

Utilizing Management Technology Advantages in Cross-Border Acquisitions

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Abstract

A growing literature documents that management quality accounts for an important portion of the differences in productivity across firms and countries. One route through which management practices could affect productivity is through mergers and acquisitions. In this paper, I investigate the role of management quality on cross-border acquisition activities and outcomes. I find that cross-border deal volume is positively associated with management quality differences across countries and firms. Firms with better management practices are more likely to be the acquirers. Acquisition premia paid to the target are positively related to the difference in management quality between the acquirer and target firms. Managers of the target firm are more likely to quit when the acquiring firm has better management practices. Lastly, target firms are less likely to be divested post-acquisition when acquirer firms have better management practices. My results indicate that management as a strategic intangible asset plays an important role in the cross-border acquisition plans, activities and outcomes.

JEL Classification: D22, F21, F23, G34, L2, M14, M16

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1 Introduction

A growing literature in the last two decades documents that management quality may explain an important portion of the differences in productivity across firms and countries. While there is dispersion in productivity in both developed and developing countries, dispersion is significantly larger in the latter (Bartelsman, Haltiwanger and Scarpetta, 2013). Bloom et al (2016) find that differences in management practices account for 30% of the cross-country total factor productivity (TFP) differences. At the firm level Bruhn, Karlan and Schoar (2017) and Bloom et al (2013) use field experiments to show a causal effect from improving management practices to increases in productivity. The question, then, is what drives management practices, and how firms can improve them.

The finding that management quality differs significantly across countries (Bloom et al. 2007, 2016) suggests that one route through which management practices can effect productivity of firms is through cross-border mergers and acquisitions. Cross-border acquisitions has grown notably in recent decades and the number of cross-border deals has reached to 47% of all M&A deals in 2007 (Erel, Liao and Weisbach, 2012). Given the large differences in management quality across countries, it is natural to ask whether these differences are related to cross-border acquisition activity and outcomes. In this paper, I provide novel evidence that management differences across countries are related to the direction and volume of cross-border acquisitions. Moreover, I present that firm-level management differences are related to the direction of deals, acquisition gains, manager turnover and post-deal success of cross-border acquisitions.

The academic literature has contrasted two competing approaches to modeling management: “Management as design (MAD)” and “Management as a technology (MAT)”. The design approach views each firm as different and concludes that optimal management practices of each firm depends on the environment firm operates (Gibbons and

Roberts, 2013). As a result, there is no universally good or bad management practices (Woodward 1958). Considering the role of management in acquisitions, the design model does not have a prediction about which type of firms should be buyers or targets. The main prediction of the design perspective is that the number of acquisitions and the gains from acquisitions should increase in the similarity of the management quality of acquirer and target firms.

Conversely, the management as a technology approach views some management practices as better than others for firms in a wide range of environments (Taylor 1911, Bloom et al 2016). In the MAT perspective management enters a firm's production function like a technology factor that raise TFP. From the MAT perspective, management can be seen as an intangible capital stock in a firm's production function.¹

The MAT perspective gives a clear prediction about the relation between management quality and cross-border acquisitions. When combined with the internalization theory of international expansion, the MAT model predicts that home country firms with higher management quality should buy host country firms with lower management quality. Internalization theory predicts that firms can create value from foreign acquisitions by utilizing their intangible assets on the immobile assets of foreign targets (Hymer 1976). The theory implies that an acquirer brings inherent advantages such as knowledge-based assets or technology to the target to increase productivity or to decrease costs. These knowledge based proprietary assets are assumed to be easily transferable at a relatively low cost (Markusen 1995). Proprietary assets can be trademarks, patents, human capital of employees, reputation and management capital. I propose that firms with high management quality seek to deploy their management technology abroad via

¹ Bloom et al (2016) explains that they use the technology terminology instead of intangible capital because of evidence suggesting management spillovers within and between firms (e.g. Greenstone, Hornbeck and Moretti (2010), Atalay, Hortascu and Syverson (2014)). However, they acknowledge that either terminology could be used and they give the example of R&D technology stock being recorded as intangible capital input by Bureau of Economic Activity in U.S. National Accounts.

foreign acquisitions and utilize their intangible management capital on the tangible assets of the target. Nocke and Yeaple (2007) develops a general equilibrium model with heterogeneous firms and makes similar predictions regarding the nature of cross-border acquisitions. There is also micro evidence on multinational firms transferring their management practices and organizational model to their foreign affiliates (Bloom et al (2012) and Marin et al (2017)). Heyman et al (2016) find that the global management practices of multinational enterprises (MNE) are significantly correlated with the productivity of their foreign affiliates. Their study shows that a transfer of ownership of Swedish firms from Luxembourg or Norway, which have the lowest estimated MNE management quality, to the USA, which has the highest estimated management quality, increases the productivity of affiliate firm by 18%. Fresard et al (2017) also show that firms from countries with higher industry specialization are more likely to buy foreign firms in countries that are less specialized in the same industry. My results provide support for the findings of these earlier studies, but more importantly, I provide novel evidence that the difference in quality of management is an important factor for the acquisition decisions and outcomes, consistent with management capital being a strategic intangible asset that MNEs utilize to create value. I show that management capital affects the international expansion activities of the MNEs and also relate to several acquisition outcomes such as management turnover and divestitures.

An alternative hypothesis could be that firms with lower management quality could be more likely to buy foreign targets with high management quality to increase their own management capital. This would predict that firms in countries with lower management quality should be more likely to be acquirers. The literature provides some explanations to why this alternative hypothesis is less likely. Firstly, incumbent managers of the firms with lower management quality may have misconceptions about the quality of their management practices. They may overestimate the quality of their management

practices, therefore fail to estimate correctly how much their firm's performance would improve when they adopt new management practices through acquisitions. Secondly, managers may lack the motivation to improve management practices. They may know that their firm has inferior management practices but do not make an effort to improve because the lack of competition in the market gives them insufficient incentives to adopt better management practices through acquisitions. Thirdly, improving management quality through acquisitions may not be optimal for some firms due to costs and these firms may prefer to improve their management practices by receiving consulting services. Fourthly, firms with lower management quality are likely to be more constrained than ones with higher management quality when it comes to finding resources for acquisitions. Bruhn, Karlan and Schoar (2010) emphasize that to access inputs like capital or labor, or the capacity to plan foreign acquisitions in our case in itself requires managerial inputs, e.g. to forecast the capital needs of the firm, plan the process by which to approach lenders, invest the obtained resources, etc. In other words, management itself is central in shaping capital decisions and investment strategies of a firm. As a result, firms with low management quality usually lack the essential management capital to prepare for and to make strategic investments such as cross-border acquisitions. The distribution of the management score difference and the selection analysis at the deal level suggest that firms with lower management quality are more likely to be the target in acquisitions.

To estimate the relationship between differences in management quality and the flow and direction of cross-border acquisitions, I employ a gravity model similar to the ones used in the international trade literature. I follow the recent studies on cross-border M&A literature and use a similar specification to Fresard et al (2017), Ahern et al (2015) and Karolyi and Taboada (2015) in addition to measures of management quality. To measure the quality of management practices I use the World Management Survey (WMS) data collected by Bloom et al (2014) on over 11,000 firms in 34 countries

between 2004 and 2014. My WMS sample includes 25 countries with 10,128 firms for the period 2004-2014.² I also use a large sample of 34,081 cross-border M&A deals with acquirers and targets from 24 WMS countries between 2001 and 2015 cumulatively valued at \$2.9 trillion.³ First, I find that countries with low management quality are more likely to be target in cross-border acquisitions. Moreover, I find that volume of cross-border deals between two countries increase with the difference in management quality between the acquirer and the target. These results hold even after including a full set of country-pair controls and time-varying acquirer country fixed effects and time-varying target country fixed effects. The effect of management quality differences on cross-border acquisitions is economically large. One standard deviation increase in the management score difference is associated with 0.85 standard deviation increase in the mean cross-border deal number in a year during the sample period. As a robustness test, I also conduct an interregional analysis by analyzing the acquisitions between nine different census regions in the USA. In this setting, I control for regional cultural differences, distance, economic difference and time-varying region fixed effects. All the results from previous cross-country level analysis hold in the interregional analysis. The effect is economically large and statistically significant.

Then, I examine cross-border acquisitions at the deal level concentrating on the management quality difference between the acquirer and target firms. Since only a small portion of the survey firms participate in cross-border acquisitions, I infer management quality by matching targets and acquirers with WMS survey firms based on country, two-digit SIC industry and size (total assets or total employee).⁴ Similar to country-level

² I do not have the survey data for African countries but my sample includes all of the survey observations for non-African countries. I also drop Nicaragua from my analysis due to missing many country-pair level control variables. The USA has the highest average management score of all countries and management presents a wide dispersion across firms within all countries.

³ Deal value is missing for more than half of the deals, therefore cumulative value of the deals should actually be bigger than \$2.9 trillion.

⁴ I do not have financial information for the half of the survey firms. Therefore I conduct a simple matching between survey and deal firms to be able to use the total variation of survey firms' manage-

results, I find a significant difference between the acquirer's and target's management quality scores. In 66% of the deals, acquirers have better management than targets have. I also find that the magnitude of the management quality difference between acquirer and target is positively correlated with firms' participation in cross-border deals controlling for acquirer, target and country pair characteristics, and industry, country and year fixed effects.

Greater management differences also lead to higher bid premia paid to targets. All else equal, one standard deviation increase in the management difference is associated with a 29 percentage point or 0.35σ increase in the bid premia. Then, I examine the job spells of target firm's top management team and find that greater management difference is associated with higher probability of target managers leaving the firm. This result does not hold if I examine only CEO job spells where I do not find a significant effect. Finally, I analyze the success of an acquisition based on whether the target is divested during the following years after deal completion following the methodology of Kaplan and Weisbach (1992). I find that ex-post resale probability of a target significantly decreases by 15% to 48% when the difference in management quality increases by one standard deviation.

This study relates to growing literature on how management practices affect firm performance and country level productivity. As explained earlier, there are two main views in this literature: the "best practice" view of management, upon which MAT model is based, and the "contingency view" which is the basis of the Design model of management. My findings are more in line with the best practice view. Some recent papers in this literature include Ichniowski, Shaw and Prenusshi (1997), Bertrand and Schoar (2003), Bloom et al (2013), Bloom et al (2016), Bruhn, Karlan and Schoar (2017) which also find support for the best practice view.

ment scores. I am in the process of collecting financials for the missing half, which will enable me to employ a more detailed matching or estimation to predict management scores of deal firms.

My results also contribute to a growing literature in corporate finance analyzing the determinants and outcomes of cross-border acquisitions. Recent studies show that cultural distance decreases the volume and gains from cross-border acquisitions (Ahern et al 2015), benefits from cross-border acquisitions are higher if there are institutional investors (Ferreira et al 2010), regulatory differences are positively related to deal flows and returns (Karolyi and Taboada 2015), acquisitions improve investor protection within target firms (Rossi and Volpin 2004), and that acquirers exploit changes in exchange rates that affect the relative market valuation (Erel et al 2012). I contribute to this literature by showing that management quality differences across countries and firms are significantly related to the volume, direction and gains from cross-border acquisitions.

This study also relates to the literature emphasizing the importance of intangible assets for the expansion of multinational firms. My results provide support for the view that management capital is a strategically important intangible asset that is utilized in the expansion of multinational firms. Some of the recent papers in this literature emphasize that the affiliates of US MNEs obtain higher productivity gains from information technology investments in comparison to non-US MNEs due to their better people management practices (Bloom et al 2012), more productive French firms are more likely than their less efficient competitors to invest in relatively tough host countries (Chen and Moore 2010), international organization of production is fundamentally different from one industry to another, depending crucially on the nature of firm heterogeneity (Nocke and Yeaple 2007), cross-border takeovers are more frequent in research and development intensive industries (Harris and Ravenscraft 1991).

2 Data and Summary Statistics

2.1 Mergers and Acquisitions Data

To examine the relationship between management quality and cross-border acquisitions, I build a sample of cross-border and domestic acquisitions from the Bureau van Dijk (BvD) Zephyr database. Since my goal is to analyze the relationship between management and cross-border acquisitions using management data from WMS database, I limit my mergers and acquisitions sample to deals from the 24 countries that I have management data on. My sample includes deals announced and completed between 2001 and 2015. I exclude the deals in which the acquirer or the target is a financial firm because my measure of management quality is constructed by surveying non-financial firms. Although my acquisitions sample includes deals only from the management survey countries, my sample is quite large. For my sample period, total deal value of the all completed non-financial cross-border deals in the Zephyr database equals to \$11.7 trillion. Total deal value of my initial sample (24 countries) equals to \$5.8 trillion. In other words, my sample countries account for 50% of global cross-border acquisitions. I consider deals in which the acquirer takes control of the target and owns more than 50% of the target shares after deal completion. In line with the M&A literature I drop restructurings, rights issues, demergers, share buybacks and partial equity stake purchases (e.g. Erel et al 2012, Fresard et al 2017, Karolyi and Taboada 2015). My final sample includes 34,081 cross-border deals valued at \$2.9 trillion in total, as well as 153,917 domestic deals valued at \$10.1 trillion in total. These total deal value numbers are both an underestimation, because 58% of the cross-border acquisitions and 63% of the domestic acquisitions in my sample have missing deal values. This situation is not unique to Zephyr M&A database; for instance, in SDC Platinum database 56% of the deals completed during my sample period have missing deal values.

Table 1 provides the total domestic and cross-border deal numbers of the sample countries. Acquirer nations are located on the rows, target nations are located on the columns. The countries are ordered according to their management quality. I explain how I calculate country level management scores in the next section, Management Data. Looking at Table 1, we quickly notice that the USA is the biggest target and acquirer nation in cross-border acquisitions. It has also the largest domestic M&A market as expected. We notice from the last row in Table 1 that 18% of all acquirers are foreign in the sample. The share of foreign acquirers are the lowest in Japan (5%) and the highest in Mexico (67%).

Figure 1 shows the top 5 cross-border M&A markets among my sample countries considering deal numbers. We see from Figure 1 that cross-border acquisitions increased until 2007 and dipped in 2009 after the financial crisis. USA is the biggest market for cross-border mergers and acquisitions. It is also noticeable that the number of deals involving Chinese targets has not yet recovered to pre-2007 levels. Figure 2 shows the top-5 cross-border M&A markets among my sample countries based on deal values. The first notable pattern is the sharper fluctuations in deal value in comparison with Figure 1. In Figure 2, China gives its place to Australia in the top-5 cross-border M&A markets, since total value of cross-border deals in Australia surpass China. Another striking fact from the comparison of two figures is that the total deal value of US targets increased considerably between 2009 and 2014 although total deal number stayed steady. Also, total deal value of all acquisitions announced in 2014 topped the total value from 2007.

In the deal-level analysis I investigate several questions regarding the relationship between management differences and cross-border acquisitions. In order to obtain accounting information I match the acquirer and target firms from the cross-border deals sample with the BvD Amadeus and Orbis databases using BvDID numbers. Out of the 34,081 deals in my sample, I am able to get the acquirer's accounting information for the

announcement year or the year before for 11,952 deals. Likewise, I am able to recover accounting information of the target for 9,557 deals. Ultimately, I get the accounting information of both acquirer and target firms for 7,701 deals. I also collect the stock price data of deal firms using the ISIN codes from Thomson Reuters Datastream. The stock price data is used for computing the bid premia. The bid premia are calculated using the offer price and the target's stock price ten days prior to deal announcement.

2.2 Management Data

To measure the quality of management practices, I use the World Management Survey dataset from Bloom et al (2014).⁵ The WMS dataset includes firm-level management data from 34 countries and it is used in several papers.⁶ The survey was conducted in five waves between 2004 and 2014. The survey tool was developed by an international consulting firm and it evaluates the management quality of firms on 18 basic management practices in four areas namely operations, monitoring, people management and target setting. Every surveyed firm is scored from 1 (worst) to 5 (best) on each management practice. The scores given to 18 management practices are then averaged and assigned to the firm as its overall management score. Survey questions and example scores taken from the 2010 WMS instrument are given in the appendix. The survey was implemented on medium-sized (50-5,000 workers) manufacturing firms through phone interviews with plant managers. Medium-sized firms employ half of the manufacturing workers in survey countries (Bloom et al 2016). To increase the accuracy of the survey, managers are not told that they are being scored during the interviews. The interviewers also do not have information about the performance of the firms in advance. Earlier waves include a smaller set of countries, though the scope of the survey has expanded through time.

⁵ I thank the project partners and the fellows of the WMS for sharing survey data with me.

⁶ e.g. Aghion et al 2017, Bloom et al 2013. More detail about the survey data can be found at <http://worldmanagementsurvey.org>

My initial WMS sample includes firms from 25 countries. I was not able to get the survey data for African countries, but African firms are not very active in the cross-border M&A market. My WMS sample includes 10,247 firms and 14,321 interviews. The whole WMS sample (34 countries) includes 11,383 firms and 15,489 interviews, so my sample includes 92% of the all interviews conducted. I dropped Nicaragua from my analysis due to missing several country-pair control variables. The survey includes both domestic firms and foreign multinational firms located in a country. For instance, a foreign multinational named “Company X” may be headquartered in country H, but may have plants (subsidiaries) in country P. If a subsidiary of Company X is surveyed in country P by the WMS team, an identifier is given to that subsidiary showing that it is owned by a foreign multinational firm. I exclude the subsidiaries of foreign multinational firms from my management sample. The rationale behind this choice is that subsidiaries of the foreign multinationals are more likely to represent the management quality of their ultimate owners independently from their location. Average management score of the foreign subsidiaries are higher than the average management score of domestic firms (including domestic multinationals) in every country in my sample. This stylized fact is also documented in the earlier studies that use the WMS data. This fact suggests that multinationals transfer their management practices abroad successfully. It also supports the predictions of the internalization theory of international expansion (Hymer 1976). After dropping foreign subsidiaries my final sample includes 7,691 firms and 10,542 interviews from 24 countries.

I compute the average management score of a country by taking weighted average of the management scores from all interviews conducted in that country. The weight is the employment share of the firm in its country. Table 2 presents the average management score of all countries with the number of cross border deals. The USA has the highest management scores of all while Argentina has the lowest. The USA is also the biggest

target and acquirer country in cross-border acquisitions. Columns 1 and 3 show for each country the number of manufacturing and non-financials deals respectively in which the acquirer is from that specific country. Similarly, columns 5 and 7 show for each country the number of manufacturing and non-financials deals respectively in which the target is from that specific country. Columns 2, 4, 6 and 8 present the share of each country in total cross border acquisitions. For instance, column 2 shows the share of each country as acquirer in total cross-border deals (manufacturing). Column 4 presents the share of each country as acquirer in total cross-border deals in which both acquirer and target are non-financial firms. Column 9, the target ratio presents, using non-financial deals, the ratio of the number of deals in which a country is target to the total number of deals in which a country is either target or acquirer. Looking at the Table 2, we notice that firms from high management quality countries make more cross-border acquisitions. 58% of all acquirer firms come from the top five countries with the highest management scores, however only 42% of all target firms are from the top five countries with the highest management scores. Although only 4% of the acquirers are from the bottom five countries with the lowest management scores, 15% of the targets are from the bottom five countries with the lowest management scores. Ireland and Greece are outliers in Table 2, since both countries are more likely to be the acquirer in cross-border acquisitions although they have low management scores. Figure 3 also shows that Target Ratio is negatively correlated with the management scores. To sum up, in cross-border acquisitions firms from countries with greater management quality are more likely to be the acquirers while firms from lower management quality countries are more likely to be the targets.

In the deal level analysis, I need the management scores for the deal firms but only a small portion of the management survey firms show up in the cross-border acquisitions sample. 369 WMS firms show up as an acquirer while 108 WMS firms show up as

a target in the cross-border deals sample. In this study, I match the deal firms to survey firms based on their country and industry (two-digit SIC), then I identify the survey firm that is closest to the deal firm in terms of its size (total assets or total employee number) and assign the management score of the closest survey firm to the deal firm. The WMS survey is conducted only with manufacturing firms, therefore I cannot match non-manufacturing deal firms on their industry code. I match them on their country and then identify the closest survey firm in terms of size and assign the management score of the closest survey firm to the deal firm. The main reason that I apply this simple matching to the survey firms and the deal firms is the shortage of accounting information.⁷ Unfortunately, I am missing accounting information for half of the management survey firms. Some of these firms have no accounting information in the Orbis database. More importantly, for the majority of the missing survey firms, unique firm identifiers have changed or canceled, and as a result I cannot retrieve accounting information from the BvD Orbis database. For instance, the USA has 836 unique firms in my WMS sample but I am able to retrieve accounting information only for 15 US firms. The WMS itself provides the total employee numbers and SIC codes of almost all survey firms, therefore I use them and the total assets account (if available) in matching. For now, I choose to keep all the 7,691 firms in my WMS sample and do the simple matching I described above. Nevertheless, I have contacted the data vendor and I am going to employ a detailed matching or a machine learning algorithm to predict management scores of the deal firms when I get the missing accounting data for survey firms.

⁷ One can try to predict the management scores of the deal firms via regression analysis. Alternatively, one can also predict the management scores of the deal firms by using machine learning algorithms. The WMS sample firms can be used to train the machine learning algorithm, and then the management scores of the deal firms can be predicted. All of these methods require accounting information to some extent.

2.3 Other Determinants of Cross-Border Acquisitions

Previous research has shown that there are several other factors that may affect the cross-border acquisition activity. I control for these potential factors because some of them may be correlated with the management quality. Definitions of all variables and data sources are given in the appendix.

Culture has been shown to have a significant impact on economic outcomes and there are several cultural measures used in the literature. For instance, Guiso, Sapienza and Zingales (2008) finds that lower bilateral trust leads to lower economic activity between two countries.⁸ Ahern et al (2015) finds that greater cultural distance measured in trust, hierarchy and individualism leads to less cross-border mergers and lower merger gains. In my analysis I control for trust, individualism and belief in competition. These variables are taken from the World Values Survey which is the most often applied data source for cultural measures by economists. Other cultural variables that seem to affect cross-border economic activities are religion and language. I obtain the primary language and the most common religion of every country from Central Intelligence Agency's (CIA) World Factbook.

Previous literature has documented that the legal origin of a country is correlated with its legal rules and regulations, as well as with economic outcomes. Several studies in the cross-border M&A literature also shows that similarity of the legal systems across countries is positively correlated with cross-border deal volumes between countries. I record the legal origin of a country as English, German, French or Scandinavian using the data from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

To control for governance and development I use the governance index from Kauf-

⁸ They obtain their measures of trust from a set of surveys conducted by Eurobarometer and sponsored by the European Commission.

mann, Kraay, and Mastruzzi (2009). This index is the average of six indicators: Control of corruption, government effectiveness, political stability and absence of violence, regulatory quality, rule of law, and voice and accountability. To control for economic and financial development I use the log of Gross Domestic Product (GDP) per capita (log GDP per capita) and growth rate of real GDP (GDP Growth). These measures are taken from the World Bank's World Development Indicators database. I obtain from the Bank for International Settlements (BIS) the record of total credit to non-financial private sectors as a percentage of GDP (Credit to Private Non-fin Sector) in every sample country. Froot and Stein (1991), and Erel et al (2012) presents that currency movements may help to explain the cross-border acquisition activity. Following Erel et al (2012), I control for the annual real bilateral exchange rate return in the year preceding the acquisition announcement year and nominal bilateral exchange rate volatility during the 24 months preceding the announcement year. I also control for the annual real stock market return for the year preceding the announcement year.

To control for a country's level of trade I calculate the ratio of imports and exports to GDP and refer to it as Openness. I also control for the bilateral trade between countries. Bilateral trade is the maximum of bilateral import and export between a country pair. Bilateral import (export) is calculated as the value of imports (exports) by the target country from (to) the acquirer country as a percentage of total imports (exports) by the target country. Barthel et al (2010) shows that foreign direct investment (FDI) flows between country pairs are larger if they have signed a double-taxation treaty. I include an indicator variable in my analysis to record if two countries have signed a double-taxation treaty before or on the announcement year. These measures are calculated using the data from United Nations' World Integration Trade Solution database.

Lastly, geographical distance is one of the most often used factors in the theoretical models and empirical studies in trade literature (Eaton and Kortum, 2002). International

trade and cross-border M&A studies show that greater geographical distance reduces the economic activity between country-pairs. To account for geographical distance, I include the log of the great circle distance in kilometers (log Distance) between the capitals of country pairs as a control. I also include an indicator variable to record if two countries share any borders. These variables are obtained from the Centre D'Etudes Prospectives et D'Informations Internationales (CEPII) database.

2.4 Summary Statistics

Table 3 presents the summary statistics of variables. In my analysis, all country level variables are absorbed by time-varying country fixed effects, but I still present the summary statistics of the country level variables in Panel A to provide a full picture of the sample.

Country-pair level variables are presented in panel B. I have 24 countries and 15 years of sample period, resulting in a panel with 8,280 (24x23x15) country-pair-year observations. For a country pair (j,i) in year t, cross-border deal volume is the total number of deals in year t from the acquirer nation j to the target nation i. Cross-border ratio equals to cross-border deal volume in year t between the acquirer nation j and the target nation i divided by the total number of deals in the target nation i in year t. My main sample includes all deals in which both the acquirer and the target are non-financial firms. I also have a restricted sample of deals with only manufacturing firms. The mean cross-border deal volume is 4.16 and the median is zero. As would be expected, cross-border acquisitions are concentrated between certain country pairs. Similar to other cross-border M&A studies, it is very common that most of the country pairs have no mergers at all. For instance, both Fresard et al (2017), and Karolyi and Taboada (2015) report that close to 90% of their possible cross-border pairs have zero

deals. In my main sample, there is no deal in 54% of the country-pair-years. The share of country-pair-year observations with no deals increase to 69% in the restricted manufacturing sample. From panel B, we observe that 36% of the pairs have the same religion and 35% have the same legal system. Double-tax treaties are also very common (76%) between countries.

Deal level variables are presented in the panel C. A quick glance at panel C, reveals that acquirers have better management than targets in most deals. A simple t-test shows that the management quality difference between the acquirer and the target is significantly positive at the 1% statistical significance level. There are also similarities between the acquirer and target firms such as 43% of the acquirer and the target firms belonging to the same three-digit SIC industry. Looking at the financials we see that targets on average have higher cash and debt in their balance sheet in comparison to acquirers. On average targets have lower returns on their assets which is consistent with the prediction that more productive firms should be more likely to be the acquirers in cross-border acquisitions. Additionally, the acquirers are larger than the targets.

3 Country-Level Analysis

In this section, I present the empirical strategy and the results at the country-pair level, then I replicate the country-pair level analysis on the US data, by considering acquisitions across nine US regions.

3.1 Management Quality and The Direction of Cross-Border Acquisitions

In this subsection, I show how management quality of a country and the country's role as either acquirer or target in cross-border acquisitions are related. As illustrated in Figure 3, while management quality of a country increases, the country becomes more likely to be the acquirer in cross-border acquisitions.

For the analysis, I arrange my dataset to create a panel of 8,280 (24x23x15) country-pair-year observations. For every country pair (j,i) in year t, I compute the pair-level target ratio of country i as the total number of cross-border acquisitions in which the acquirer is from country j and the target is from country i ($j \neq i$) as a proportion of all cross-border acquisitions between country j and country i in year t. This ratio is computed in a similar way as the target ratio in Figure 3 is computed. Only difference is that this ratio is computed for each country-pair-year while the ratio in Figure 3 is computed once for each country for the whole sample period. If there are no cross-border deals between country j and country i in a given year, I drop that country-pair-year observation in this part of my analysis. In this way, I compute the pair-level target ratio for 5,160 country-pair-year observations. I compute the management score difference between the acquirer and the target nations for every country pair by subtracting target nation's management score from acquirer nation's management score. Acquirer (target) nation's management score is the weighted average management score for the acquirer (target) nation in the WMS sample. Then, I run the pair-level target ratio on the management score difference between the acquirer and the target.

Table 4 presents the results from tobit and fractional logit regressions. I repeat this analysis also with ordinary least squares estimator and get identical results. All estimators yield similar estimates for the relationship between the management quality and

the direction of cross-border acquisitions. I choose to focus on the tobit and fractional logit results because these models are more appropriate when the dependent variable is bounded between 0 and 1. From Table 4, we see that an increase in the management score difference is positively associated with the target nation's target ratio. Management score difference increases when acquirer's management score increases or target's management score decreases. The results in Table 4 indicate that countries with low management quality are more likely to be the target nation in cross-border acquisitions.

3.2 Management Quality Difference and Cross-Border Acquisitions

In this section, I conduct a more detailed analysis on the relationship between the management quality and cross-border acquisition flows. Before I move to the empirical results, I first introduce the empirical methodology I follow throughout the analysis.

3.2.1 Empirical Specification and The Poisson Pseudo-Maximum Likelihood Estimator

First, I arrange my data to create a panel of 8,280 (24x23x15) country-pair-year observations. Then I compute the cross-border deal volumes and cross-border ratio for every country-pair-year observation. For each country pair (j,i) in year t, the cross-border deal volume equals to total number of cross-border acquisitions in which the acquirer is from country j and the target is from country i ($j \neq i$). Similarly, for each country pair (j,i) in year t, I compute the cross-border ratio by normalizing the cross-border deal volume between j and i by the total deal volume (cross-border and domestic) in the target nation i in year t.

Following the recent literature on cross-border mergers and acquisitions, I apply a

gravity model to analyze the relationship between the management quality and deal flows.⁹ The gravity model is one of the most used empirical models in economics to study trade flows and cross-border investments (Anderson, 2011). In my model, cross-border deal volume is a function of several country-pair characteristics, measured as differences between the acquirer and target countries. The country-pair characteristics are taken from the M&A literature and have been shown to matter for cross-border acquisitions. Apart from the differences in management quality between the acquirer and the target nations, I control for trust difference, individualism difference, belief in competition difference, same religion, same language, governance index difference, same legal system, log distance, share border, bilateral trade, openness difference, double tax treaty, log GDP per capita difference, GDP growth difference, credit to private non-financial sector difference, real stock market return difference, real bilateral exchange rate return and bilateral exchange rate volatility. To capture any time-varying country level effects, I also include time-varying acquirer and target country fixed effects in the regressions.

My dependent variables, cross-border deal volume and cross-border ratio, are equal to zero in 4,445 (54%) out of the 8,280 country-pair-year observations. Cross-border acquisitions do not happen randomly on the contrary they are concentrated between certain country pairs. Another reason that we see many country pairs with zero acquisitions might be the measurement error. It is likely that data providers miss deals between relatively small countries that have few cross-border deals every year. In this case, measurement error depends on the covariates. Researchers conducting cross-border M&A studies usually log-linearize the dependent variable (deal volume) and this amplifies the problem of zeros in the dependent variable. Jensen's inequality implies that expected value of the logarithm of a random variable is different from the logarithm of its expected value $E(\ln y) \neq \ln E(y)$. This inequality implies that interpreting the param-

⁹ See Fresard et al 2017, Ahern et al 2015, Karolyi and Taboada 2015.

eters of log-linearized models estimated by ordinary least squares (OLS) as elasticities can be highly misleading in the presence of heteroskedasticity. Another issue is that researchers often keep the observations in which the dependent variable is equal to zero and add one to the dependent variable so they can log-linearize it. These procedures create inconsistent estimators. Silva and Tenreyro (2006) argues that gravity equations, and, more generally, constant-elasticity models, should be estimated in their multiplicative form. They recommend economists to deal with these issues by applying a Poisson pseudo-maximum likelihood (PPML) estimator. The PPML estimator is designed to estimate gravity models without taking log of the dependent variable. As a result, I do not log-transform the dependent variable when I apply the PPML estimator, but I interpret the regression results as if the dependent is in log. It is shown in simulations that the PPML performs considerably better than other commonly used estimators in gravity regressions (Silva and Tenreyro 2011). PPML does not require the data to follow a poisson distribution. As long as the conditional mean is correctly specified, PPML provides consistent estimates. PPML is used in many recent studies in the trade literature and it's becoming widespread in other areas of economics employing gravity regressions.¹⁰ Although my main approach is to employ the PPML estimator, I also repeat my analysis using the ordinary least squares estimator and provide the OLS results together with the PPML results.

In the country level analysis, I run the following panel gravity regression that in exponential form is given by:

$$CB_{j,i,t} = \exp(\alpha + \beta \Delta MS_{j-i} + \gamma X_{j-i,t} + \nu_{j,t} + v_{i,t}) + \varepsilon_{j,i,t} \quad (1)$$

where $CB_{j,i,t}$ is the cross-border deal volume or cross-border ratio, ΔMS_{j-i} is the management score difference between the acquirer nation j and the target nation i , $X_{j-i,t}$ is

¹⁰ e.g. Anderson et al, 2016, Fally, 2015, Karolyi and Taboada, 2015.

the set of country-pair controls, $\nu_{j,t}$ are time-varying acquirer country fixed effects, $v_{i,t}$ are time-varying target country fixed effects, and $\varepsilon_{j,i,t}$ is the error term.

To derive the PPML estimator, I re-write my gravity equation in a more compact form:

$$CB_{j,i,t} = \exp(Z_{j-i,t}\eta) + \varepsilon_{j,i,t} \quad (2)$$

where $Z_{j-i,t}$ includes all independent variables and $CB_{j,i,t}$ is cross-border deal volume as before. The PPML estimator is a Generalized Method of Moments (GMM) estimator that solves the following optimization problem¹¹

$$\hat{\eta} = \arg_h \max \sum_{j,i,t}^n [CB_{j,i,t} \times (Z_{j-i,t}h) - \exp(Z_{j-i,t}h)] \quad (3)$$

which is equivalent to solving:

$$\sum_{j,i,t}^n [CB_{j,i,t} - \exp(Z_{j-i,t}\hat{\eta})] Z_{j-i,t} = 0. \quad (4)$$

3.2.2 Management Quality Difference, Acquisition Direction and Volume Results

Before I move to the regression results, Figure 4 shows that the average management score difference between the acquirer and the target nations in cross-border acquisitions is always positive throughout the sample period. I calculate the average management difference in year t by summing up the management differences in all cross-border deals and dividing this total difference by the total number of cross-border deals. Figure 4 supports the previous results that on average acquirer nations have better management practices than target nations.

¹¹ See Silva and Tenreyro, 2007.

Table 5 presents the results from PPML and OLS estimation of equation (1). Firstly, I find that predictions of the “management as design”(MAD) approach does not hold in cross-border acquisitions. MAD view predicts that the number of deals would increase in the similarity of management scores. In other words, MAD view would predict the absolute management difference variable in model 1 and 2 to be significantly negatively correlated with the cross-border deal volume. On the other hand, I find that the volume of cross-border acquisitions between two countries is positively correlated with the difference in management quality as “management as technology” view predicts. As the management quality difference between the acquirer and target increases, the cross-border deal volume grows, all else equal. The results in Table 5 supports the previous finding that acquirers are more likely to come from countries with better management practices.

The results in Table 5 are both economically and statistically significant. From Model 7, I compute that one standard deviation increase in the management difference (equals to difference between Germany and Portugal) is associated with a 0.85 standard deviation increase in the cross-border deal volume.¹² When I restrict my sample to deals from the manufacturing sector as in model 4, a one σ increase in the management difference is associated with a 0.19 σ increase in cross-border deal volume. Although results from OLS regressions can be misleading in gravity models, I present them in Table 5 for comparison. The dependent variable is in log in OLS regressions to make it compatible with PPML. Since more than half of my country-pair-year observations have zero cross-border mergers, I add 1 to all cross-border deal volumes before taking log of the deal volumes. In fact, adding 1 to all deal numbers may bias OLS results which is another reason to rely on PPML instead of OLS in gravity models. In column 8, a

¹² The mean cross-border deal volume is 4.116 and the σ of the cross-border deal volume is 14.769. So given the coefficient on management difference (4.123), one σ increase in the management difference (0.339) is associated with 305% ($100 * (e^{4.123*0.339} - 1)$) increase in the mean cross-border deal volume from 4.116 to 16.669 or a 0.85 σ $((16.669 - 4.116)/14.769)$ increase.

one σ increase in the management difference is associated with a 0.58 σ increase in the cross-border deal volume.¹³

The coefficients for other control variables are largely consistent with the earlier literature. Consistent with Ahern et al. (2015), distance in trust between countries is negatively correlated with the cross-border deal volumes. The governance difference is also negatively associated with the cross-border deal volumes. Recall that the governance index is an average of six indicators: voice and accountability, regulatory quality, political stability, government effectiveness, rule of law, and control of corruption. Acquirers abstain from making acquisitions in countries where these governance indicators are low. Bilateral trade is positively correlated with the deal volumes in all models except model 2 and 7 in which it is statistically insignificant. In line with the earlier studies in cross-border M&A, geographical distance decreases the deal volume. Additionally, country pairs that share the same religion, same language and same legal system have more cross-border deals. On average, acquirer nations have higher per capita income than targets. Acquirers are more likely to make acquisitions if credit supply in the target nation (as a percentage of GDP) is worse than it is in the acquirer nation.

Following the literature on cross-border acquisitions, I also compute the cross-border ratio for each country pair and repeat my main analysis using cross-border ratio instead of deal volume. This way, I implicitly control for factors that may affect the volume of both domestic deals and cross-border deals. Figure 5 presents the scatter plots of the cross-border ratio and management difference from every country-pair-year observation through the sample period which clearly shows a positive correlation between the cross-

¹³ In column 8, the mean $\log(1+ \text{C-B deal volume})$ is 0.75 and the standard deviation of $\log(1+ \text{C-B deal volume})$ is 1.042. So given the coefficient on management difference (1.389), one σ increase in the management difference (0.339) is associated with 60% ($100 * (e^{1.389*0.339} - 1)$) increase in $\log(1+ \text{C-B deal volume})$ from 0.75 to 1.201 or a 0.43 σ increase. The $\log(1+ \text{C-B deal volume})$ equals to 1.632 when C-B deal volume equals to 4.116 (mean), and one σ increase in the management difference is associated with 60% increase in $\log(1+ \text{C-B deal volume})$ from 1.632 to 2.614. When $\log(1+ \text{C-B deal volume})$ is 2.614, C-B deal volume is 12.652 ($e^{2.613} - 1$). So one σ increase in the management difference is associated with a 0.58 σ ($(12.652 - 4.116)/14.769$) increase in C-B deal volume in OLS.

border ratio and the management difference.

The regression results for the relation between the cross-border ratio and management difference is given in Table 6 and are very similar to earlier results. One σ increase in the management difference is associated with a 2.69 σ increase in the mean cross-border ratio (0.014). In the restricted manufacturing sample, one σ increase in the management difference is associated with a 1.06 σ increase in the mean cross-border ratio (0.016).¹⁴ The estimated changes in the cross-border ratio may seem high but one reason for the large changes is that the standard deviation of the cross-border ratio (0.036) is relatively small. As we see from Table 5 and Table 6, the positive relation between the management difference and cross-border deal flows holds for both normalized and non-normalized deals numbers even after controlling for a multitude of other factors.

3.3 Regional Analysis in the USA

Following Ahern et al. (2015), I repeat the earlier cross-border acquisitions analysis using a sample of acquisitions across different regions within the USA. Analyzing US domestic acquisitions allows me to control for many national factors that may affect cross-border acquisitions, since these should not vary within the USA. I divide the country into 9 different regions using the regional divisions definition of the United States Census Bureau.¹⁵

I calculate the regional culture variables from the World Values Survey. I also compute regional GDP and GDP per capita values to account for differences in economic

¹⁴ The mean cross-border ratio is 0.016 in the manufacturing sample. The σ of the cross-border ratio is 0.049. Given the coefficient (4.267) in Table 6 Model 2, one σ increase in the management difference (0.339) is associated with 325% ($100 * (e^{4.267*0.339} - 1)$) increase in the mean cross-border ratio from 0.016 to 0.068 or a 1.06 σ ($(0.068 - 0.016)/0.049$) increase.

¹⁵ The region definitions can be found at <https://www.census.gov>

development. Additionally, I include the geographic distance and share border variables in the regional analysis. Table 7 presents the US regional analysis results. Model 1 and 2 presents the results for the cross-region ratio while Model 3 and 4 presents the results for the cross-region deal volume. The cross-region deal volume for each region pair j,i ($j \neq i$) in year t is equal to the total number of deals in which the acquirer is from region j and the target is from region i . The cross-region ratio for a pair j,i in year t is equal to the cross-region deal volume divided by the total number of domestic deals in which the target is from region i . In model 5, I present the results from the OLS regression.

My results support the findings of Ahern et al. (2015). Cultural distance, mainly trust distance, and geographical distance are negatively correlated with cross-regional deal volumes. Acquirers are more likely to come from regions producing bigger economic output. In model 4, one σ increase in the management difference is associated with a 0.61 σ increase in the cross-regional deal volume. Hence, I confirm the results of the country level analysis by showing that the same relationship between the management quality differences and the acquisition flows holds in domestic deals in the USA.

4 Deal Level Analysis

The results at the country-pair level provide strong evidence that cross-border acquisitions flow from countries with better management practices to countries with worse management practices on average. In this section, I provide more evidence at the deal level regarding the direction of M&A flows, and investigate several other outcome variables such as merger gains, post merger success and manager job spells. As explained in the data section, I match the deal firms to World Management Survey firms based on their country, industry and size, then I assign the management score of the closest WMS firm to the deal firm. Summary statistics of the deal firms are given in Panel C

of Table 3. The distribution of the management score difference at the deal level shows that acquirers are expected to have better management practices than targets. Moreover, results of a simple t-test show that the management score difference between the acquirer and the target is significantly positive at the 1% statistical significance level.

4.1 Deal Level Selection

I investigate at the deal level whether difference in management quality is associated with the participation of firms in cross-border acquisitions. In this analysis I investigate whether the results from aggregate level analysis is supported at the deal level after controlling for firm characteristics, as well as country and industry characteristics.

I follow Fresard et al (2017) and create an artificial sample that comprises all possible and actual transactions constructed from all firms participating in the cross-border transactions. I pair each acquirer that acquired a firm in an industry, let's say "321" (US SIC 3 digit), in year t to each target in the same industry (321) and year t . The rationale behind the pairing is that conditional on participating in a cross-border transaction, an acquirer (target) could have found it more valuable to acquire (be acquired by) other targets (acquirers) in the same industry. To control for firm characteristics I keep the deals in which I have accounting data on the acquirer and target. As a result of the pairing, I get 108,362 distinct acquirer-target pairs with 6,233 of these pairs corresponding to actual cross-border acquisitions. Using this sample, I estimate both probit and linear probability models to measure the probability of observing an actual transaction as a function of the management difference. The dependent variable is a dummy variable that is equal to 1 if a given pair of firms (acquirer-target) pair up in an actual transaction and 0 otherwise. I control for acquirer and target firm characteristics (listing status, cash to assets, debt to assets, relative size and return on assets), country-pair variables

from Table 5, as well as industry, country and year fixed effects.

Table 8 presents the regression results from probit and linear probability models. The results are consistent with the earlier findings. Transactions are more likely to happen when the management difference between the acquirer and the target is large. The marginal effect of the management difference on the probability of deal is 2% in model 2. Although the coefficients seem small, the relationship between the management difference and deal probability stays significant even after including the full set of controls. The results so far support the proposition that management capital is a strategically important intangible asset for acquirers, who pick targets in cross-border acquisitions with the intention to create value by deploying their mobile management capital on the assets of the target.

4.2 Bid Premia

In this section, I investigate if the acquisition premia paid to the target is related to the management quality difference across firms. As discussed earlier, the internalization theory implies that cross-border acquisitions should be realized when expected gains from controlling target's assets and utilizing acquirer's mobile assets is positive. Acquirers proceed cross-border deals if they expect to create value at the target through changes that would increase productivity of the target. As a result, I would expect the bid premia to be positively correlated with the management distance. The earlier results showed that cross-border acquisitions are not randomly assigned. On the contrary, several factors affect the probability of a deal actually happening. I account for the selection bias in acquisitions by running a two-stage Heckman model. Firstly, I run a probit model using the country-pair control variables from Table 5. In the probit analysis, the dependent variable equals to one if there is at least one cross-border deal between the acquirer

nation and the target nation in year t , otherwise the dependent variable is set to zero. For each country pair, I calculate the predicted probability of a cross-border acquisition using the probit model. Then I calculate an inverse Mill's ratio using the predicted probabilities and include this inverse Mill's ratio in the bid premia regressions to deal with selection bias. Like Ahern et al. (2015), I use double tax treaties and bilateral investment treaties as instruments for the likelihood of cross-border acquisitions and exclude them from bid premia regressions. These treaties act as gateways to inhibit the incidence of acquisitions, however they less likely have a direct effect on the acquisition gains. These treaties are signed usually for political reasons.

Following earlier studies, I calculate the bid premia to proxy for acquisition gains.¹⁶ I calculate the bid premia using the price acquirer offered relative to the target's stock price 10 days prior to deal announcements. As shown in the summary statistics table, average bid premia is 43.5%.

Table 9 presents the results of the analysis of bid premia. As we expected, management difference is positively associated with the bid premia paid to the target by the acquirer. The results are economically and statistically significant after controlling for a full set of factors that could affect the acquisition gains. One σ increase in the management difference (0.7) is associated with a 29 percentage point or 0.35 σ increase in the bid premia in model 2. Similarly, one σ increase in the management distance is associated with a 7 percentage point or 0.09 σ increase in the bid premia in model 4. The corresponding OLS estimates without the Heckman correction are also statistically significant and similar in magnitude. I also test the prediction of the management as design perspective for the bid premia but do not present it here to save space. The MAD model predicts that the bid premia should be significantly negatively related to the absolute management difference but I find that the relation is insignificant. In conclusion,

¹⁶ See Betton et al 2008 for a detailed survey of the corporate takeover studies.

targets receive a higher bid premia from the acquirers with better management practices that might create more value through improving target's management practices.

4.3 Manager Job Spells

As discussed in the introduction, the management as a technology (MAT) approach views some management practices as better than others for firms in a wide range of environments. For instance, promoting hardworking and competent employees to senior positions, demoting incompetent employees are management practices that should be beneficial to most businesses. The majority of the 18 questions in the World Management Survey are reserved for human resource practices such as finding talents for the firm, making room for the talents in the firm, developing talents, creating a high performance culture, performance tracking, performance review and goal setting. As a result, firms with higher management scores have better human resource practices and are better at choosing and making proper use of the right employees. Consequently, in cross-border deals we would expect the management difference to be positively associated with manager turnover at the target firm after deal completion. To shed light on this relationship, I investigate manager job spells at the target firm post-acquisition.

I have historical records of the managers and board members of European firms. I get this information from the historical discs of BvD Amadeus database for my sample period. I know the starting and exiting years of managers with their titles. I have manager characteristics only for the latest years, therefore I cannot include them in my analysis. I conduct this analysis at the manager level. I investigate the members of the top management team who has been working at the target firms since $t-1$, one year prior to acquisition completion year, or since earlier. Among these managers, I identify ones who quit their job before year $t+2$, so this subset of managers quit their job (or

forced to leave) at the deal completion year t or $t+1$. This subset of managers make my treatment set. My control sample includes all managers who have been employed at the target firm since $t-1$ and still work at the target by the end of year $t+2$.

Table 10 presents the results of manager job spells analysis. Managers at the target firms are more likely to quit their job if the acquirer firm has better management practices. Although the coefficients are small, the relationship stays significant in most of the models even after controlling for various factors. The marginal effect of management score difference in model 2 is 3.3% which is close to the coefficient in the OLS estimation, model 6. However, I do not find an effect for the CEO job spells. This may be due to small sample size or that acquirers prefer to keep target CEOs while making necessary improvements at the target firms.

4.4 Acquisition Success - Divestiture of the Target

In the last section of deal-level analysis, I investigate how the divestiture of an acquired target is related to the management quality difference between deal firms. Kaplan and Weisbach (1992) investigate a sample of acquisitions completed between 1971 and 1982, and find that acquirers divested 44% of the target firms by the end of 1989. Moreover, by relating the initial stock market reactions of the acquisitions to subsequent divestitures, they conclude that 34% to 50% of the divestitures were value destroying. Returning to the hypothesis for the drivers of cross-border acquisitions, one would like to know how the difference in the quality of management is related to ultimate deal success. Acquirers buy targets with the expectation to increase productivity and create value by utilizing intangible and tangible assets in the most productive ways possible. The greater the management difference, the more value can potentially be created from management practice improvements. I would not expect acquirers to divest targets in a short period of

time unless the acquisition is unsuccessful or they receive a high offer price for the target. As a result, I would expect the probability of divestiture to be negatively correlated with the management quality difference.

To answer this question, I identify all the targets that are divested after the deal completion. I define a target as divested if more than 50% of the target shares are sold to another firm. If global ultimate owners of the new and old acquirers are the same firm, I do not identify this sale as a divestiture. Following Kaplan and Weisbach (1992), I compare the sale value of the divestiture deflated by the world index with the initial purchase price and find that 55% of the divestitures are value destroying. One drawback of this analysis is that I do not observe the interim cash flows between the purchase and resale of the target by the acquirer.

Table 11 presents the estimates from the divestiture analysis. To account for the right-censoring of more recent deals, I employ a Cox proportional hazard model to estimate the likelihood of divestitures. Consistent with the hypothesis above, the probability of divestiture is negatively correlated with the management difference. Target firms are less likely to be sold if the acquirer has superior management practices. If management difference increases by one σ (0.8), then the divestiture probability decreases approximately by 15% in model 5 and 48% in model 6.¹⁷ To conclude, acquirers with better management practices are less likely to divest targets consistent with acquirers with better management practices being more successful at integrating targets and realizing expected gains from the acquisitions.

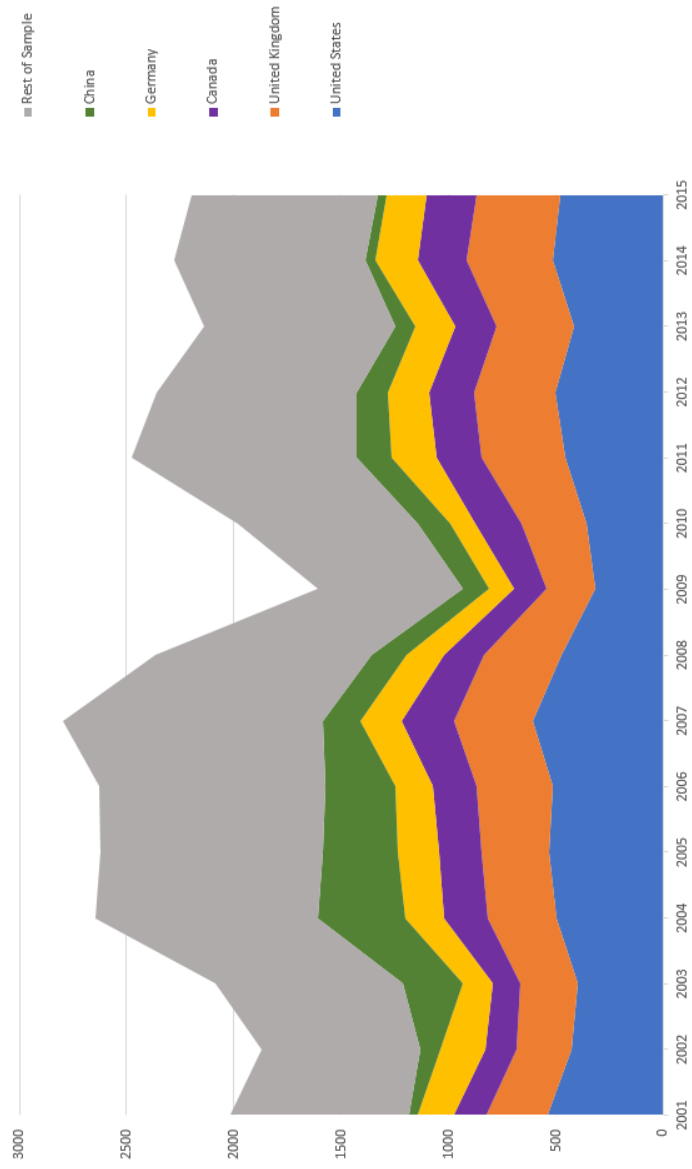
¹⁷ Proportional-hazards assumption necessary for the Cox Model is satisfied graphically and also numerically on the basis of Schoenfeld residuals.

5 Conclusion

This paper investigates the role of management quality on the cross-border acquisition activities and outcomes. I show that differences in the quality of management practices matter for explaining the deal flow, direction, selection and value creation of cross-border acquisitions. Moreover, I show that differences in the quality of management practices are important in explaining manager job spells and divestitures of the targets in cross-border mergers and acquisitions. My study relates to the growing literature on how management practices affect firm performance and country level productivity and on the determinants of cross-border acquisitions.

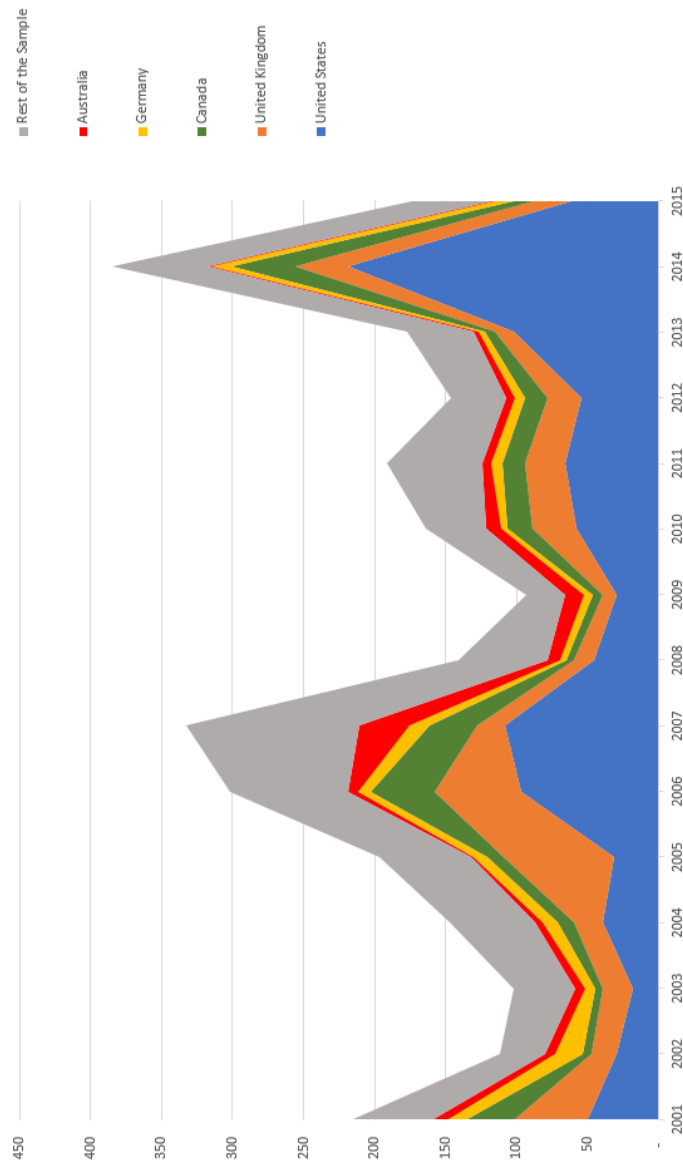
I find that cross-border deal volumes are positively associated with the management quality differences across countries and firms. Countries and firms with better management practices are more likely to be acquirers in cross-border acquisitions. Acquirers pay a higher premia to the targets as the difference in management quality across firms increases. Managers of the target firm are more likely to quit if the target is acquired by a firm that has higher management quality. In addition, target firms are less likely to be divested post acquisition when acquirer firms have better management practices.

My results shed light on two competing views in modeling management: “best practice” upon which MAT model is based on, and “contingency view” upon which Design model is based on. My results provide support for the predictions of the best practice view. The MAT model combined with the internalization theory of international expansion helps to explain the role of management in cross-border M&A transactions. In conclusion, management as a strategic intangible asset plays an important role in the cross-border acquisition plans, activities and outcomes.



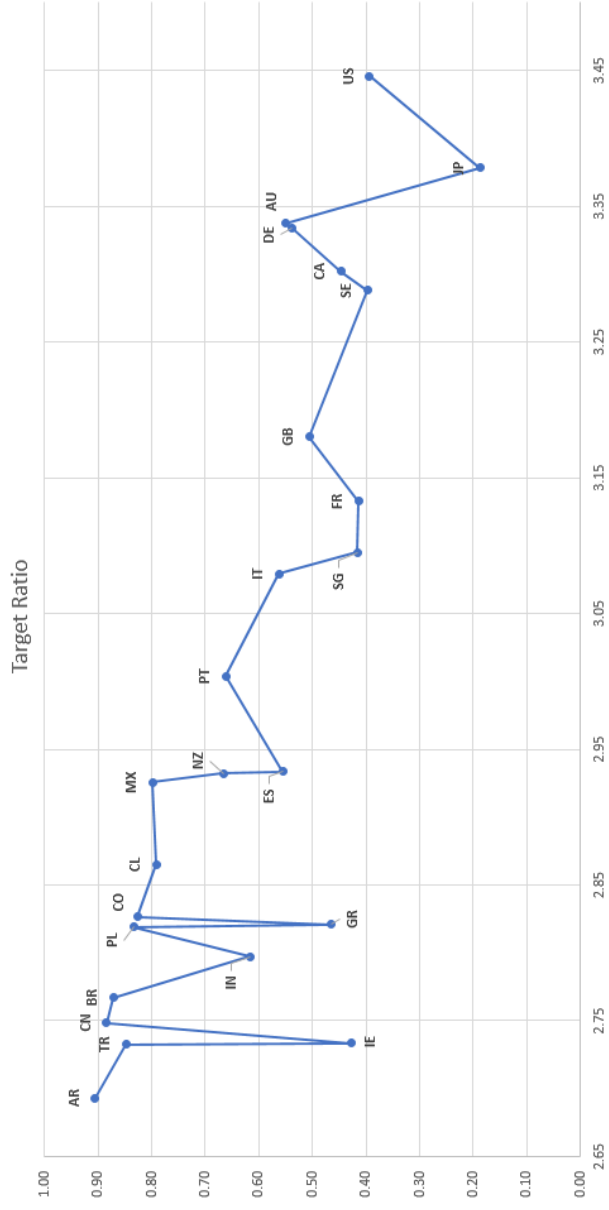
1.png

Figure 1: Top 5 cross-border M&A markets among sample countries considering deal numbers for 2001-2015 period.



2.png

Figure 2: Top 5 cross-border M&A markets among sample countries considering deal values for 2001-2015 period. Y-axis in \$ billion.



3.png

Figure 3: Target Ratio. Management scores of the countries are given on the X-axis.

4.png

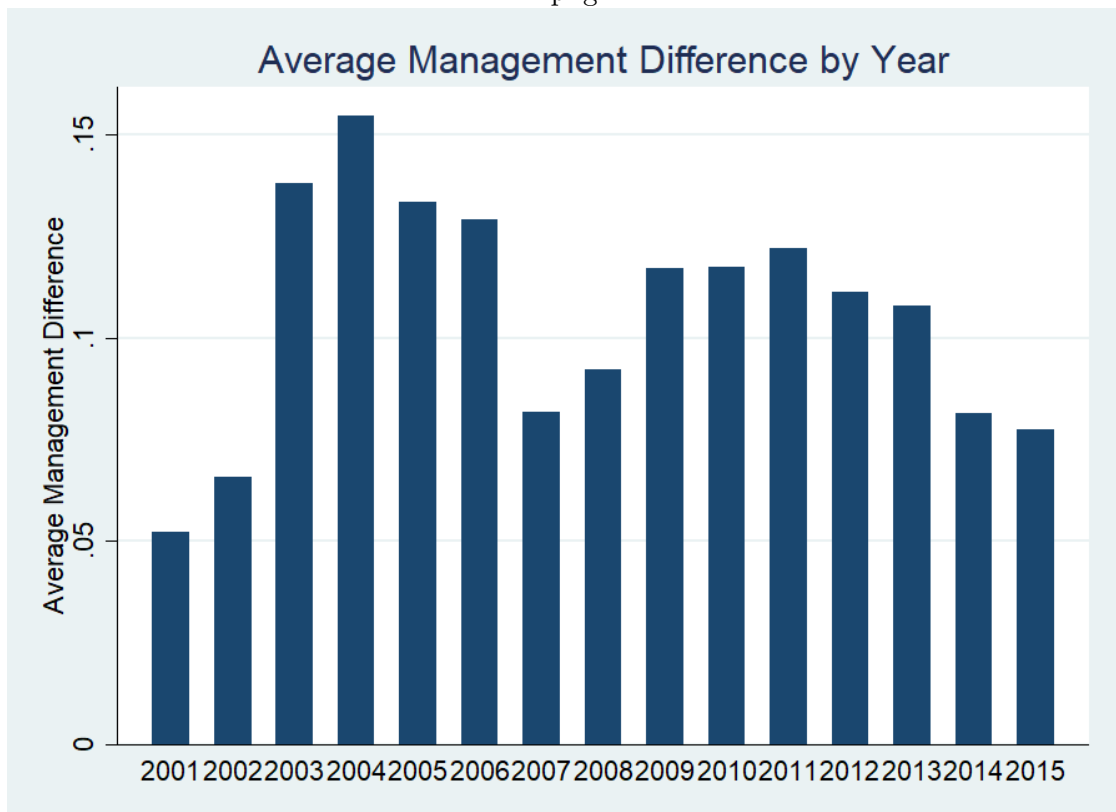


Figure 4: Average management score difference by year including all sample deals.

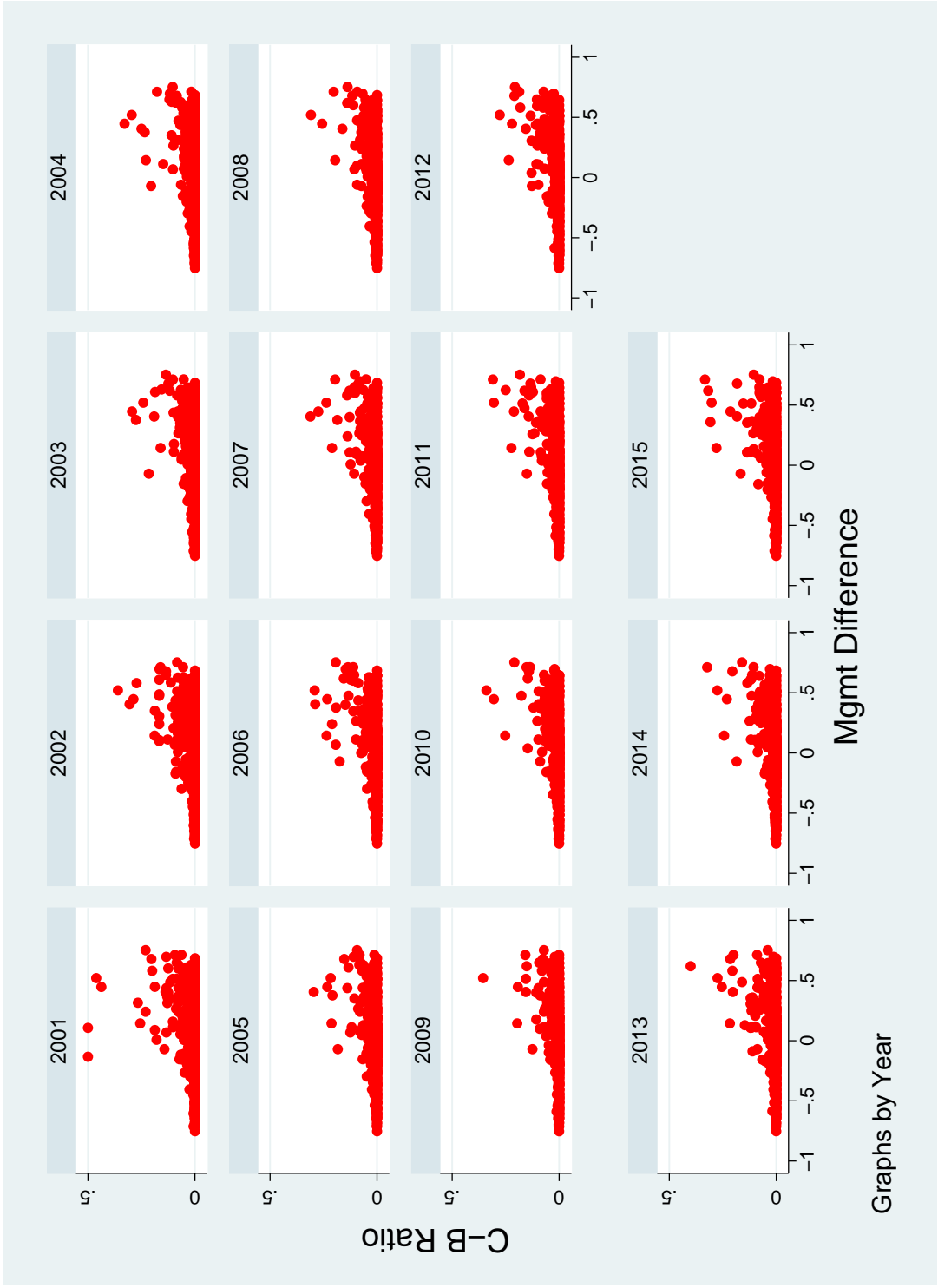


Figure 5: Plots of the cross-border ratio and management difference from every country-pair-year observation through the sample period

Table 1: Cross-Border and Domestic Deal Numbers

Acquisition data is from Zephyr and it covers the period 2001-2015. Only majority acquisitions (more than 50% final stake) are included. First column and the first row in the table present the management scores of countries. Acquiring nations are on the rows, target nations are on the columns. Domestic deals are on the diagonal. The numbers in cells represent the number of deals in which row nation is the acquirer and column nation is the target. The last row shows the percentage of foreign acquirers among all acquirers for a target nation. A blue cell on the right-hand side of the diagonal means that, for the country pair corresponding to that cell, the acquirer (row) country is more often the acquirer in all cross-border deals between that country pair. For instance, if we look at the cell corresponding to deals in which Germany (row) is the acquirer nation and Italy (column) is the target nation, we see that Germany is the acquirer for 189 deals and the cell is blue. The color blue in that cell means that the number of deals in which Italy is the acquirer nation and Germany is the target nation is less than 189 (which is true, 133). A red cell on the left-hand side of the diagonal means that the column nation is more often the acquirer nation in cross-border deals between the two nations corresponding to that cell. Acquirer (row) country always has a better management score in the country pairs corresponding to the cells on the right-hand side of the diagonal. Therefore, all blue cells indicate that the country with the better management practices is more often the acquirer in deals between a country pair.

| Management Score | 3.45 | 3.38 | 3.34 | 3.33 | 3.30 | 3.29 | 3.18 | 3.13 | 3.09 | 3.08 | 3.00 | 2.93 | 2.93 | 2.86 | 2.83 | 2.82 | 2.82 | 2.80 | 2.77 | 2.75 | 2.73 | 2.73 | 2.69 | | |
|--------------------------|-------|------|------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|--------|------|
| | US | JP | AU | DE | CA | SE | GB | FR | SG | IT | PT | ES | NZ | MX | CL | CO | GR | PL | IN | BR | CN | IE | TR | AR | |
| | US | JP | AU | DE | CA | SE | GB | FR | SG | IT | PT | ES | NZ | MX | CL | CO | GR | PL | IN | BR | CN | IE | TR | AR | |
| United States (US) | 59348 | 193 | 496 | 1030 | 2267 | 258 | 2525 | 647 | 122 | 319 | 32 | 222 | 89 | 313 | 80 | 68 | 14 | 95 | 449 | 427 | 838 | 194 | 52 | 89 | |
| Japan (JP) | 380 | 8082 | 46 | 90 | 28 | 15 | 104 | 68 | 69 | 42 | 5 | 27 | 7 | 19 | 9 | 2 | 0 | 14 | 162 | 45 | 638 | 1 | 16 | 2 | |
| Australia (AU) | 298 | 3 | 5750 | 36 | 71 | 9 | 234 | 12 | 56 | 11 | 2 | 14 | 252 | 6 | 29 | 0 | 1 | 1 | 20 | 29 | 65 | 10 | 2 | 6 | |
| Germany (DE) | 441 | 46 | 55 | 7023 | 40 | 110 | 362 | 267 | 19 | 189 | 24 | 145 | 7 | 28 | 11 | 3 | 13 | 73 | 120 | 80 | 153 | 22 | 44 | 12 | |
| Canada (CA) | 2267 | 8 | 117 | 88 | 7307 | 42 | 286 | 79 | 7 | 24 | 10 | 35 | 26 | 158 | 61 | 37 | 4 | 12 | 36 | 77 | 115 | 11 | 8 | 59 | |
| Sweden (SE) | 232 | 9 | 26 | 173 | 41 | 4744 | 236 | 104 | 9 | 61 | 7 | 44 | 5 | 12 | 12 | 3 | 3 | 55 | 29 | 32 | 47 | 18 | 19 | 14 | |
| United Kingdom (GB) | 1779 | 46 | 343 | 481 | 226 | 193 | 21247 | 369 | 47 | 167 | 36 | 178 | 51 | 30 | 32 | 21 | 16 | 62 | 161 | 112 | 149 | 285 | 46 | 32 | |
| France (FR) | 536 | 43 | 47 | 307 | 98 | 67 | 418 | 7336 | 20 | 213 | 42 | 271 | 9 | 24 | 21 | 22 | 12 | 79 | 118 | 131 | 178 | 27 | 42 | 25 | |
| Singapore (SG) | 63 | 11 | 49 | 16 | 4 | 4 | 36 | 6 | 1158 | 7 | 0 | 3 | 14 | 1 | 0 | 0 | 0 | 0 | 92 | 8 | 270 | 2 | 1 | 1 | |
| Italy (IT) | 121 | 17 | 9 | 133 | 10 | 33 | 117 | 148 | 6 | 3623 | 10 | 112 | 4 | 10 | 5 | 0 | 13 | 19 | 47 | 44 | 59 | 5 | 26 | 16 | |
| Portugal (PT) | 7 | 0 | 1 | 6 | 1 | 1 | 10 | 10 | 0 | 4 | 593 | 76 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 27 | 2 | 2 | 5 | 3 | |
| Spain (ES) | 102 | 5 | 13 | 68 | 12 | 10 | 81 | 118 | 2 | 90 | 128 | 6131 | 1 | 65 | 55 | 25 | 9 | 25 | 20 | 83 | 18 | 3 | 8 | 53 | |
| New Zealand (NZ) | 28 | 1 | 147 | 2 | 8 | 0 | 26 | 1 | 2 | 2 | 0 | 2 | 731 | 4 | 1 | 0 | 0 | 0 | 1 | 3 | 4 | 1 | 0 | 1 | |
| Mexico (MX) | 69 | 0 | 2 | 3 | 5 | 0 | 3 | 2 | 2 | 2 | 0 | 22 | 0 | 362 | 13 | 21 | 0 | 0 | 2 | 20 | 2 | 0 | 1 | 13 | |
| Chile (CL) | 6 | 0 | 1 | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 8 | 0 | 8 | 399 | 20 | 0 | 0 | 2 | 24 | 5 | 1 | 0 | 18 | |
| Colombia (CO) | 15 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 10 | 0 | 10 | 9 | 228 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 5 | |
| Greece (GR) | 8 | 1 | 0 | 12 | 2 | 1 | 8 | 8 | 0 | 12 | 0 | 14 | 0 | 0 | 0 | 744 | 9 | 2 | 0 | 6 | 1 | 16 | 1 | 1 | |
| Poland (PL) | 9 | 0 | 2 | 39 | 0 | 6 | 8 | 4 | 0 | 3 | 1 | 9 | 0 | 0 | 0 | 1831 | 1 | 0 | 1 | 0 | 1 | 1 | 8 | 0 | |
| India (IN) | 293 | 9 | 30 | 59 | 24 | 13 | 145 | 33 | 45 | 37 | 3 | 23 | 1 | 3 | 8 | 2 | 1 | 6 | 3369 | 21 | 27 | 5 | 5 | 6 | |
| Brazil (BR) | 38 | 2 | 5 | 2 | 6 | 2 | 6 | 4 | 0 | 7 | 10 | 4 | 0 | 17 | 12 | 18 | 0 | 0 | 3 | 1738 | 6 | 0 | 2 | 35 | |
| China (CN) | 63 | 16 | 30 | 62 | 18 | 5 | 32 | 29 | 9 | 18 | 0 | 8 | 2 | 2 | 8 | 3 | 0 | 2 | 12 | 14 | 10991 | 2 | 2 | 4 | |
| Ireland (IE) | 259 | 1 | 13 | 23 | 25 | 14 | 342 | 25 | 4 | 17 | 3 | 14 | 0 | 7 | 1 | 1 | 0 | 9 | 5 | 9 | 14 | 480 | 4 | 0 | |
| Turkey (TR) | 5 | 1 | 0 | 16 | 0 | 2 | 7 | 5 | 0 | 11 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 444 | 1 | |
| Argentina (AR) | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 3 | 12 | 1 | 0 | 0 | 0 | 13 | 3 | 0 | 0 | 258 | |
| Total Cross-Border Deals | 7023 | 412 | 1432 | 2646 | 2889 | 786 | 4986 | 1943 | 419 | 1238 | 313 | 1239 | 468 | 720 | 380 | 247 | 88 | 463 | 1284 | 1210 | 2601 | 591 | 307 | 396 | |
| All Deals | 66371 | 8494 | 7182 | 9669 | 10196 | 5530 | 26233 | 9279 | 1577 | 4861 | 906 | 7370 | 1199 | 1082 | 779 | 475 | 832 | 2294 | 4653 | 2948 | 13592 | 1071 | 751 | 654 | |
| % of Foreign Acquirers | 10.6 | 4.9 | 19.9 | 27.4 | 28.3 | 14.2 | 19.0 | 20.9 | 26.6 | 25.5 | 34.5 | 16.8 | 39.0 | 66.5 | 48.8 | 52.0 | 10.6 | 20.2 | 27.6 | 41.0 | 19.1 | 55.2 | 40.9 | 60.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 187998 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 18.1 |

Table 2: Average Management Scores of the Countries and the Shares in Cross-Border Deals

Column 1: No of deals as acquirer (Mfg); column 2: No of deals as acquirer as a % of total cross-border deals (Mfg); column 3: No of deals as acquirer; column 4: No of deals as acquirer as a % of total cross-border deals; column 5: No of deals as target (Mfg); column 6: No of deals as target as a % of total cross-border deals (Mfg); column 7: No of deals as target; column 8: No of deals as target as a % of total cross-border deals; column 9: Target ratio (ratio of number of deals in which a country is target to total number of deals in which a country is either target or acquirer); column 10: Management score

| CountryCode | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| US | 3449 | 31.3% | 10819 | 31.7% | 2179 | 19.8% | 7023 | 20.6% | 39.4% | 3.45 |
| JP | 840 | 7.6% | 1789 | 5.2% | 160 | 1.5% | 412 | 1.2% | 18.7% | 3.38 |
| AU | 173 | 1.6% | 1167 | 3.4% | 281 | 2.6% | 1432 | 4.2% | 55.1% | 3.34 |
| DE | 1051 | 9.5% | 2264 | 6.6% | 1079 | 9.8% | 2646 | 7.8% | 53.9% | 3.33 |
| CA | 737 | 6.7% | 3567 | 10.5% | 760 | 6.9% | 2889 | 8.5% | 44.7% | 3.30 |
| SE | 557 | 5.1% | 1191 | 3.5% | 232 | 2.1% | 786 | 2.3% | 39.8% | 3.29 |
| GB | 1083 | 9.8% | 4862 | 14.3% | 1307 | 11.9% | 4986 | 14.6% | 50.6% | 3.18 |
| FR | 900 | 8.2% | 2750 | 8.1% | 736 | 6.7% | 1943 | 5.7% | 41.4% | 3.13 |
| SG | 165 | 1.5% | 588 | 1.7% | 74 | 0.7% | 419 | 1.2% | 41.6% | 3.09 |
| IT | 495 | 4.5% | 964 | 2.8% | 520 | 4.7% | 1238 | 3.6% | 56.2% | 3.08 |
| PT | 56 | 0.5% | 160 | 0.5% | 107 | 1.0% | 313 | 0.9% | 66.2% | 3.00 |
| ES | 323 | 2.9% | 994 | 2.9% | 387 | 3.5% | 1239 | 3.6% | 55.5% | 2.93 |
| NZ | 83 | 0.8% | 234 | 0.7% | 87 | 0.8% | 468 | 1.4% | 66.7% | 2.93 |
| MX | 90 | 0.8% | 182 | 0.5% | 272 | 2.5% | 720 | 2.1% | 79.8% | 2.93 |
| CL | 28 | 0.3% | 100 | 0.3% | 71 | 0.6% | 380 | 1.1% | 79.2% | 2.86 |
| CO | 21 | 0.2% | 52 | 0.2% | 55 | 0.5% | 247 | 0.7% | 82.6% | 2.83 |
| GR | 48 | 0.4% | 101 | 0.3% | 20 | 0.2% | 88 | 0.3% | 46.6% | 2.82 |
| PL | 43 | 0.4% | 92 | 0.3% | 177 | 1.6% | 463 | 1.4% | 83.4% | 2.82 |
| IN | 278 | 2.5% | 799 | 2.3% | 490 | 4.4% | 1284 | 3.8% | 61.6% | 2.80 |
| BR | 93 | 0.8% | 179 | 0.5% | 469 | 4.3% | 1210 | 3.6% | 87.1% | 2.77 |
| CN | 195 | 1.8% | 341 | 1.0% | 1210 | 11.0% | 2601 | 7.6% | 88.4% | 2.75 |
| IE | 258 | 2.3% | 790 | 2.3% | 114 | 1.0% | 591 | 1.7% | 42.8% | 2.73 |
| TR | 30 | 0.3% | 55 | 0.2% | 116 | 1.1% | 307 | 0.9% | 84.8% | 2.73 |
| AR | 16 | 0.1% | 41 | 0.1% | 109 | 1.0% | 396 | 1.2% | 90.6% | 2.69 |
| Total Cross-Border Deals | 11012 | | 34081 | | 11012 | | 34081 | | | |

Table 3: Summary Statistics

This table presents counts, means, medians, standard deviations, mins and max for each variable. Observations are at the country-year level in Panel A, the country-pair-year level in Panel B, and deal-level in Panel C. All variables are defined in Appendix.

| | Count | Mean | Median | Standard deviation | Min | Max | | | |
|--|--------|----------|---------|--------------------|-------|------------|-------|--------|----------|
| Panel A: Country-Level Variables | | | | | | | | | |
| Management score | 24 | 3.01 | 2.93 | 0.24 | 2.69 | 3.45 | | | |
| Trust | 24 | 1.69 | 1.70 | 0.15 | 1.34 | 1.92 | | | |
| Individualism | 24 | 5.28 | 5.37 | 0.55 | 4.26 | 6.26 | | | |
| Belief in competition | 24 | 3.96 | 3.94 | 0.46 | 3.25 | 4.90 | | | |
| Governance index | 360 | 0.82 | 1.15 | 0.77 | -0.67 | 1.87 | | | |
| Openness | 360 | 0.70 | 0.55 | 0.69 | 0.16 | 4.02 | | | |
| log GDP per capita | 360 | 9.92 | 10.37 | 0.98 | 6.67 | 11.09 | | | |
| GDP growth | 360 | 0.03 | 0.03 | 0.04 | -0.11 | 0.26 | | | |
| Credit to private non-fin sector | 360 | 1.26 | 1.34 | 0.64 | 0.17 | 3.24 | | | |
| Real stock market return | 360 | 0.08 | 0.05 | 0.31 | -1.55 | 1.82 | | | |
| Panel B: Country-Pair Level Variables | | | | | | | | | |
| Cross-Border deal volume | 8,280 | 4.16 | 0.00 | 14.83 | 0.00 | 230.00 | | | |
| Cross-Border deal volume (mfg) | 8,280 | 1.35 | 0.00 | 4.55 | 0.00 | 60.00 | | | |
| Cross-Border ratio | 8,280 | 0.01 | 0.00 | 0.04 | 0.00 | 0.50 | | | |
| Cross-Border ratio (mfg) | 8,280 | 0.02 | 0.00 | 0.05 | 0.00 | 1.00 | | | |
| Δ Management | 8,280 | 0.00 | 0.00 | 0.34 | -0.75 | 0.75 | | | |
| Absolute (Δ management) | 8,280 | 0.28 | 0.24 | 0.20 | 0.00 | 0.75 | | | |
| Absolute (Δ trust) | 8,280 | 0.17 | 0.15 | 0.12 | 0.00 | 0.58 | | | |
| Absolute (Δ individualism) | 8,280 | 0.62 | 0.54 | 0.46 | 0.01 | 2.01 | | | |
| Absolute (Δ belief in competition) | 8,280 | 0.53 | 0.49 | 0.37 | 0.00 | 1.65 | | | |
| Same religion | 8,280 | 0.36 | 0.00 | 0.48 | 0.00 | 1.00 | | | |
| Same language | 8,280 | 0.12 | 0.00 | 0.32 | 0.00 | 1.00 | | | |
| Δ Governance index | 8,280 | 0.00 | 0.00 | 1.11 | -2.45 | 2.45 | | | |
| Same legal system | 8,280 | 0.35 | 0.00 | 0.48 | 0.00 | 1.00 | | | |
| log Distance | 8,280 | 8.78 | 9.07 | 0.87 | 5.84 | 9.88 | | | |
| Share border | 8,280 | 0.05 | 0.00 | 0.21 | 0.00 | 1.00 | | | |
| Bilateral trade | 8,280 | 0.03 | 0.01 | 0.07 | 0.00 | 0.89 | | | |
| Δ Openness | 8,280 | 0.00 | 0.00 | 0.99 | -3.81 | 3.81 | | | |
| Double tax treaty | 8,280 | 0.76 | 1.00 | 0.43 | 0.00 | 1.00 | | | |
| Δ log GDP per capita | 8,280 | 0.00 | 0.00 | 1.41 | -4.07 | 4.07 | | | |
| Δ GDP growth | 8,280 | 0.00 | 0.00 | 0.05 | -0.30 | 0.30 | | | |
| Δ Credit to private non-fin sector | 8,280 | 0.00 | 0.00 | 0.91 | -3.06 | 3.06 | | | |
| Δ Real stock market return | 8,280 | 0.00 | 0.00 | 0.34 | -1.96 | 1.96 | | | |
| Real exchange rate return | 8,280 | 0.01 | 0.00 | 0.16 | -0.70 | 2.31 | | | |
| Exchange rate volatility | 8,280 | 0.03 | 0.03 | 0.02 | 0.00 | 0.19 | | | |
| Panel C: Deal Level Variables | | | | | | | | | |
| | Count | Mean | Median | Standard deviation | Min | Max | P5 | P25 | P75 |
| Acquirer management score | 15,274 | 3.16 | 3.17 | 0.55 | 1.22 | 4.78 | 2.25 | 2.78 | 3.50 |
| Target management score | 15,274 | 2.88 | 2.89 | 0.58 | 1.06 | 4.78 | 1.78 | 2.56 | 3.22 |
| Δ Management | 15,274 | 0.29 | 0.28 | 0.79 | -2.92 | 3.09 | -1.00 | -0.22 | 0.79 |
| log Deal value | 6,802 | 17.29 | 17.25 | 2.08 | 5.67 | 24.98 | 13.99 | 16.01 | 18.60 |
| Cash payment | 15,274 | 0.22 | 0.00 | 0.41 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Stock payment | 15,274 | 0.05 | 0.00 | 0.22 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Same industry | 15,274 | 0.43 | 0.00 | 0.50 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 |
| Acquirer's initial stake | 14,444 | 4.73 | 0.00 | 16.37 | 0.00 | 99.87 | 0.00 | 0.00 | 0.00 |
| Acquirer's final stake | 14,596 | 96.81 | 100.00 | 10.79 | 50.00 | 100.00 | 67.00 | 100.00 | 100.00 |
| Acquirer cash to assets | 11,708 | 0.15 | 0.09 | 0.17 | 0.00 | 0.89 | 0.00 | 0.04 | 0.19 |
| Target cash to assets | 9,080 | 0.17 | 0.09 | 0.21 | 0.00 | 1.00 | 0.00 | 0.02 | 0.24 |
| Acquirer debt to assets | 11,952 | 0.58 | 0.57 | 0.31 | 0.02 | 2.46 | 0.15 | 0.41 | 0.71 |
| Target debt to assets | 9,557 | 0.72 | 0.64 | 0.67 | 0.00 | 5.56 | 0.11 | 0.42 | 0.86 |
| Acquirer ROA | 11,671 | 0.02 | 0.07 | 0.32 | -2.56 | 0.42 | -0.27 | 0.02 | 0.11 |
| Target ROA | 8,151 | -0.03 | 0.04 | 0.58 | -3.97 | 1.26 | -0.74 | -0.05 | 0.15 |
| Relative size | 7,701 | 15190.99 | 40.24 | 125731.20 | 0.02 | 1218934.00 | 0.84 | 8.09 | 229.47 |
| Acquirer average employee number | 13,045 | 17843.86 | 1870.00 | 53787.66 | 0.00 | 1939667.00 | 11.73 | 237.31 | 10480.00 |
| Target average employee number | 11,910 | 408.49 | 57.67 | 2160.21 | 0.00 | 77225.00 | 3.00 | 18.07 | 179.70 |
| Bid premium | 646 | 0.44 | 0.25 | 0.78 | -0.38 | 5.90 | -0.04 | 0.11 | 0.49 |

Table 4: Management Quality and the Direction of Cross-Border Acquisitions

This table presents the estimates of Tobit and Fractional Logit regressions of the pair-level target ratio on management score difference. For a country pair, management score difference equals to acquirer nation's management score minus target nation's management score. For every country-pair j and i ($j \neq i$) in year t over the 2001-2015 period, dependent variable pair-level target ratio is the proportion of cross-border deals in which the acquirer is from country j and the target is from country i to all cross-border deals between j and i in year t . If there is not any cross-border deals between country j and country i in a year, I drop that country-pair-year observation from the analysis. I repeat this analysis also with ordinary least squares (OLS) estimator and get identical results. All estimators yield similar estimates for the relationship between the management quality and the direction of cross-border acquisitions. Here I focus on the tobit and fractional logit results because these models are more appropriate when the dependent variable is bounded between 0 and 1. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | Pair-Level Target Ratio | | | |
|----------------------------|-------------------------|---------------------|-------------------------|-------------------------|
| | Tobit (1) | Tobit (2) | Fractional Logit (3) | Fractional Logit (4) |
| Δ Management | 1.038*** (0.067) | 1.669*** (0.335) | 2.763*** (0.069) | 5.371*** (1.269) |
| constant | 0.500*** (0.019) | 0.500 (0.337) | -0.000 (0.022) | -0.000 (1.299) |
| Acquirer Country x Year FE | No | Yes | No | Yes |
| Target Country x Year FE | No | Yes | No | Yes |
| N | 5160 | 5160 | 5160 | 5160 |
| Pseudo R-squared | 0.15 | 0.44 | 0.15 | 0.33 |

Table 5: Management Quality Difference, Acquisition Direction and Volume Results

The table shows estimates from panel regressions of majority cross-border acquisitions by country-pair-year (equation (1) in the text) using the PPMML estimator proposed by Silva and Tenreiro (2006). Additionally, estimates from the OLS estimator is given in columns 5 and 8. The dependent variable is the annual cross-border deal volume for each country pair over the 2001–2015 period –the total number of cross-border acquisitions in year t in which the acquirer is from country j and the target is from country i ($j \neq i$). Δ indicates the difference between the acquirer nation and the target nation for a variable. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target country. Definitions of all variables are given in Appendix A. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | PPML (1) | PPML (2) | PPML (3) | PPML (4) | OLS (5) | PPML (6) | PPML (7) | OLS (8) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------------|-----------------------|----------------------|--------------------------|
| | C-B deal volume (Mfg) | C-B deal volume (Mfg) | C-B deal volume (Mfg) | C-B deal volume (Mfg) | log (1+ C-B deal volume) (Mfg) | C-B deal volume | C-B deal volume | log (1+ C-B deal volume) |
| Δ Management | | | | | | | | |
| Absolute (Δ management) | 0.092 (0.209) | 0.241 (0.221) | 0.118 (0.434) | 1.449* (0.745) | 0.637*** (0.227) | 0.227 (0.452) | 4.123*** (0.786) | 1.389*** (0.256) |
| Absolute (Δ trust) | -1.651** (0.671) | -1.166* (0.660) | -4.216*** (1.124) | -1.592*** (0.612) | -0.587*** (0.163) | -4.539*** (1.058) | -0.981 (0.604) | -0.494** (0.216) |
| Absolute (Δ individualism) | -0.003 (0.098) | 0.120 (0.111) | -0.152 (0.254) | -0.011 (0.097) | 0.036 (0.042) | -0.380 (0.255) | 0.102 (0.112) | 0.032 (0.049) |
| Absolute (Δ belief in competition) | 0.208* (0.107) | 0.199* (0.108) | 0.821** (0.359) | 0.211* (0.110) | 0.114* (0.058) | 0.827** (0.360) | 0.208* (0.112) | 0.100 (0.072) |
| Δ Governance index | 0.659 (0.169) | 3.828*** (0.521) | 0.296 (0.207) | -1.376** (0.577) | -0.135* (0.079) | 0.234 (0.216) | -0.951*** (0.360) | -0.248*** (0.093) |
| Bilateral trade | 0.361 (0.170) | -0.115 (0.335) | 3.135*** (0.822) | 0.177 (0.364) | 1.335*** (0.464) | 2.610*** (0.832) | -0.104 (0.338) | 1.405*** (0.508) |
| Δ Openness | 0.360 (0.211) | -1.019*** (0.140) | 0.020 (0.059) | 0.098 (0.173) | -0.077 (0.048) | 0.013 (0.056) | -0.816*** (0.133) | -0.096* (0.058) |
| log Distance | -0.577*** (0.064) | -0.576*** (0.063) | -0.298*** (0.114) | -0.577*** (0.064) | -0.161*** (0.032) | -0.337*** (0.108) | -0.574*** (0.064) | -0.301*** (0.040) |
| Share border | -0.064 (0.153) | -0.018 (0.140) | -0.328 (0.523) | -0.075 (0.154) | 0.133 (0.109) | -0.291 (0.527) | -0.041 (0.146) | 0.133 (0.128) |
| Same legal system | 0.293*** (0.103) | 0.368*** (0.100) | -0.400 (0.309) | 0.300*** (0.100) | 0.116** (0.052) | -0.448* (0.267) | 0.390*** (0.100) | 0.247*** (0.065) |
| Same religion | 0.155** (0.077) | 0.148** (0.075) | -0.171 (0.286) | 0.152** (0.077) | 0.119* (0.065) | -0.062 (0.303) | 0.141* (0.075) | 0.194*** (0.073) |
| Same language | 0.691*** (0.158) | 0.704*** (0.150) | 1.044*** (0.336) | 0.683*** (0.154) | 0.116* (0.063) | 1.566*** (0.301) | 0.676*** (0.148) | 0.297*** (0.085) |
| Double tax treaty | 0.255** (0.112) | 0.391*** (0.113) | 0.937** (0.394) | 0.252** (0.112) | -0.160*** (0.040) | 0.848** (0.343) | 0.387*** (0.112) | -0.181*** (0.047) |
| Δ log GDP per capita | 0.731*** (0.252) | -0.774** (0.302) | 0.069 (0.089) | 0.960** (0.394) | 0.190*** (0.070) | 0.076 (0.109) | 0.653*** (0.192) | 0.155* (0.091) |
| Δ GDP growth | | | -2.101 (1.385) | | | -1.309 (1.103) | | |
| Δ Credit to private non-fin sector | 0.049 (0.613) | -1.270*** (0.287) | -0.050 (0.117) | 0.836*** (0.227) | -0.265*** (0.079) | 0.019 (0.098) | 0.445*** (0.151) | -0.169* (0.087) |
| Δ Real stock market return | -1.590*** (0.274) | -0.158 (0.287) | 0.268** (0.127) | -1.640*** (0.380) | 0.026 (0.070) | 0.221** (0.095) | 0.072 (0.376) | -0.027 (0.080) |
| Real exchange rate return | -3.002* (1.541) | -3.747*** (1.125) | -0.230 (1.152) | -2.914* (1.521) | 0.388 (0.240) | -0.181 (0.141) | -3.637*** (1.111) | 0.419 (0.302) |
| Exchange rate volatility | 3.317 (3.481) | -4.454 (3.142) | -11.641** (5.304) | 2.981 (3.705) | 1.729 (1.752) | -13.798*** (4.449) | -5.307 (3.409) | 0.186 (2.000) |
| constant | 2.023** (0.832) | 3.754*** (0.718) | 2.315** (1.091) | 3.569*** (0.645) | 1.686*** (0.307) | 3.924*** (1.079) | 4.245*** (0.665) | 3.328*** (0.400) |
| Acquirer: Country x Year FE | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Target Country x Year FE | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| N | 7577 | 8165 | 8280 | 7577 | 8280 | 8280 | 8165 | 8280 |
| Pseudo R-squared | 0.91 | 0.95 | 0.24 | 0.91 | 0.33 | 0.33 | 0.95 | 0.75 |
| R-Squared | | | | | 0.62 | | | |

Table 6: Management Quality Difference and the Cross-Border Ratio

The table shows estimates from panel regressions of majority cross-border acquisitions by country-pair-year (equation (1) in the text) using the PPML estimator proposed by Silva and Tenreyro (2006). The dependent variable is the annual cross-border ratio for each country pair over the 2001–2015 period—the total number of cross-border acquisitions in year t in which the acquirer is from country j and the target is from country i ($j \neq i$) as a proportion of all domestic and cross-border acquisitions in target country i in year t . Δ indicates the difference between the acquirer nation and the target nation for a variable. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target country. Definitions of all variables are given in Appendix A. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | C-B ratio (Mfg) | C-B ratio (Mfg) | C-B ratio | C-B ratio |
|--|----------------------|----------------------|----------------------|----------------------|
| | PPML | PPML | PPML | PPML |
| | (1) | (2) | (3) | (4) |
| Δ Management | 2.479*** (0.263) | 4.267*** (0.835) | 2.462*** (0.254) | 6.117*** (0.844) |
| Absolute (Δ trust) | -0.661 (0.652) | -2.692*** (0.618) | -0.866 (0.589) | -1.896*** (0.623) |
| Absolute (Δ individualism) | -0.179 (0.149) | -0.191* (0.106) | -0.212 (0.140) | -0.084 (0.097) |
| Absolute (Δ belief in competition) | 0.395** (0.195) | 0.286** (0.139) | 0.165 (0.187) | 0.156 (0.116) |
| Δ Governance index | -0.170 (0.115) | -1.145* (0.620) | -0.082 (0.117) | -1.421*** (0.329) |
| Bilateral trade | 3.413*** (0.456) | 0.037 (0.391) | 2.860*** (0.434) | -0.131 (0.392) |
| Δ Openness | -0.148*** (0.056) | 0.031 (0.175) | -0.221*** (0.053) | -1.046*** (0.156) |
| log Distance | -0.345*** (0.064) | -0.744*** (0.075) | -0.420*** (0.061) | -0.801*** (0.072) |
| Share border | -0.300 (0.296) | 0.240 (0.173) | -0.395 (0.252) | 0.019 (0.155) |
| Same legal system | 0.295* (0.171) | 0.442*** (0.118) | 0.086 (0.163) | 0.335*** (0.104) |
| Same religion | 0.196 (0.126) | 0.185* (0.103) | 0.276** (0.125) | 0.286*** (0.091) |
| Same language | 0.408** (0.192) | 0.456*** (0.165) | 0.927*** (0.171) | 0.874*** (0.148) |
| Double tax treaty | 0.283 (0.217) | 0.395*** (0.147) | 0.097 (0.158) | 0.393*** (0.106) |
| Δ log GDP per capita | 0.063 (0.079) | 0.316 (0.491) | 0.194** (0.082) | 0.827*** (0.218) |
| Δ GDP growth | 1.951* (1.162) | | 2.782*** (0.834) | |
| Δ Credit to private non-fin sector | 0.242*** (0.070) | 0.900*** (0.223) | 0.316*** (0.066) | 0.911*** (0.154) |
| Δ Real stock market return | 0.128 (0.094) | -0.345 (0.509) | 0.003 (0.115) | 0.340 (0.401) |
| Real exchange rate return | 0.270* (0.158) | -3.764 (2.855) | 0.341*** (0.121) | -0.151 (1.267) |
| Exchange rate volatility | -1.169 (2.424) | 7.900* (4.723) | -2.670 (1.999) | -2.299 (3.539) |
| constant | -2.255*** (0.634) | 0.014 (0.749) | -1.546*** (0.596) | 1.437** (0.721) |
| Acquirer Country x Year FE | No | Yes | No | Yes |
| Target Country x Year FE | No | Yes | No | Yes |
| N | 8257 | 7577 | 8280 | 8165 |
| Pseudo R-squared | 0.36 | 0.62 | 0.48 | 0.74 |

Table 7: Regional Analysis in the USA

The table shows estimates from panel regressions of majority cross-regional acquisitions by region-pair-year in the USA using the PPML estimator proposed by Silva and Tenreyro (2006). Additionally, estimates from the OLS estimator is given in columns 5. The dependent variables are the annual cross-region deal volume and the annual cross-region ratio for each region pair over the 2001–2015 period. Cross-region deal volume for each region pair j,i ($j \neq i$) in year t equals to total number of deals in which the acquirer is from region j and the target is from region i . Cross-region ratio for each pair j,i in year t equals to cross-region deal volume divided by the total number of domestic deals in which the target is from region i . Δ indicates the difference between the acquirer region and the target region for a variable. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target region. Definitions of all variables are given in Appendix A. Standard errors are clustered at the acquirer-target region-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | C-R ratio | C-R ratio | C-R deal volume | C-R deal volume | log(C-R deal volume) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| | PPML (1) | PPML (2) | PPML (3) | PPML (4) | OLS (5) |
| Δ Management | -0.264 (0.299) | 1.554*** (0.535) | 0.033 (0.553) | 3.994*** (0.619) | 5.266*** (0.768) |
| Absolute (Δ trust) | -4.359*** (0.828) | -3.036*** (0.586) | -8.726*** (1.497) | -2.342** (0.939) | -3.259*** (0.824) |
| Absolute (Δ individualism) | 0.903*** (0.344) | 0.397 (0.264) | 1.798*** (0.636) | 0.292 (0.226) | 0.247 (0.463) |
| Absolute (Δ belief in competition) | 0.096 (0.283) | -0.182 (0.234) | 0.978* (0.546) | -0.031 (0.203) | -0.660* (0.354) |
| log Distance | -0.197*** (0.019) | -0.187*** (0.012) | -0.235*** (0.045) | -0.184*** (0.012) | -0.175*** (0.018) |
| Share border | 0.174** (0.072) | 0.184*** (0.039) | 0.048 (0.121) | 0.140*** (0.046) | 0.245*** (0.037) |
| Δ log GDP | 0.449*** (0.067) | 0.768*** (0.147) | 0.012 (0.107) | 0.937*** (0.200) | 0.964*** (0.208) |
| Δ log GDP per capita | 0.142 (0.244) | 0.309 (0.285) | -0.087 (0.420) | -0.347 (0.315) | -0.260 (0.388) |
| constant | -1.164*** (0.106) | -1.561*** (0.130) | 4.819*** (0.284) | 3.210*** (0.161) | 2.883*** (0.212) |
| Acquirer Region x Year FE | No | Yes | No | Yes | Yes |
| Target Region x Year FE | No | Yes | No | Yes | Yes |
| N | 1215 | 1215 | 1215 | 1215 | 1212 |
| Pseudo R-squared | 0.84 | 0.93 | 0.49 | 0.97 | |
| R-squared | | | | | 0.92 |

Table 8: Deal Level Selection

The table presents estimates from Probit and linear probability model regressions predicting firms' participation in cross-border acquisitions. I create an artificial sample that comprises all possible and actual transactions constructed from all firms participating in the cross-border transactions. I pair each acquirer that acquired a firm in an industry, let's say "321" (US SIC 3 digit), in year t to each target in the same industry (321) and year t. As a result of the pairing, I get 108,362 distinct acquirer-target pairs for which I have firm-level accounting information, and 6,233 of these pairs correspond to actual cross-border transactions. The dependent variable is a dummy variable that is equal to 1 if a given pair of firms (acquirer-target) pair up in an actual transaction and 0 otherwise. Estimations include the country-pair controls used in the baseline gravity model estimations in Table 5. Moreover, estimations include acquirer and target characteristics (listing status, cash to assets, debt to assets, relative size and return on assets) as well as industry, country and year fixed effects. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target firm. A constant is included in each specification but not reported in the table. Definitions of all variables are given in Appendix A. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | Probability of Deal (Mfg) | | Probability of Deal | | Probability of Deal (Mfg) | | Probability of Deal | | Probability of Deal (Mfg) | | Probability of Deal | |
|-----------------------|---------------------------|-------------------|---------------------|-------------------|---------------------------|-------------------|---------------------|--------------------|---------------------------|--------------------|---------------------|--------------------|
| | Probit (1) | Probit (2) | Probit (3) | Probit (4) | OLS (5) | OLS (6) | OLS (7) | OLS (8) | OLS (9) | OLS (10) | OLS (11) | OLS (12) |
| Δ Management | 0.069*** (0.025) | 0.052* (0.028) | 0.028** (0.013) | 0.022* (0.013) | 0.019*** (0.007) | 0.014* (0.008) | 0.002** (0.001) | 0.002** (0.001) | 0.002** (0.001) | 0.002** (0.001) | 0.002** (0.001) | 0.002** (0.001) |
| Acquirer Controls | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| Target Controls | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| Country-Pair Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Acquirer Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Target Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Acquirer Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Target Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 8596 | 8048 | 108227 | 105113 | 8612 | 8064 | 108362 | 105315 | 108362 | 108362 | 108362 | 105315 |
| Pseudo R-squared | 0.13 | 0.13 | 0.38 | 0.39 | 0.15 | 0.16 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |

Table 9: Bid Premia

The table presents estimates from OLS regressions on the premiums paid to targets by acquirers. I compute the bid premia using the price acquirer offered relative to the target's stock price 10 days prior to deal announcements. Estimations include the country-pair controls used in the baseline gravity model estimations in Table 5. Moreover, estimations include acquirer and target characteristics (listing status, cash to assets, debt to assets, relative size, return on assets, previous year stock return), deal-level controls (log deal value, cash payment, stock payment, same industry, acquirer's initial stake, acquirer's final stake), as well as industry, country and year fixed effects. A self-selection variable, inverse Mills ratio, is computed and included in all regressions to mitigate the selection bias. A constant is included in each specification but not reported in the table. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target firm. Definitions of all variables are given in Appendix A. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | Bid Premia (Mfg) | Bid Premia (Mfg) | Bid Premia | Bid Premia |
|-----------------------|--------------------|--------------------|--------------------|--------------------|
| | OLS | OLS | OLS | OLS |
| | (1) | (2) | (3) | (4) |
| Δ Management | 0.222** (0.110) | 0.413** (0.204) | 0.095** (0.040) | 0.095** (0.046) |
| Acquirer Controls | No | Yes | No | Yes |
| Target Controls | No | Yes | No | Yes |
| Deal Controls | No | Yes | No | Yes |
| Country-Pair Controls | Yes | Yes | Yes | Yes |
| Acquirer Country FE | Yes | Yes | Yes | Yes |
| Target Country FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| Acquirer Industry FE | No | Yes | No | Yes |
| Target Industry FE | No | Yes | No | Yes |
| N | 244 | 143 | 646 | 412 |
| R-squared | 0.38 | 0.84 | 0.28 | 0.61 |

Table 10: Manager Job Spells

The table presents estimates from Probit and OLS regressions predicting the probability of target managers quitting their job in the acquisition completion year or one year after. The dependent variable equals to one if the manager has quit her job, zero otherwise. I investigate the members of the top management team who has been working at the target firms since $t-1$, one year prior to acquisition completion year, or since earlier. Among these managers, I identify the ones who quit their job before year $t+2$, so this subset of managers quit their job (or forced to leave) at the deal completion year t or $t+1$. This subset of managers make my treatment set. My control sample includes all managers who have been employed at the target firm since $t-1$ and still work at the target by the end of year $t+2$. Model 4 and 8 present the estimates only for CEOs. Estimations include the country-pair controls used in the baseline gravity model estimations in Table 5. Moreover, estimations include acquirer and target characteristics (listing status, cash to assets, debt to assets, relative size, return on assets), deal-level controls (log deal value, cash payment, stock payment, same industry, acquirer's initial stake, acquirer's final stake), as well as industry, country and year fixed effects. A constant is included in each specification but not reported in the table. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target firm. Definitions of all variables are given in Appendix A. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | Probability of Quitting | | Probability of Quitting (CEOs) | | Probability of Quitting | | Probability of Quitting | | Probability of Quitting (CEOs) | |
|-----------------------|-------------------------|-------------------|--------------------------------|-------------------|-------------------------|-------------------|-------------------------|-------------------|--------------------------------|------|
| | Probit | Probit | Probit | Probit | OLS | OLS | OLS | OLS | OLS | OLS |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Δ Management | 0.076*** (0.035) | 0.097* (0.052) | 0.027 (0.068) | -0.067 (0.071) | 0.021** (0.010) | 0.029* (0.015) | 0.002 (0.015) | -0.011 (0.017) | | |
| Acquirer Controls | Yes | No | Yes | No | Yes | No | Yes | No | No | No |
| Target Controls | Yes | No | Yes | No | Yes | No | Yes | No | No | No |
| Deal Controls | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| Country-Pair Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Acquirer Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Target Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Acquirer Industry FE | No | No | Yes | No | No | No | Yes | No | No | No |
| Target Industry FE | No | No | Yes | No | No | No | No | No | No | No |
| N | 13057 | 9260 | 6485 | 872 | 14340 | 10239 | 7304 | 1087 | | |
| Pseudo R-squared | 0.15 | 0.15 | 0.22 | 0.20 | 0.19 | 0.19 | 0.28 | 0.30 | | |
| R-squared | | | | | | | | | | |

Table 11: Acquisition Success - Divestiture of the Target

The table presents estimates from Probit and Cox proportional hazard models predicting the probability of a target being divested during the years after deal completion. The dependent variable equals to one if more than 50% of the shares of the target is resold by the acquirer. If global ultimate owners of the new and the old acquirers are the same firm, I do not identify this sale as a divestiture. Estimations include the country-pair controls used in the baseline gravity model estimations in Table 5. Moreover, estimations include acquirer and target characteristics (listing status, cash to assets, debt to assets, relative size, return on assets), deal-level controls (log deal value, cash payment, stock payment, same industry, acquirer's initial stake, acquirer's final stake), as well as industry, country and year fixed effects. A constant is included in Probit specifications but not reported in the table. The variable of interest Δ Management indicates the difference in management quality between the acquirer and the target firm. Definitions of all variables are given in Appendix A. Proportional-hazards assumption necessary for the Cox Model is satisfied graphically and also numerically on the basis of Schoenfeld residuals. Standard errors are clustered at the acquirer-target country-pair level and reported in parentheses. Significance at the 10%, 5%, and 1% is indicated by *, **, and *** respectively.

| | Probability of Divestiture | | Probability of Divestiture (Mfg) | | Probability of Divestiture | | Probability of Divestiture (Mfg) | |
|-----------------------|----------------------------|---------------------|----------------------------------|--------------------|----------------------------|----------------------|----------------------------------|--|
| | Probit | Probit | Probit | Cox P. Hazard | Cox P. Hazard | Cox P. Hazard | Cox P. Hazard | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (6) | |
| Δ Management | -0.114** (0.048) | -0.115** (0.055) | -0.426*** (0.121) | -0.184* (0.099) | -0.196* (0.116) | -0.810*** (0.312) | -0.810*** (0.312) | |
| Acquirer Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Target Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Deal Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Country-Pair Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Acquirer Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Target Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Acquirer Industry FE | No | Yes | Yes | No | Yes | Yes | Yes | |
| Target Industry FE | No | Yes | Yes | No | Yes | Yes | Yes | |
| N | 2873 | 2643 | 779 | 3022 | 3022 | 3022 | 1064 | |
| Pseudo R-squared | 0.15 | 0.22 | 0.36 | | | | | |

Appendices

Appendix A: Definition of the Variables

| Variable | Definition |
|----------------------------------|--|
| Management score | Management score of a country computed by taking weighted average of the management scores from all interviews conducted with domestic firms. The weight is the employment share of the firm in its country. Source: World Management Survey |
| Trust | Average answer to the following question: Generally speaking, would you say that (1) Most people can be trusted (2) Need to be very careful (Question V25) (Source: World Values Survey). |
| Individualism | Average answer to the following question: Incomes should be more equal or We need larger income differences as incentives for individual effort (Question V141) (Source: World Values Survey). |
| Belief in competition | Average answer to the following question: "Competition good or harmful (1) Competition is good. It stimulates people to work hard and develop new ideas., (10) Competition is harmful, it brings out the worst in people" (Question E039) (Source: World Values Survey). |
| Governance index | The average of all six Kaufmann, Kraay, and Mastruzzi (2009) governance indicators: political stability, voice and accountability, government effectiveness, regulatory quality, control of corruption, and rule of law. Each of the indices ranges from 2.5 to 2.5, with higher values indicating better governance. Source: The Worldwide Governance Indicators (WGI), World Bank. |
| Openness | Exports of goods and services (2010 US\$) plus imports of goods and services (2010 US\$) divided by GDP (2010 US\$) (Source: World Development Indicators, United Nations World Integration Trade Solution (UNCTAD WITS)). |
| log GDP per capita | Logarithm of real GDP (2010 US\$) divided by the population. (Source: World Development Indicators). |
| log GDP | Logarithm of real GDP (2010 US\$). (Source: World Development Indicators). |
| GDP growth | Annual growth in real GDP. (Source: World Development Indicators). |
| Credit to private non-fin sector | Credit to private non-financial sector from all sectors at market value , as a percentage of GDP (Source: The Bank for International Settlements). |
| Real stock market return | Growth rate of annual average stock market index deflated using the Consumer Price Index (Source: The World Bank). |
| Cross-Border deal volume | For each country pair (j,i) in year t, the cross-border deal volume equals to total number of cross-border acquisitions in which the acquirer is from country j and the target is from country i (ji) (Source: BvD Zephyr). |
| Cross-Border ratio | For each country pair (j,i) in year t, the cross-border ratio is computed by normalizing the cross-border deal volume between j and i by the total deal volume (cross-border and domestic) in the target country i in year t (Source: BvD Zephyr). |
| Cross-Region deal volume | For each region pair (j,i) in the USA in year t, the cross-region deal volume equals to total number of cross-region acquisitions in which the acquirer is from region j and the target is from region i (ji) (Source: BvD Zephyr). |
| Cross-Region ratio | For each region pair (j,i) in the USA in year t, the cross-region ratio is computed by normalizing the cross-region deal volume between j and i by the total number of domestic deals in which the target is from region i (ji) (Source: BvD Zephyr). |
| Same religion | Dummy variable equal to 1 if two countries share the same religion, defined as the dominant religion of a country (Source: CIA World Factbook). |
| Same language | Dummy variable equal to 1 if two countries share the same language, defined as the primary spoken language of a country (Source: CIA World Factbook). |
| Same legal system | Dummy variable equal to 1 if two countries share the same legal system (English, German, French or Scandinavian) (Source: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998)). |

| Variable | Definition |
|-----------------------------|--|
| log Distance | Logarithm of the geographic distance between capitals, calculated using the great circle formula and latitudes and longitudes of the capital (Source: Centre DEtudes Prospectives et DInformations Internationales (CEPII)). |
| Share border | Dummy that equals 1 if two countries share a common border (Source: Centre DEtudes Prospectives et DInformations Internationales (CEPII)). |
| Bilateral trade | The maximum of bilateral import and export between a country pair. Bilateral import (export) is calculated as the value of imports (exports) by the target country from (to) the acquirer country as a percentage of total imports (exports) by the target country, based on the Harmonized System definition (UNCTAD WITS). |
| Double tax treaty | Dummy variable equal to one if the acquirer and target nation signed a double-taxation treaty (Source: UNCTAD) |
| Bilateral investment treaty | Dummy variable equal to one if the acquirer and target nation signed a bilateral investment treaty (Source: UNCTAD) |
| Real exchange rate return | The annual growth in the real bilateral exchange rate of the acquirer country (i) and target country (j) in the year preceding year t. (Source: I/B/E/S database) |
| Exchange rate volatility | The standard deviation of the first-difference of the monthly natural logarithm of the bilateral nominal exchange rate in the 24 months preceding year t (Source: I/B/E/S database). |
| Acquirer management score | Management score assigned to the acquirer firm from the matched survey firm. Deal firms are matched to survey firms based on their country and industry (two-digit SIC), then the closest survey firm in terms of size (total assets or total employee number) is identified and its management score is assigned to the deal firm. (Source: World Management Survey). |
| Target management score | Management score assigned to the target firm from the matched survey firm. Deal firms are matched to survey firms based on their country and industry (two-digit SIC), then the closest survey firm in terms of size (total assets or total employee number) is identified and its management score is assigned to the deal firm. (Source: World Management Survey). |
| log Deal value | Logarithm of the US\$ deal value (Source: BvD Zephyr). |
| Cash Payment | Dummy variable equal to one if method of payment is cash (Source: BvD Zephyr). |
| Stock Payment | Dummy variable equal to one if method of payment is stock (Source: BvD Zephyr). |
| Same Industry | Dummy variable equal to one if the acquirer and the target belong to same industry (three-digit SIC) (Source: BvD Zephyr). |
| Acquirer's initial stake | Size of the acquirer's initial stake in the target prior to deal announcement (Source: BvD Zephyr). |
| Acquirer's final stake | Size of the acquirer's final stake in the target after deal completion (Source: BvD Zephyr). |
| Cash to assets | Cash holdings divided by total assets (BvD Orbis Historical Ownership Database, BvD Amadeus). |
| Debt to assets | Debt holdings divided by total assets (BvD Orbis Historical Ownership Database, BvD Amadeus). |
| ROA | Profit before tax divided by total assets (BvD Orbis Historical Ownership Database, BvD Amadeus). |
| Relative size | Acquirer total assets divided by target total assets (BvD Orbis Historical Ownership Database, BvD Amadeus). |
| Average employee number | Average of the employee numbers given in different years (BvD Orbis Historical Ownership Database, BvD Amadeus). |
| Bid Premium | The price acquirer offered relative to the target's stock price 10 trading days prior to deal announcements (Datastream). |
| Previous year stock return | Stock buy-and-hold return in the 12 months prior to the announcement month (Source: Datastream). |

Appendix B: World Management Survey Questions and Scores

| Categories | | Management Questions (Scored from 1 to 5) | |
|------------|---|---|--|
| Operations | 1) Introducing Lean (Modern) Techniques | Can you describe the production process for me? What kinds of lean (modern) manufacturing processes have you introduced? How long has this practice been in place? Can you give me specific examples? How do you manage inventory levels? What is done to balance the line? What is the takt time of your manufacturing processes? Score 1: Other than JIT delivery from suppliers few modern manufacturing techniques have been introduced (or have been introduced in an ad-hoc manner) Score 3: Some aspects of modern (lean) manufacturing techniques have been introduced, through informal/isolated change programmes Score 5: All major aspects of modern/lean manufacturing have been introduced (Just-in-time, automation, flexible manpower, support systems, attitudes and behaviour) in a formal way | |
| Operations | 2) Rationale for Introducing Lean (Modern) Techniques | Can you take me through the rationale to introduce these processes? What factors led to the adoption of these lean (modern) management practices? Score 1: Modern (lean) manufacturing techniques were introduced because others were using them Score 3: Modern (lean) manufacturing techniques were introduced to reduce costs Score 5: Modern (lean) manufacturing techniques were introduced to enable us to meet our business objectives (including costs) | |
| Monitor | 3) Process Documentation and Continuous Improvement | How do problems typically get exposed and fixed? Talk me through the process for a recent problem. How can the staff suggest process improvements? Score 1: No process improvements are made when problems occur Score 3: Improvements are made in 1 week workshops involving all staff (to improve performance in their area of the plant) Score 5: Exposing problems in a structured way is integral to individuals responsibilities and resolution occurs as a part of normal business processes rather than by extraordinary effort/teams | |
| Monitor | 4) Performance Tracking | What kind of KPIs would you use for performance tracking? How frequently are these measured? Who gets to see this KPI data? If I were to walk through your factory could I tell how you were doing against your KPIs? Score 1: Measures tracked do not indicate directly if overall business objectives are being met. Tracking is an ad-hoc process (certain processes are tracked at all) Score 3: Most key performance indicators are tracked formally; tracking is overseen by senior management Score 5: Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools | |
| Monitor | 5) Performance Review | How do you review your KPIs? Tell me about a recent meeting. Who is involved in these meetings? Who gets to see the results of this review? What is the follow up plan? Score 1: Performance is reviewed infrequently or in an un-meaningful way (e.g. only success or failure is noted) Score 3: Performance is reviewed periodically with both successes and failures identified; Results are communicated to senior management; No clear follow-up plan is adopted Score 5: Performance is continually reviewed, based on indicators tracked; All aspects are followed up to ensure continuous improvement; Results are communicated to all staff | |
| Monitor | 6) Performance Dialogue | How are these meetings structured? Tell me about your most recent meeting. How would the agenda for the meeting be determined? What type of feedback occurs in these meetings? For a given problem, how would you identify the root cause? Score 1: The right data or information for a constructive discussion is often not present or conversations overly focus on data that is not meaningful; Clear agenda is not known and purpose is not stated explicitly Score 3: Review conversations are held with the appropriate data and information present; Objectives of meetings are clear to all participating and a clear agenda is present. Conversations do not, as a matter of course, drive to the root causes of the problems Score 5: Regular review/performance conversations focus on problem solving and addressing root causes; Purpose, agenda and follow-up steps are clear to all. Meetings are an opportunity for constructive feedback and coaching | |

| Categories | | Management Questions (Scored from 1 to 5) | |
|------------|--|--|---|
| Monitor | 7) Consequence Management | Let's say you've agreed to a follow up plan at one of your meetings, what would happen if the plan weren't enacted? How long is it between when a problem is identified to when it is solved? Can you give me a recent example? How do you deal with repeated failures in a specific business segment? | Score 5: A failure to achieve agreed targets drives retraining in identified areas of weakness or moving individuals to where their skills are appropriate |
| Target | 8) Types and Balance of Targets | What types of targets are set for the company? What are the goals for your plant? Tell me about the non-financial goals? | Score 3: Failure to achieve agreed results is tolerated for a period before action is taken Score 5: Goals are a balance of financial and non-financial targets; Senior managers believe the non-financial targets are often more inspiring and challenging than financials alone (e.g. 60% market share by 2003) |
| Target | 9) Interconnection of Targets | What is the motivation behind your goals? How are these goals cascaded down to the individual workers? How are your targets linked to company performance and their goals? | Score 3: Goals include non-financial targets, which form part of the performance appraisal of top management only (they are not reinforced throughout the rest of organisation) Score 5: Corporate goals focus on shareholder value. They increase in specificity as they cascade through business units ultimately defining individual performance expectations |
| Target | 10) Time Horizon of Targets | What kind of time scale are you looking at with your targets? Which goals receive the most emphasis? Are long term and short term goals set independently? Could you meet all your short-run goals but miss your long-run goals? | Score 5: Long term goals are translated into specific short term targets so that short term targets become a "staircase" to reach long term goals |
| Target | 11) Target Stretch | How tough are your targets? Do you feel pushed by them? On average, how often would you say that you meet your targets? Do you feel that all groups receive the same degree of difficulty, in terms of targets? Do some groups get easy targets? What is the rationale behind the targets? | Score 3: There are short and long term goals for all levels of the organisation. As they are set independently, they are not necessarily linked to each other Score 5: Goals are genuinely demanding for all divisions. They are grounded in solid, solid economic rationale |
| Target | 12) Clarity and Comparability of Goals | If I asked your staff directly about individual targets what would they tell me? Does anyone complain that the targets are too complex? How do people know about their own performance compared to other peoples performance? | Score 5: Performance measures are well defined, strongly communicated and reinforced at all levels; performance and rankings are made public to induce competition |

| Categories | | Management Questions (Scored from 1 to 5) | |
|------------|---|--|--|
| People | 13) Instilling a talent mindset/ Managing Talent | How do senior managers show that attracting and developing talent is a top priority? Do senior managers get any rewards for bringing in and keeping talented people in the company? | Score 5: Senior managers are evaluated and held accountable on the strength of the talent pool they actively build |
| People | 14) Building a High-Performance Culture through Incentives and Appraisals | Score 1: Senior management do not communicate that attracting, retaining and developing talent throughout the organisation is a top priority How does your appraisal system work? Tell me about the most recent round? How does the bonus system work? Are there any non-financial rewards for top performers? How does your reward system compare to your competitors? | Score 3: Senior management believe and communicate that having top talent throughout the organisation is a key way to win Score 5: We strive to outperform the competitors by providing ambitious stretch targets with clear performance related accountability and rewards |
| People | 15) Removing Poor Performers/ Making Room for Talent | Score 1: People within our firm are rewarded equally irrespective of performance level If you had a worker who could not do his job what would you do? Could you give me a recent example? How long would underperformance be tolerated? Do you find any workers who lead a sort of charmed life? Do some individuals always just manage to avoid being fixed/fired? | Score 3: Our company has an evaluation system for the awarding of performance related rewards Score 5: We move poor performers out of the company or to less critical roles as soon as a weakness is identified |
| People | 16) Developing Talent and Promoting High-Performers | Score 1: Poor performers are rarely removed from their positions Tell me about your promotion system. What about poor performers? What happens with them? Are there any examples you can think of? How would you identify and develop your star performers? If two people both joined the company 5 years ago and one was much better than the other what job opportunities would he/she have in the company? | Score 3: Suspected poor performers stay in a position for a few years before action is taken Score 5: We actively identify, develop and promote our top performer |
| People | 17) Distinctive Employee Value Proposition | What makes it distinctive to work at your company as opposed to your competitors? If you were trying to sell your firm to me how would you do this (get them to try to do this)? What don't people like about working in your firm? | Score 3: Our value proposition to those joining our company is comparable to those offered by others in the sector Score 5: We provide a unique value proposition above our competitors to encourage talented people to join our company |
| People | 18) Retaining Talent | If you had a star performer who wanted to leave what would the company do? Could you give me an example of a star performers being persuaded to stay after wanting to leave? Could you give me an example of a star performer who left the company without anyone trying to keep them? Score 1: We do little to try and keep our top talent | Score 5: We do whatever it takes to retain our talent |

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