estimates of a Tobit model. Refer to Appendix A for variables definition. The sample period is from 2000 to 2005. Robust t -statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
	2SLS	Excluding US	Extended Sample of Countries	Value of Deals	Country Clustered Std Errors	Tobit
Panel A: Panel Regression of Volume of Mergers and Acquisitions						
Total institutional ownership	0.0230 (4.36)	0.0609 (4.96)	0.0169 (3.63)	0.0105 (0.76)	0.0291 (2.42)	0.0289 (5.76)
GDP per capita (log)	-0.0079 (-2.93)	0.0022 (2.27)	0.0009 (1.25)	0.0072 (2.72)	0.0010 (0.67)	0.0010 (1.06)
GDP growth	-0.0948 (-1.63)	-0.0256 (-0.71)	-0.0676 (-2.86)	-0.0704 (-0.50)	-0.0494 (-1.67)	-0.0459 (-1.16)
Common law	0.0076 (3.71)	0.0087 (4.16)	0.0088 (5.27)	0.0161 (2.96)	0.0051 (1.75)	0.0052 (3.11)
Accounting standards	0.0002 (2.04)	-0.0003 (-3.06)	-0.0002 (-2.56)	-0.0003 (-0.88)	-0.0001 (-0.98)	-0.0001 (-0.94)
Ownership concentration	0.0000 (-0.25)	0.0000 (-0.92)	-0.0001 (-3.18)	-0.0001 (-0.55)	-0.0001 (-0.82)	-0.0001 (-1.20)
Market return	0.0224 (4.07)	0.0088 (1.86)	0.0035 (1.20)	0.0369 (2.43)	0.0104 (1.50)	0.0100 (2.16)
Market competition	-0.0063 (-3.84)	-0.0073 (-4.86)	0.0004 (0.51)	0.0031 (0.61)	-0.0064 (-2.15)	-0.0065 (-4.42)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	114	132	192	138	138	138
R-squared		0.58	0.41	0.21	0.54	
Panel B: Panel Regression of Incidence of Cross-Border Mergers and Acquisitions						
Foreign institutional ownership	2.3743 (3.98)	1.9567 (4.73)	0.8655 (3.26)	2.5792 (5.13)	1.9268 (2.99)	1.9268 (4.16)
GDP per capita (log)	0.2779 (1.93)	0.0570 (1.76)	0.0306 (1.04)	0.0137 (0.19)	0.0582 (2.11)	0.0582 (1.60)
GDP growth	-1.0509 (-0.39)	-0.5861 (-0.40)	0.8996 (0.79)	0.7085 (0.27)	-0.5873 (-0.46)	-0.5873 (-0.38)
Common law	0.0227 (0.29)	-0.0916 (-1.30)	-0.2176 (-4.10)	-0.0997 (-0.88)	-0.0876 (-0.85)	-0.0876 (-1.20)
Accounting standards	-0.0069 (-1.49)	-0.0035 (-0.87)	-0.0043 (-1.37)	-0.0022 (-0.37)	-0.0038 (-0.93)	-0.0038 (-1.15)
Ownership concentration	0.0075 (2.75)	0.0059 (2.87)	0.0018 (1.03)	0.0051 (1.77)	0.0057 (2.34)	0.0057 (3.31)
Market return	-0.2718 (-1.09)	-0.0741 (-0.29)	0.0698 (0.45)	-0.2433 (-0.67)	-0.0744 (-0.40)	-0.0744 (-0.34)
Openness	-0.1120 (-1.16)	-0.0853 (-0.95)	-0.0946 (-1.74)	0.0230 (0.19)	-0.0800 (-1.04)	-0.0800 (-1.11)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	87	98	137	99	104	104
R-squared		0.39	0.39	0.28	0.44	
Panel C: Panel Regression of Country-Pairs						
Institutional ownership $_{i,j}$	1.4532 (4.50)	1.4418 (4.32)	1.4198 (4.48)	1.6793 (3.34)	1.4301 (4.64)	4.1376 (5.94)
GDP per capita $_j$ - GDP per capita $_i$ (log)	0.0019 (1.70)	0.0013 (1.05)	0.0017 (2.48)	0.0011 (0.63)	0.0014 (1.03)	0.0336 (2.33)
Same language	0.0030 (0.78)	0.0026 (0.62)	0.0028 (0.84)	0.0007 (0.10)	0.0024 (0.61)	0.0853 (3.79)
Same geographical region	0.0062 (1.63)	0.0051 (1.33)	0.0048 (1.78)	0.0064 (1.31)	0.0055 (1.55)	-0.0136 (-0.64)
Anti-director rights $_j$ - Anti-director rights $_i$	0.0007 (1.03)	0.0005 (0.71)	0.0007 (1.66)	0.0000 (-0.02)	0.0006 (0.87)	-0.0176 (-3.15)
Accounting standards $_j$ - Accounting standards $_i$	0.0001 (0.87)	0.0002 (0.90)	0.0001 (0.89)	0.0003 (1.04)	0.0001 (0.83)	0.0028 (2.51)
Market return $_j$ - Market return $_i$	0.0051 (0.62)	0.0072 (0.85)	0.0009 (0.31)	-0.0076 (-0.61)	0.0070 (0.92)	0.0604 (0.96)
Industry structure $_{i,j}$	-0.0017 (-2.82)	-0.0017 (-2.69)	-0.0013 (-2.56)	-0.0028 (-3.02)	-0.0016 (-2.67)	-0.0017 (-1.07)
Bilateral trade $_{i,j}$	0.0043 (0.06)	0.0109 (0.14)	0.0207 (0.29)	0.0155 (0.15)	0.0142 (0.19)	0.019 (0.95)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,757	1,694	2,656	1,804	1,826	1,826
R-squared		0.11	0.13	0.07	0.12	

Table VIII
Summary Statistics of Firm-Level Sample

This table presents the summary statistics for firm-level variables for the sample of target and acquirer firms with institutional ownership data. Panel A includes firm characteristics for our sample of all mergers and acquisitions events. Panel B includes firm characteristics for our sample of cross-border mergers and acquisitions. Refer to Appendix B for variables definition. The sample period is from 2000 to 2005.

	Mean	Std Dev	10%	Median	90%	Observations
Panel A: All M&A Deals						
Cross-border dummy variable	0.239	0.427	0.000	0.000	1.000	2,602
Total institutional ownership - target	0.134	0.190	0.001	0.054	0.371	2,602
Foreign institutional ownership - target	0.032	0.085	0.000	0.004	0.094	2,602
Domestic institutional ownership - target	0.104	0.174	0.000	0.026	0.315	2,602
Total institutional ownership - acquirer	0.408	0.345	0.019	0.297	0.988	1,491
Foreign institutional ownership - acquirer	0.069	0.109	0.001	0.034	0.167	1,491
Domestic institutional ownership - acquirer	0.345	0.347	0.003	0.207	0.918	1,491
Size - target	11.729	2.076	9.303	11.632	14.387	2,602
Book-to-market - target	-0.396	0.972	-1.476	-0.397	0.704	2,338
Investment opportunities - target	0.147	0.417	-0.165	0.060	0.528	2,298
Stock return - target	-0.145	0.681	-1.099	0.000	0.538	2,509
ROE - target	-0.047	0.466	-0.455	0.063	0.254	2,167
Leverage - target	0.262	0.225	0.011	0.226	0.576	2,109
Cash - target	0.204	0.226	0.010	0.106	0.568	2,109
Foreign sales - target	0.116	0.223	0.000	0.000	0.476	2,602
Closely held shares - target	0.352	0.243	0.041	0.329	0.691	1,941
Governance score - target	54.902	29.424	11.900	57.600	92.400	846
Size - acquirer	14.150	2.313	11.199	14.235	17.077	1,514
Book-to-market - acquirer	-0.803	0.854	-1.822	-0.781	0.178	1,482
Investment opportunities - acquirer	0.201	0.395	-0.086	0.103	0.583	1,444
Stock return - acquirer	0.037	0.535	-0.544	0.107	0.575	1,497
ROE - acquirer	0.090	0.330	-0.154	0.124	0.313	1,424
Leverage - acquirer	0.231	0.169	0.024	0.213	0.466	1,381
Cash - acquirer	0.186	0.201	0.014	0.107	0.507	1,253
Foreign sales - acquirer	0.104	0.207	0.000	0.000	0.438	2,602
Closely held shares - acquirer	0.244	0.308	0.004	0.172	0.603	1,351
Governance score - acquirer	54.001	28.631	13.300	54.700	92.300	1,018
Intra-industry M&A	0.198	0.399	0.000	0.000	1.000	2,602
Panel B: Cross-Border M&A Deals						
Success dummy variable	0.700	0.460	0.000	1.000	1.000	180
Full control dummy variable	0.744	0.437	0.000	1.000	1.000	180
Total institutional ownership - target	0.196	0.209	0.004	0.133	0.460	180
Foreign institutional ownership - target	0.087	0.149	0.001	0.035	0.209	180
Domestic institutional ownership - target	0.119	0.174	0.000	0.050	0.348	180
Total institutional ownership - acquirer	0.390	0.322	0.071	0.283	0.971	180
Foreign institutional ownership - acquirer	0.129	0.157	0.008	0.081	0.273	180
Domestic institutional ownership - acquirer	0.269	0.327	0.006	0.106	0.845	180
Size - target	12.866	1.930	10.482	12.813	15.381	180
Book-to-market - target	-0.531	0.751	-1.336	-0.560	0.327	180
Investment opportunities - target	0.186	0.446	-0.114	0.094	0.588	180
Stock return - target	-0.082	0.573	-0.912	0.034	0.430	180
ROE - target	0.015	0.284	-0.361	0.088	0.262	180
Leverage - target	0.233	0.177	0.012	0.217	0.481	180
Cash - target	0.131	0.151	0.012	0.071	0.342	180
Size - acquirer	15.130	2.137	12.290	15.376	18.040	180
Book-to-market - acquirer	-0.834	0.794	-1.651	-0.886	0.035	180
Investment opportunities - acquirer	0.159	0.347	-0.077	0.077	0.498	180
Stock return - acquirer	0.007	0.471	-0.477	0.048	0.521	180
ROE - acquirer	0.125	0.256	-0.131	0.148	0.298	180
Leverage - acquirer	0.251	0.158	0.035	0.224	0.488	180
Cash - acquirer	0.125	0.144	0.012	0.076	0.282	180
Intra-industry M&A	0.317	0.466	0.000	0.000	1.000	180

Table IX
Institutional Ownership and the Probability of Being Targeted in a
Cross-Border Merger and Acquisition

This table presents the estimates of a probit model on a dummy variable that equals one if the merger and acquisition deal is cross-border, and zero otherwise. Panel A includes only target firm explanatory variables. Panel B includes target and acquirer firm explanatory variables. Column (8) presents estimates of a 2-step probit model using a dummy variable that takes the value of one if the firm's shares are included in the MSCI World index, a dummy variable that takes the value of one if a firm's stock is cross-listed on U.S. exchanges, share turnover, dividend yield, a dummy variables that equals one if there are short selling restrictions in a firm's country, statutory dividend tax rate in a firm's country, and the number of tax treaties linking the firm's country with other countries as instruments for institutional ownership. The sample period is from 2000 to 2005. Robust *t*-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
								2SLS
Panel A: Only Target Explanatory Variables								
Total institutional ownership - target	0.0284 (0.17)							
Foreign institutional ownership - target		1.1532 (3.35)	1.2230 (3.45)	2.3562 (4.59)	2.4538 (4.75)	2.3387 (4.06)	3.9988 (3.35)	16.8156 (7.50)
Domestic institutional ownership - target			-0.3654 (-1.83)		-0.4863 (-1.82)	-0.3307 (-1.16)	-0.9442 (-2.50)	-2.0592 (-2.21)
Size - target	0.1034 (6.31)	0.0941 (6.01)	0.0981 (6.02)	0.0649 (2.57)	0.0730 (2.80)	0.0170 (0.56)	0.0830 (1.89)	-0.0643 (-1.50)
Book-to-market - target				-0.0504 (-0.90)	-0.0518 (-0.93)	-0.0669 (-1.04)	-0.0586 (-0.58)	-0.1634 (-2.40)
Investment opportunities - target				0.0066 (0.06)	0.0150 (0.14)	-0.0017 (-0.01)	-0.4457 (-1.53)	-0.1833 (-1.31)
Stock return - target				0.0515 (0.65)	0.0425 (0.54)	0.1735 (1.94)	0.2573 (1.83)	0.0626 (0.63)
Return on equity - target				-0.0849 (-0.87)	-0.0819 (-0.84)	-0.0783 (-0.69)	-0.2237 (-1.31)	0.1626 (1.10)
Leverage - target				-0.0452 (-0.19)	-0.0373 (-0.16)	0.0835 (0.31)	-0.7855 (-2.03)	-0.0671 (-0.23)
Cash - target				0.2727 (1.08)	0.2791 (1.11)	0.3734 (1.30)	-0.9914 (-2.08)	0.2694 (0.82)
Foreign sales - target						0.8315 (4.54)		
Closely held shares - target						-0.1305 (-0.64)		
Governance score - target							0.0015 (0.62)	
Intra-industry M&A	-0.0421 (-0.56)	-0.0482 (-0.63)	-0.0523 (-0.69)	-0.0221 (-0.21)	-0.0237 (-0.23)	0.0648 (0.57)	-0.0743 (-0.43)	-0.2252 (-1.75)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	2,588	2,588	2,588	1,408	1,408	1,144	471	1,319

Table IX: continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
								2SLS
Panel B: Target and Acquirer Explanatory Variables								
Total institutional ownership - target	0.3966 (1.63)							
Foreign institutional ownership - target		1.5264 (2.79)	1.4707 (2.72)	4.0148 (3.13)	4.1628 (3.18)	5.3236 (2.89)	5.2054 (2.47)	13.8549 (6.64)
Domestic institutional ownership - target			0.0513 (0.19)		-0.0309 (-0.06)	0.4407 (0.85)	-0.0651 (-0.10)	-0.7476 (-1.47)
Total institutional ownership - acquirer	-0.2631 (-1.42)							
Foreign institutional ownership - acquirer		1.7058 (3.26)	1.7511 (3.32)	1.9131 (1.88)	2.2892 (2.29)	3.2462 (2.42)	6.0853 (3.04)	3.0789 (1.99)
Domestic institutional ownership - acquirer			-0.6774 (-3.69)		-1.3984 (-4.68)	-1.2656 (-3.52)	-0.8570 (-1.88)	-0.3951 (-1.59)
Size - target	-0.0316 (-0.99)	-0.0465 (-1.57)	-0.0462 (-1.46)	-0.1379 (-2.70)	-0.1547 (-2.76)	-0.2290 (-3.13)	-0.2590 (-2.37)	-0.1840 (-3.19)
Book-to-market - target				-0.1309 (-1.21)	-0.1906 (-1.74)	0.0139 (0.09)	-0.2490 (-1.00)	-0.2431 (-2.18)
Investment opportunities - target				0.2662 (1.29)	0.2300 (1.13)	0.2469 (1.05)	-1.4676 (-2.16)	-0.1271 (-0.56)
Stock return - target				0.1919 (1.19)	0.1806 (1.10)	0.4211 (2.08)	0.1889 (0.56)	0.1032 (0.62)
Return on equity - target				-0.0694 (-0.34)	-0.0922 (-0.45)	0.0475 (0.16)	0.1705 (0.30)	0.2133 (0.96)
Leverage - target				-0.0707 (-0.15)	-0.2015 (-0.42)	-0.1231 (-0.20)	-1.0448 (-1.28)	-0.5945 (-1.30)
Cash - target				0.0675 (0.14)	-0.0609 (-0.12)	0.4862 (0.72)	-2.0929 (-2.04)	0.1670 (0.30)
Foreign sales - target						0.5570 (1.18)		
Closely held shares - target						0.0598 (0.13)		
Governance score - target							0.0059 (1.33)	
Size - acquirer	0.1880 (6.33)	0.1437 (4.89)	0.1611 (5.39)	0.2100 (3.96)	0.2268 (4.25)	0.2269 (3.66)	0.3085 (2.82)	0.0561 (1.01)
Book-to-market - acquirer				-0.0167 (-0.15)	-0.0162 (-0.15)	-0.0936 (-0.72)	-0.0958 (-0.32)	-0.0623 (-0.52)
Investment opportunities - acquirer				-0.1782 (-0.80)	-0.2400 (-1.10)	-0.1061 (-0.43)	-1.7129 (-1.41)	-0.0871 (-0.36)
Stock return - acquirer				-0.3934 (-2.02)	-0.3356 (-1.70)	-0.1174 (-0.50)	0.2049 (0.45)	-0.1904 (-1.02)
Return on equity - acquirer				-0.2672 (-0.87)	-0.1618 (-0.52)	-0.4690 (-1.24)	0.6727 (0.62)	0.1884 (0.52)
Leverage - acquirer				0.1985 (0.40)	0.2492 (0.49)	0.5449 (0.97)	-0.8932 (-1.00)	0.9212 (1.84)
Cash - acquirer				-1.2261 (-2.14)	-1.2049 (-2.06)	-1.5980 (-2.27)	-0.3609 (-0.28)	-0.7581 (-1.16)
Foreign sales - acquirer						0.3061 (0.68)		
Closely held shares - acquirer						0.2693 (0.53)		
Governance score - acquirer							-0.0043 (-0.90)	
Intra-industry M&A	0.1145 (1.13)	0.0564 (0.55)	0.0477 (0.46)	0.5036 (3.30)	0.4326 (2.79)	0.7105 (3.72)	-0.1396 (-0.49)	-0.0015 (-0.01)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	1,432	1,432	1,432	617	617	468	205	623

Table X
Institutional Ownership and the Probability of Success and Full Control in a Cross-Border Merger and Acquisition

Columns (1)-(3) present the estimates of a probit model on a dummy variable that equals one if the merger and acquisition bid is successful (or completed), and zero otherwise. Columns (4)-(6) present the estimates of a probit model on a dummy that equals one if the percentage sought in the merger and acquisition bid is for the full control of target firm shares (percentage sought equals 100%), and zero otherwise. The sample period is from 2000 to 2005. Robust *t*-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable = Success Dummy			Dependent Variable = Full Control Dummy		
Total institutional ownership - target	0.2319 (0.27)			1.61551 2.001		
Foreign institutional ownership - target		4.2844 (3.98)	8.2425 (4.85)		5.5523 (2.41)	5.3601 (2.34)
Domestic institutional ownership - target			-6.8139 (-4.63)			-0.1560 (-0.13)
Total institutional ownership acquiror	0.1427 (0.19)			1.4977 (2.51)		
Foreign institutional ownership acquiror		4.8265 (1.58)	8.7834 (2.37)		4.2904 (2.77)	4.0090 (2.47)
Domestic institutional ownership acquiror			-2.1154 (-1.88)			0.8277 (1.19)
Size - target	-0.5765 (-3.73)	-0.7049 (-4.10)	-1.1256 (-5.30)	0.1207 (1.05)	0.0543 (0.45)	0.0687 (0.55)
Book-to-market - target	-0.7352 (-2.31)	-0.9785 (-2.84)	-1.3810 (-3.39)	0.1369 (0.41)	0.0981 (0.30)	0.1413 (0.40)
Investment opportunities - target	-0.3324 (-0.91)	-0.6010 (-1.39)	-0.7965 (-1.63)	-0.1791 (-0.48)	-0.4220 (-1.00)	-0.3825 (-0.95)
Stock return - target	0.4457 (1.07)	0.8853 (1.84)	1.7627 (2.60)	0.3697 (0.84)	0.3553 (0.78)	0.3908 (0.85)
Return on equity - target	-0.0119 (-0.01)	-0.3259 (-0.34)	-1.5128 (-1.54)	-0.7603 (-1.05)	-0.4716 (-0.66)	-0.5386 (-0.75)
Leverage - target	-1.0224 (-0.96)	-0.5006 (-0.45)	-1.2409 (-0.88)	0.4288 (0.41)	0.9201 (0.85)	0.9684 (0.89)
Cash - target	-0.2470 (-0.14)	-0.3439 (-0.19)	-1.6746 (-1.00)	-3.9697 (-2.59)	-3.2141 (-2.17)	-3.2449 (-2.12)
Size - acquirer	0.2799 (2.38)	0.2499 (1.88)	0.6059 (3.39)	-0.1264 (-1.24)	-0.1794 (-1.73)	-0.1754 (-1.69)
Book-to-market - acquirer	0.1580 (0.54)	-0.1789 (-0.44)	0.0179 (0.04)	-0.2064 (-0.92)	-0.3610 (-1.41)	-0.3548 (-1.40)
Investment opportunities - acquirer	-0.1986 (-0.48)	-0.3078 (-0.70)	0.5553 (1.14)	-0.9180 (-2.61)	-1.2189 (-3.19)	-1.1375 (-3.08)
Stock return - acquirer	0.6001 (1.19)	0.3348 (0.58)	0.3667 (0.58)	-1.1568 (-2.82)	-1.1202 (-2.69)	-1.1599 (-2.82)
Return on equity - acquirer	-0.2634 (-0.41)	-0.7865 (-1.00)	-2.1947 (-2.16)	-2.3277 (-2.56)	-2.3593 (-2.24)	-2.3432 (-2.22)
Leverage - acquirer	-1.0627 (-0.96)	-0.9424 (-0.79)	-1.9184 (-1.44)	0.6567 (0.64)	0.7447 (0.68)	0.5898 (0.56)
Cash - acquirer	-2.2708 (-1.19)	-3.8853 (-1.92)	-5.9591 (-2.60)	2.8972 (1.81)	2.3273 (1.34)	2.3607 (1.35)
Intra-industry M&A	-0.5033 (-1.46)	-0.7962 (-2.01)	-1.6755 (-3.43)	0.6706 (1.83)	0.6327 (1.64)	0.7170 (1.78)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	150	150	150	159	159	159

Table XI
Abnormal Returns Obtained by Investors Holding Stock of Firms Involved in
Mergers and Acquisitions

This table presents the average combined premiums earned in mergers and acquisitions in our sample. Panel A shows separately target and acquirer firm cumulative abnormal returns in US dollars for a window of (-5,+5) trading days around the deal announcement day measured using as benchmark model a two-factor international market model with parameters estimates on one year of prior daily data. Panel B uses (-10,+10) trading days event window. Panel B uses (-63,+63 or delist) trading days event window. The first row of each panel presents the combined returns earned by all target and acquirer firm shareholders using market capitalizations capitalization as weights. The second row of each panel presents the combined returns earned by foreign target and acquirer firm shareholders. The third row of each panel presents the combined returns earned by the common target and acquirer firm shareholders (cross-owners). Averages are presented separately for the sample all deals and for the sample of cross-border deals.

	All M&A Deals		Cross-border M&A Deals	
	Observations	Average	Observations	Average
Panel A: Cumulative Abnormal Return (-5,+5)				
All shareholders (combined premium)	654	0.0196	177	0.0182
Foreign shareholders in target and acquirer	637	0.0121	176	0.0190
Common shareholders in target and acquirer	408	0.0169	125	0.0256
Panel A: Cumulative Abnormal Return (-10,+10)				
All shareholders (combined premium)	654	0.0228	177	0.0193
Foreign shareholders in target and acquirer	637	0.0167	176	0.0227
Common shareholders in target and acquirer	408	0.0214	125	0.0302
Panel A: Cumulative Abnormal Return (-63,+63 or until delisting)				
All shareholders (combined premium)	655	0.0380	177	0.0268
Foreign shareholders in target and acquirer	638	0.0246	176	0.0323
Common shareholders in target and acquirer	408	0.0376	125	0.0630

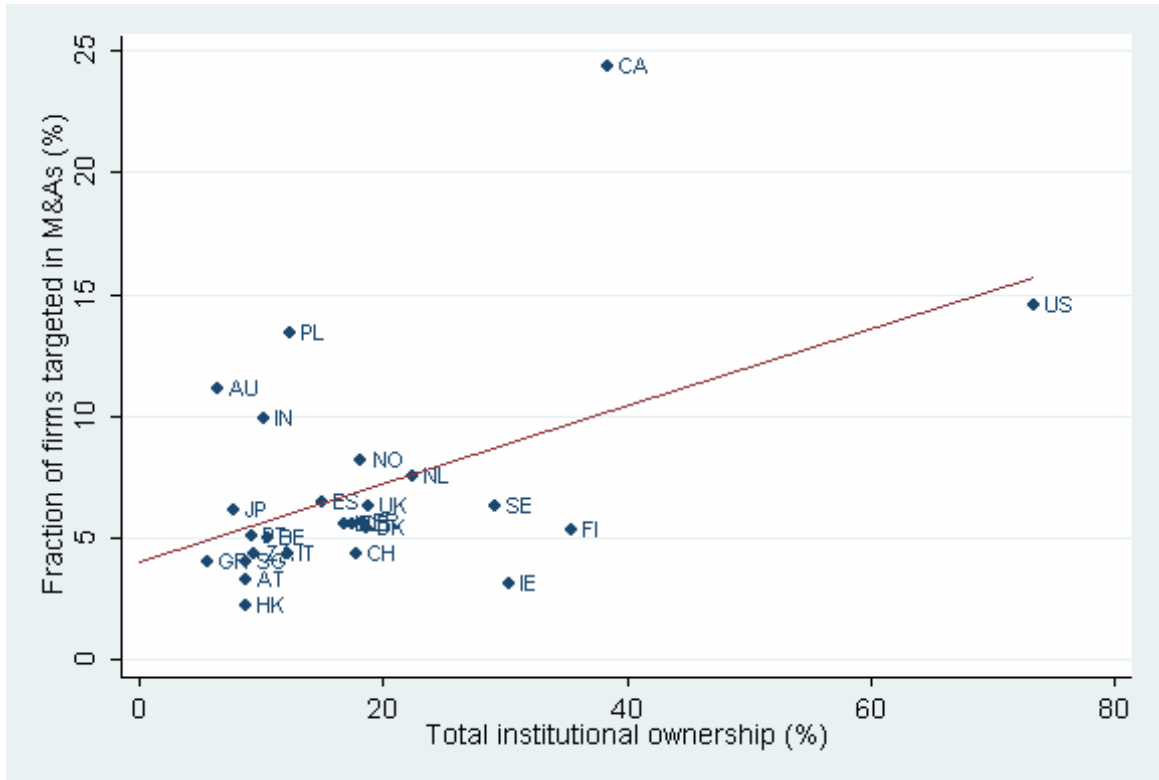


Figure 1. Institutional Ownership and the Volume of Mergers and Acquisitions across Countries. This figure plots the volume of mergers and acquisitions versus the average total institutional ownership from 26 countries in the 2000-2005 period.

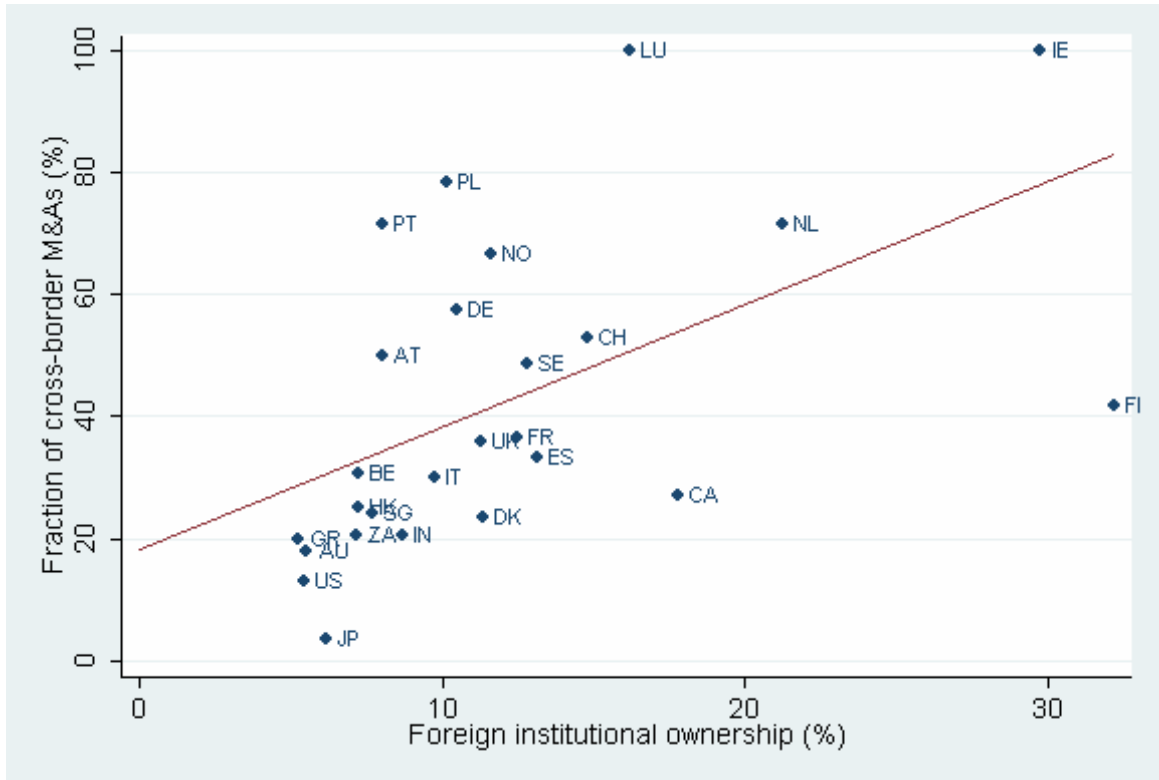


Figure 2. Institutional Ownership and the Incidence of Cross-Border Mergers and Acquisitions across Countries. This figure plots the number of cross-border mergers and acquisitions deals as a percentage of the total number of deals versus the average foreign institutional ownership from 26 countries in the 2000-2005 period.

Appendix A: Country-Level Variables Definition

Variables	Definition
Panel A: Country-Level M&A Variables	
Volume of M&A	Annual percentage of listed firms targeted in a completed M&A deal (SDC).
Cross-border M&A ratio	Annual percentage of completed M&A deals relative to the total number of deals with a foreign acquirer (SDC).
Cross-border M&A pair	Annual 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 (SDC).
Panel B: Country-Level Institutional Ownership Variables	
Total institutional ownership	Holdings (end-of-year) of all institutions in stocks of country i divided by the market capitalization of country i (FactSet/LionShares).
Domestic institutional ownership	Holdings (end-of-year) by all institutions domiciled in the same country i in which the stock is issued as a percentage of the market capitalization of country i (FactSet/LionShares).
Foreign institutional ownership	Holdings (end-of-year) by all institutions domiciled in a different country from the country i where the stock is issued as a percentage of the market capitalization of country i (FactSet/LionShares).
Cross-country institutional holding	Holdings (end-of-year) by institutions from country j (acquirer firm country) in stocks of firms from country i (country of target firm) as a percentage of market capitalization of country i (FactSet/LionShares).
Panel C: Country-Level Control Variables	
GDP per capita	Annual gross domestic product per capita in US dollars (WDI).
GDP growth	Annual growth rate of gross domestic product (WDI).
Common law	Dummy variable that equals one when a country has an English common law origin, zero otherwise (La Porta et al. (1998)).
Anti-director rights	Index of the level of protection of minority shareholders (La Porta et al. (1998)).
Accounting standards	Index of the quality of accounting standards (La Porta et al. (1998)).
Ownership concentration	Average equity stake owned by the 3 largest shareholders in the 10 largest non-financial firms (La Porta et al. (1998)).
Market return	Average annual stock market return (Datastream).
Market competition	Survey-based measure of the level of competition in product markets (Global Competitiveness Report).
Openness	Survey-based measure of openness of the market of corporate control to foreign investors trying to acquire control of a domestic firm (Global Competitiveness Report).
Same language	Dummy variable that equals one when target and acquirer countries share the same official language, zero otherwise (World Factbook).
Same geographical region	Dummy variable that equals one when target and acquirer countries are from the same geographical region (America, Africa, Asia, or Europe), zero otherwise (World Factbook).
Industry structure	Measure of industrial structure overlap between target and acquirer firm countries, defined as the sum of the squared differences in industry (stock market) weights between country pairs (Datastream).
Bilateral trade	Value of imports by country i from country j as a percentage of total imports by country (Comstat).
Panel D: Country-Level Instrumental Variables for Institutional Ownership	
MSCI percentage	Percentage of firms from a country with shares included in the MSCI World index (MSCI).
Cross-listing percentage	Percentage of firms from a country with shares cross-listed on U.S. exchanges (ordinary listings and level 2 and 3 ADRs) (Depositary institutions and stock exchanges).
Share turnover	Annual stock market trading volume as a percentage of GDP (WDI).
Dividend yield	Annual dividend yield (value-weighted average across stocks in a country) (Datastream).
Short-selling restrictions	Dummy variable that equals one if there are short selling restrictions in a country (Bris et al. (2007)).
Statutory dividend tax rate	Annual statutory dividend tax rate (OECD).

Appendix B: Firm-Level Variables Definition

Variables	Definition
Panel A: M&A Deal-Level Variables	
Cross-border target dummy variable	Dummy variable that equals one if na M&A deal is cross-border, and zero otherwise (SDC).
Success dummy variable	Dummy variable that equals one if an M&A cross-border bid is successful (status completed), and zero otherwise (SDC).
Full control dummy variable	Dummy variable that equals one if an M&A cross-border bid is for 100% of target firm shares, and zero otherwise (SDC).
Abnormal premium target	Cumulative abnormal return in US dollars in na event window around the deal announcement day measured relative to a two-factor international market model estimated using a year of prior daily data (Datastream).
Intra-Industry M&A	Dummy variable that equals one if acquirer and target firms are in same one-digit SIC industry (SDC).
Panel B: Firm-Level Institutional Ownership Variables	
Total institutional ownership	Holdings (end-of-year) of all institutions divided by the market capitalization (FactSet/LionShares).
Domestic institutional ownership	Holdings (end-of-year) of all institutions domiciled in the same country in which the stock is issued as a percentage of the market capitalization (FactSet/LionShares).
Foreign institutional ownership	Holdings (end-of-year) of all institutions domiciled in a different country from the where the stock is issued as a percentage of the market capitalization (FactSet/LionShares).
Panel C: Firm-Level Control Variables	
Size (log)	Annual (end-of-year) market capitalization in US dollars (WorldScope item 02999).
Book-to-market (log)	Book-to-market equity ratio defined as end-of-year market value of equity (WorldScope 02999) divided by book value of equity (WorldScope item 03501).
Investment opportunities	Two-year geometric average of annual growth rate in net sales in US dollars (WorldScope 01001).
Annual stock return	Annual stock return (Datastream item RI).
Return-on-equity	Return-on-equity (WorldScope item 08301).
Leverage	Ratio of total debt (WorldScope item 03255) to total assets (WorldScope item 02999).
Cash	Ratio of cash and short term investments (WorldScope item 02001) to total assets (WorldScope item 02999).
Foreign sales	Foreign net sales (WorldScope item 07101) as a proportion of total net sales (WorldScope 01001).
Closely held shares	Number of shares held by insiders as a proportion of the number of shares outstanding (WorldScope item 08021).
Governance score	Corporate governance score (ISS).
Panel D: Firm-Level Instrumental Variables for Institutional Ownership	
MCSI dummy variable	Dummy variable that equals one if a firm's shares are included in the MSCI World index (MSCI).
Cross-listing dummy variable	Dummy variable that equals one if a firm's shares is cross-listed on U.S. exchanges (ordinary listings and level 2 and 3 ADRs) (Depositary institutions and stock exchanges).
Share turnover	Annual stock market trading volume defined as number of shares traded (Datastream item UVO) divided by number of shares outstanding (Datastream item NOSH).
Dividend yield	Annual dividend yield (WorldScope item 09404).
Short selling restrictions	Dummy variable that equals one if there are short selling restrictions in a firm's country (Bris et al. (2007)).
Dividend tax rate	Annual statutory dividend tax rate of a firm's country (OECD).
Number of tax treaties	Number of dividend tax treaties of a firm's country with all other countries (Tax Analysts).