

International Corporate Governance Spillovers: Evidence from Cross-Border Mergers and Acquisitions*

Rui Albuquerque

Boston University, Católica-Lisbon School of Business and Economics
CEPR, ECGI

Luis Brandão-Marques

International Monetary Fund

Miguel A. Ferreira

Nova School of Business and Economics, ECGI

Pedro Matos

University of Virginia - Darden School of Business, ECGI

This Version: October 2015

Abstract

We test the hypothesis that foreign direct investment promotes corporate governance spillovers in the host country non-target firms. Using firm-level data from 22 countries, we find that cross-border M&A activity is associated with subsequent improvements in the governance of target firms' rivals. The spillover is more pronounced when the acquirer's country has stronger investor protection than the target's country, and when the target operates in a competitive industry. Cross-border M&As also lead to increases in valuation and reductions in overinvestment of non-target firms. Our results suggest that the international market for corporate control promotes functional convergence in corporate governance.

JEL classification: G32, G34, G38

Keywords: Foreign direct investment, Corporate governance, Cross-border mergers and acquisitions, Spillovers

* We thank Sophia Chen, Ing-Haw Cheng, Stijn Claessens, David Dicks, Alexander Dyck, Mariassunta Giannetti, Peter Iliev, Wei Jiang, Andrew Karolyi, Karl Lins, Edith Liu, Darius Miller, Lukas Roth, Michael Schill, Beibei Shen, and Adrien Verdelhan; participants at the China International Conference in Finance, Columbia Conference on Corporate Governance around the World, Darden International Finance Conference, Midwest Finance Association, Napa Conference, SFS Finance Cavalcade and UNC Global Issues in Accounting; and seminar participants at Darden School of Business for helpful comments. The views expressed are those of the authors and should not be attributed to the International Monetary Fund, its Executive Board, or its management.

1. Introduction

Foreign direct investment (FDI) has been an important element in financial globalization in recent decades. According to the World Development Indicators, the yearly average ratio of world FDI net inflows to gross domestic product has increased nearly four times in the last two decades from 0.7% in the 1980s to 2.6% in the 2000s. More than half of FDI occurs through cross-border mergers and acquisitions (M&A). During the mid-2000s merger boom and again more recently in the 2010s, the value of cross-border deals exceeded the value of domestic M&As (Organization for Economic Co-operation and Development (2007)).

FDI, and especially cross-border M&As, can be a source of corporate governance improvements in the host country. An active international market for corporate control may substitute for weak investor protection and legal institutions in a host country. Research supports the idea that cross-border M&As bring corporate governance improvements to *target* firms. Rossi and Volpin (2004) find that firms based in weak legal environments are frequently targets of acquisition by firms located in strong legal environments. Bris and Cabolis (2008) and Martynova and Renneboog (2008) find that cross-border corporate transactions generate substantial valuation gains when the acquirer firm's country has stronger investor protection than the target firm's country. Karolyi and Taboada (2014) find similarly that differences in bank regulation influence cross-border M&A flows in the financial sector and are reflected in stock price reactions to cross-border deal announcements (see also Kim and Lu (2013)). None of these papers, however, provides evidence of actual corporate governance improvements.

We investigate whether the change in corporate control following a cross-border M&A leads to changes in corporate governance. Research on this topic is limited because of the unavailability of a large cross-country data set on corporate governance. We use a recent data set on firm-level corporate governance first studied in Aggarwal, Erel, Stulz, and Williamson (2009). Analysis of spillover effects – the effects of cross-border M&As on *non-target* firms that operate in the same country and industry as the target firm – provides direct evidence of changes

in actual corporate governance practices. We focus on non-target firms because it is empirically difficult to measure the effects on target firms as these firms are frequently delisted following an M&A.

We develop four main hypotheses. First, we hypothesize a positive governance spillover following a cross-border M&A by a high-governance acquirer firm. This type of spillover effect is predicted in several models (Acharya and Volpin (2010), Cheng (2011), Dicks (2012), Levit and Malenko (2013)).¹ Our hypotheses are based on a simple model à la Shleifer and Wolfenzon (2002) and Albuquerque and Wang (2008). In that model, managers are “compensated” with both formal incentive pay and private benefits. Compensation through private benefits may be desirable because having perfect governance is too expensive, but leads to overinvestment since private benefits are tied to operating revenues. We extend it to an industry setting. If a firm is the target of a cross-border M&A and the acquirer firm imposes a higher level of governance, then that firm engages in less overinvestment and therefore releases demand for its competitors. In an industry where there is imperfect competition and firms enjoy economic rents, the reduction in overinvestment by the target firm increases economic rents to its competitors therefore making formal incentive pay a more attractive form of compensation and private benefits a less attractive form of compensation. The M&A therefore acts as a coordinating device for all other firms to also improve governance, reduce overinvestment and private benefits and enjoy higher economic rents.

Second, we hypothesize that the positive spillover to the governance of the target’s local rival firms following a cross-border M&A by a high-governance acquirer firm is more pronounced in more competitive industries. This effect arises from the presence of decreasing marginal returns of governance in curtailing private benefits. Consider an industry with high product market competition, where economic rents are small and relatively more of total compensation to managers is in the form of private benefits. In this industry the optimal level of governance is

¹ In Appendix A, we construct a simple model à la Shleifer and Wolfenzon (2002) and Albuquerque and Wang (2008) that generates the same prediction.

low. After an M&A that improves governance at the target firm, the governance improvements at all other firms are especially productive in curtailing private benefits since these firms are starting from a low level of governance.

Our final two hypotheses, which follow from the discussion above, are that after cross-border M&As, the improvement in governance curtails empire-building incentives across all firms, reduces overinvestment and results in higher valuations.

To test these hypotheses, we use firm-level data on corporate governance and cross-border M&As in 22 developed countries over 2004-2008. Although U.S. firms are included in the sample as acquirers, we exclude U.S. target firms.²

The dependent variable is a firm-level governance index. Following Aggarwal, Erel, Ferreira, and Matos (2011), we measure corporate governance using the percentage of 41 attributes on which the firm meets the minimum acceptable requirements (in terms of board, audit, anti-takeover provisions, and compensation and ownership) using data from the leading proxy advisor firm, RiskMetrics/Institutional Shareholder Services (ISS). As in Aggarwal, Erel, Ferreira, and Matos (2011), the international setting allows us to consider substantially more differences in corporate governance than what we can see in a single country such as the United States. While Aggarwal, Erel, Ferreira, and Matos (2011) study *own-firm* governance changes following cross-border *portfolio investment* flows, we study the spillover effects of FDI. Because foreign direct investors assume control of the target firm, they are more likely to enact governance changes in the target firm than foreign portfolio investors, and these changes should spillover to the local economy.

Our main explanatory variable is the entry of foreign firms into an industry through cross-border M&As. We measure the value of all cross-border M&As in the target firm's industry (at the two-digit SIC level) as a fraction of the industry's market capitalization in each country and

² We focus on non-U.S. firms for three reasons: (1) U.S. firms typically have better corporate governance than otherwise similar non-U.S. firms (Aggarwal, Erel, Stulz, and Williamson (2009)); (2) the results could be affected by the fact that there are many more U.S. firms than firms in any other country; and (3) most international corporate governance studies focus on non-U.S. firms (e.g., Doidge, Karolyi, and Stulz (2004)).

year.

We find that cross-border M&As produce significant positive governance spillovers within the target firm's industry. In our main set of results, we find considerable differences in the extent of corporate governance spillover across firms. The effect is most pronounced when the acquirer firm comes from a country with a better legal environment than the target firm's country, which is consistent with our first hypothesis. Corporate governance spillovers are also more pronounced when the target firm faces tougher product market competition. This is consistent with our second hypothesis as competitive forces seem to amplify the impact of governance improvements in the target firm's rivals. Interestingly, the effect of cross-border M&As on governance alone persists even after including these interaction terms, indicating the presence of other spillover channels from FDI.

The effect is also economically significant: A one-standard deviation change in cross-border M&A from a country with stronger investor protection and into a perfectly competitive industry results in a 5% improvement in the governance index, which corresponds roughly to satisfying an additional 2 out of the 41 governance provisions. We show that these effects remain significant after controlling for covariates such as firm size, growth opportunities, leverage, tangibility, and ownership structure. Furthermore, the results are unchanged after the inclusion of firm fixed-effects, suggesting that time-invariant unobserved firm characteristics cannot explain our findings.

We then examine spillover results across governance subcategories. The governance spillovers seem to affect mainly internal governance mechanisms (i.e., board structure and executive compensation) rather than external governance mechanisms (i.e., audit and anti-takeover provisions).

Identifying peer effects is empirically challenging because of the reflection problem (Manski (1993), Leary and Roberts (2014)). The reflection problem is created when one tries to explain individual firm outcomes (e.g., firm leverage) using corresponding outcomes among a firm's peers (e.g., peer leverage). An observed correlation between a given firm's policies and the

actions or characteristics of its peers can be attributed to an endogeneity bias – i.e., selection of firms or an omitted common factor. Our experiment overcomes this challenge by examining the correlation between non-target corporate governance and a potential source of exogenous variation in peer firm attributes (i.e., industry average cross-border M&A activity), rather than examining how a given firm’s governance is related to its peers’ governance.

To validate our approach further, we use instrumental variables estimators to address omitted variables and reverse causality issues simultaneously. We use domestic M&A activity in the United States (since the sample does not include U.S. firms as targets) as a source of exogenous variation in cross-border M&A activity in a given industry and country. The exclusion restriction is likely to be satisfied as M&A activity in the United States is unlikely to be directly correlated with governance changes elsewhere. We also use import penetration and the U.S. Treasury bill rate as instruments. We find that the instruments are positively correlated with cross-border M&A activity. The instrumental variable estimates suggest a causal effect from cross-border M&A to peer effects in corporate governance.

Next we test whether the governance spillovers produce real effects. We find that cross-border M&A activity in an industry is associated with higher market valuation of non-target firms. This *firm-level* evidence is consistent with the *industry-level* evidence in Bris, Brisley, and Cabolis (2008). They find a positive relation between the industry Tobin’s Q and the average change in investor protection (difference between acquirer and target country investor protection) following cross-border M&As. We also find important spillovers on the investment rate of non-target firms in the same industry following cross-border M&As. Non-target firms react to cross-border deals in their industry by reducing their investment rate. Consistent with our hypotheses, the positive valuation effect and negative investment effect are more pronounced (1) when there is a positive difference between the acquirer and target investor protection levels and (2) when the industry is more competitive.

We discuss the possibility that alternative hypotheses such as a reduction in marginal costs, changes in the CEO labor market, and pressures from the takeover market, rather than product

market competition, explain our findings. We provide evidence that suggests that these alternative hypotheses do not explain our findings.

Our work contributes to a literature that studies convergence of corporate governance practices around the world. Researchers have observed that home-country legal protection of minority investors is an important determinant of firm governance choices (Doidge, Karolyi, and Stulz (2007)), but an increasing exposure to global markets can potentially change that. Gilson (2001) identifies three types of corporate governance convergence: (1) *functional* convergence, when firm-level governance responds to demands by market participants; (2) *formal* convergence, which occurs when there is a change in legislation that forces the adoption of best governance practices; and (3) *contractual* convergence, when firms commit themselves to better governance regimes such as U.S. cross-listing (Doidge, Karolyi, and Stulz (2004)).³ Our evidence demonstrates the importance of functional convergence as compared to formal governance code changes that are less frequent and sometimes not fully implemented (Khanna, Kogan, and Palepu (2006)) and contractual convergence through cross-listings, which have declined in the last decade (Doidge, Karolyi, and Stulz (2013)).⁴

Our paper contributes to two other literatures. One literature highlights the role of product market competition in explaining firm policy choices (e.g., Kovenock and Phillips (1997), MacKay and Phillips (2005)). The other emphasizes the importance of peer firms in determining corporate investment and financial policies (e.g., Dougal, Parsons, and Titman (2014), Leary and Roberts (2014)). More specifically, our work is related to Servaes and Tamayo (2014), who show that when a U.S. firm is targeted by a hostile takeover attempt its peer firms respond by cutting capital expenditures and cash holdings and increasing leverage and payout to shareholders. Harford, Stanfield, and Zhang (2014) find that leveraged buyout target rivals engage in governance improvements. Gantchev, Gredil, and Jotikasthira (2014) find that peers of

³ The benefits of contractual convergence are often intertwined with the increased risk sharing that occurs when companies list abroad.

⁴ See Denis and McConnell (2003) for a review of the literature on international corporate governance.

firms targeted by hedge fund activism improve operating performance in the same way as targets (Brav, Jiang, Partnoy, and Thomas (2008)). These findings are consistent with the idea that the threat of takeover and shareholder activism can help to reduce industry-wide agency problems, since they also affect the policies of industry peers. We extend these findings by providing direct evidence of governance changes through spillover effects and therefore evidence of functional convergence driven by the international market for corporate control.

Finally, we contribute to the literature that studies the effects of FDI on the host country. FDI can be a source of valuable technology and know-how through its promotion of linkages with host country firms, which can generate improvements in productivity. Empirically, however, there is mixed evidence of positive productivity spillovers associated with FDI (see, e.g., Haddad and Harrison (1993), Aitken and Harrison (1999), Javorcik (2004), Haskel, Pereira, Slaughter (2007), Keller and Yeaple (2009), Bloom, Sadun, and Van Reenen (2012), Guadalupe, Kuzmina, and Thomas (2012)). If foreign firms become more productive at the expense of lower productivity in host country firms, FDI may have an adverse effect. FDI spillovers may also be limited if there is limited absorptive capacity in some countries. This may explain why the evidence of improvements in productivity is stronger in developed markets than in emerging markets. We identify a new channel – corporate governance – through which FDI may increase host country productivity.

2. Hypothesis development

We develop four testable hypotheses to study how FDI may promote corporate governance spillovers in the host country. Appendix A offers a formal model to justify these hypotheses. The main model ingredients are: (1) that managers receive both formal pay, with a component of incentive pay, and informal pay, in the form of private benefits; (2) that incentive pay is a function of economic profits, whereas private benefits are derived from operating revenues and hence increase with firm size, à la Shleifer and Wolfenzon (2002) and Albuquerque and Wang

(2008);⁵ (3) that perfect governance can eliminate all private benefits but is too costly to be optimal and that the effect of governance on private benefits is subject to decreasing returns; and (4) that firms operate in an imperfectly competitive industry where they can extract economic rents.

As a consequence of these assumptions, managers have an empire-building incentive and “overproduce” because their private benefits grow with revenues. Industry-level profits are thus not maximized. In turn, overproduction by one firm produces an externality on its competitors because when faced with a lower demand for their products, and hence with lower economic rents, firms’ incentive provision through formal pay becomes less efficient and instead private benefits can better motivate managers to aggressively compete in their product market. The industry equilibrium has firms with weaker governance than would be optimal and with overinvestment. The overinvestment effect is consistent with evidence in Harford (1999), Gompers, Ishii, and Metrick (2003), and Philippon (2006).

To study the effects of a cross-border M&A, we assume that the target firm experiences an improvement in its governance. The target’s local rivals are free to choose their governance, but because of the externality discussed above, the target’s governance improvement spills over to the non-target local firms. The first hypothesis is:

Hypothesis 1: *Following a cross-border M&A made by a high-governance acquirer firm, we expect non-target local firms operating in the same industry as the target firm to improve their governance.*

To understand the effect of product market competition on the strength of the spillover effect, in the model, increased ex ante competition in the industry reduces managers’ ability to extract private benefits and weakens the incentives to improve governance. This result is in line with the evidence in Giroud and Mueller (2011) that firms in less competitive industries benefit more from good governance than do firms in more competitive industries.

⁵ If private benefits were a linear function of profits, there would be no wedge between managers’ and outside shareholders’ objective functions and no agency conflict.

We show that the spillover effect of a cross-border M&A is higher in more competitive industries. In more competitive industries with lower rents, the incentive to improve governance is low, so corporate governance is weak and private benefits are high. When corporate governance improves in the target firm, leading to an increase in revenues of other firms, there is a greater marginal benefit of increasing governance to protect the additional revenues. This is where the assumption of decreasing marginal benefits of governance on private benefits matters. At low levels of governance, any small improvements in governance are associated with significant reductions in private benefits. This leads to the second hypothesis:

Hypothesis 2: *Following a cross-border M&A made by a high-governance acquirer firm, we expect a greater positive spillover to the governance of non-target local firms operating in the same industry as the target firm in more competitive industries.*

The governance improvements in non-target local firms translate into more efficient production (less overinvestment) and higher firm valuations. This leads to two additional hypotheses:

Hypothesis 3: *Following a cross-border M&A made by a high-governance acquirer firm, we expect increases in the valuation of both target and non-target local firms operating in the same industry as the target firm.*

Hypothesis 4: *Following a cross-border M&A made by a high-governance acquirer firm, we expect declines in the investment rate of both target and non-target local firms operating in the same industry as the target firm.*

The governance, production efficiency and valuation results to non-target firms also apply to target firms. However, in our empirical tests we focus on the predictions for non-target firms (spillover effects) for two main reasons. First, the novel aspect of our contribution is the identification of functional convergence through spillover effects from cross-border M&As. Second, it is empirically difficult to measure the effects on target firms as these firms are frequently delisted following the purchase of a majority stake (i.e., the percentage sought is above 50%).

We have developed these hypotheses under the premise that spillovers occur through product market competition, but other mechanisms have been proposed in the theoretical literature for the propagation of governance across firms (Acharya and Volpin (2010), Cheng (2011), Dicks (2012), Levit and Malenko (2013)). We return to these considerations later when we evaluate alternative explanations.

3. Data

The data source for firm-level governance is RiskMetrics/Institutional Shareholder Services (the leading proxy advisor firm in the world). Our sample of governance attributes covers 22 developed countries across the 2004-2008 period.⁶ Following Aggarwal, Erel, Ferreira, and Matos (2011), we use 41 attributes (divided into four subcategories – board, audit, anti-takeover provisions, and compensation and ownership) to create a composite governance index, *GOV41*, for each firm and year. These attributes are listed in Table B1 of Appendix B. The index measures the percentage of attributes in which the firm meets minimum acceptable requirements. If a firm satisfies all 41 governance attributes, its *GOV41* is 100%. The evidence in Aggarwal, Erel, Stulz, and Williamson (2009) suggests that local minority shareholders benefit from governance improvements as measured by increases in *GOV41*.

The data source for cross-border M&As is the SDC Platinum database, and our sample of M&As covers the period from 2001 through 2008. We select all completed deals with targets (public and private) from countries for which firm-level governance data are available. We exclude leveraged buyouts, spinoffs, recapitalizations, self-tenders, exchange offers, repurchases, minority stake purchases, acquisitions of remaining interest, and privatizations. Of the resulting deals, we keep only those deals with a transaction value of at least US\$ 1 million. This gives a sample of 9,710 cross-border deals with 4,548 acquirers coming from 99 countries. We measure

⁶ While firm-level governance data are not available for emerging markets, there is still considerable variation across developed markets. Additionally, Aggarwal, Erel, Ferreira, and Matos (2011) show that there is some time series variation in governance as well.

cross-border M&A activity (*XVAL*) as the annual value of all cross-border deals of companies as a fraction of the market capitalization of public companies in the target's firm country and industry (at the two-digit SIC level).⁷ Note that as a consequence of the choice of denominator (because we have no information on the valuation of private companies) *XVAL* can be above 100% in industries with a significant number of private companies.

The final sample covers 2,223 firms for which *GOV4I* and *XVAL* are available. These are mostly large firms representing about 71% of the market capitalization of these countries. To focus purely on spillover effects in our tests, we exclude firms that were targets in cross-border M&As in the current year and the past three years. Target firms might have improved governance because they are a target themselves and not due to governance spillovers. Although U.S. firms are included in the sample as acquirers, we exclude U.S. target firms and corresponding spillover effects for their local rivals.

Table 1 shows that, on average, the countries with the highest *GOV4I* are Canada (67.0%), the United Kingdom (53.2%), and Switzerland (50.4%). The countries with the lowest *GOV4I* are Greece (33.7%), Portugal (35.2%), and Belgium (35.5%). Average cross-border M&A activity (*XVAL*) is the highest in the United Kingdom (at 15.0%), Norway (12.0%) and the Netherlands (7.1%) and the lowest in Finland and Japan (0). Table 2 reports the top and bottom ten industries in terms of *XVAL*. There is considerable variation in cross-border M&A activity across industries. The “transportation services” industry has the highest average level of *XVAL*. The industries with the lowest average *XVAL* include “petroleum refining” and “building materials and hardware.”

We obtain firm characteristics from Worldscope. We use several firm-specific control variables in our regressions: log of total assets in U.S. dollars (*SIZE*), two-year annual sales growth in U.S. dollars (*SGROWTH*), debt to assets ratio (*LEVERAGE*), cash holdings to assets

⁷ We use a relatively coarse level of aggregation to minimize measurement error. Worldscope assigns to each firm a four-digit SIC code based on the latest available figures of sales. This means that from year to year each firm's industry may vary, especially for large firms, such as the ones we have in our sample. We avoid this problem by aggregating industries to the two-digit SIC level.

ratio (*CASH*), capital expenditure to assets ratio (*CAPEX*), equity market-to-book ratio (*MB*), return on assets (*ROA*), research and development expenditures to assets ratio (*R&D*), property, plant, and equipment to assets ratio (*PPE*), foreign sales to total sales ratio (*FXSALE*), number of analysts following a firm (*ANALYST*), percentage of shares closely held (*CLOSE*), dummy that takes a value of one if a firm is cross-listed on a U.S. exchange (*ADR*), and sum of the holdings of institutions in a firm's shares divided by the market capitalization (*IOTOTAL*). Firm-level controls that are defined as ratios are winsorized at the bottom and top 1% levels. Table B2 in Appendix B provides variable definitions and data sources. Table 3 provides summary statistics of the variables.

To test the hypotheses on the cross-border spillover effects, we also measure corporate governance at the country level and product market competition at the industry-country level. While our sample includes only developed markets, there is substantial variation in measures of corporate governance and product market competition across countries. We use the World Economic Forum's country-level index of protections for minority shareholders to build a measure of investor protection to test Hypothesis 1.⁸ We calculate for each cross-border M&A the difference between the acquirer's and the target's country index. We then create a dummy variable, *IP*, that takes a value of one when the average (value-weighted using transaction value as weights) across cross-border M&A deals of this difference in each country-industry-year is positive, and zero otherwise. The average *IP* represents the fraction of cross-border deals in a country-industry in which the acquirer is from a country with higher investor protection than that of the target. An alternative is to use average *GOV41* to measure protection of minority shareholders at the country level. The disadvantage of this measure is that it would dramatically

⁸ The World Economic Forum (WEF) publishes yearly a measure of protection of minority shareholders' interests in the Global Competitiveness Report. This measure is based on a survey of some 14,000 business executives from up to 150 countries. Executives are asked to what extent the interests of minority shareholders are protected by the legal system in their country. Answers range from one (not protected at all) to seven (fully protected). Compared to the measure of investor protection of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) or Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) the WEF measure has the advantage of being time-varying, having more cross-country variation, and covering almost all countries in our M&A sample.

reduce our sample size to 166 target firms and 622 acquirer firms in cross-border acquisitions.

We measure product market competition using the Herfindahl-Hirschman index (*HHI*) based on annual sales for each industry and country to test Hypothesis 2. A low *HHI* indicates low concentration in an industry and potentially a more contestable and competitive industry. In the Internet Appendix, we provide summary statistics on *IP* and *HHI* by country (Table IA.1) and on *HHI* by industry (Table IA.2).

One example of a cross-border M&A with governance spillovers is the 2007 acquisition of the truck manufacturer Nissan Diesel (a Japanese firm) by Volvo AB (a Swedish firm) for US\$ 1 billion. Volvo previously held a 19% stake in Nissan and achieved full control after the acquisition. The Volvo/Nissan Diesel cross-border deal (as well as the Renault/Nissan Motors alliance in the same industry) has been credited as a catalyst for corporate governance changes in the Japanese auto industry. The Economist (2007) cites a local analyst with the proxy advisor firm, ISS, as saying “There always needs to be a success story to convince corporate Japan of the merits of foreign practices.” The same article cites evidence that Japanese companies have shifted toward more Anglo-Saxon governance standards. In our sample, Nissan’s local peers’ average corporate governance index improved from 0.38 in 2006 to 0.41 in 2008.

4. Corporate governance spillovers of cross-border mergers and acquisitions

In this section, we study the spillover effects of cross-border M&As in the corporate governance, market valuation, and investment rate of non-target firms operating in the same industry and country as the target firm.

4.1 Corporate governance results

We examine the relation between the *non-target* firm’s governance index and the intensity of cross-border M&A activity in that firm’s country-industry. We run a baseline regression using a firm-year panel:

$$GOV4I_{it} = \mu_i + \lambda_t + \gamma XVAL_{it-1} + \Gamma Z_{it-1} + \delta DMA_{it-1} + u_{it}, \quad (1)$$

where $GOV4I_{it}$ is the corporate governance index for firm i in year t and $XVAL_{it-1}$ is the value of cross-border M&As in firm i 's country-industry as a percentage of the market capitalization in year $t - 1$. The regression equation (1) includes a firm fixed-effect (μ) to control for firm-invariant characteristics, a year fixed-effect (λ) to control for changes in governance affecting many countries simultaneously (e.g., adoption of IFRS by European firms in 2005), and firm-level controls (Z). We include a dummy variable, DMA , that takes a value of one if there is a *domestic* M&A in a firm's industry. DMA is included because an active domestic market for corporate control could also influence the governance of the target's peers (Servaes and Tamayo (2014)). All explanatory variables are lagged by one year. We correct standard errors for clustering of observations at the country level (i.e., we assume observations are independent across countries, but not within countries).⁹

Table 4 reports the firm fixed-effects regression estimates. Column (1) for estimates without $XVAL$ shows that the control variables have the expected signs. Corporate governance is positively associated with institutional ownership ($IOTOTAL$) but negatively related to the percentage of closely held shares ($CLOSE$). These estimates are consistent with the idea that institutional ownership produces corporate governance improvements internationally (Aggarwal, Erel, Ferreira, and Matos (2011)). While it is important to control for these cross-border portfolio investment flows, our focus in this study is to identify the spillover effects of cross-border M&As where foreign direct investors assume control of target firms.

Column (2) considers the effect of cross-border M&A activity in an industry on the governance of non-target firms operating in the same industry. We find that a cross-border M&A has a positive and significant effect on non-target firms' governance. The market for corporate control puts pressure on governance improvements.

Hypothesis 1 posits that the international market for corporate control should have a stronger effect if the acquirer's country has better investor protection than the host country. To test this

⁹ We obtain similar estimates when we measure cross-border M&A activity using the average $XVAL$ over the prior three year period to account for delays in the implementation of governance changes.

hypothesis, we expand regression equation (1) to include a measure of the difference in investor protection between acquirer and target country (IP). The regression includes both $XVAL$ and the interaction $XVAL \times IP$. Column (3) shows that the $XVAL \times IP$ coefficient is positive and significant at the 5% level and that the $XVAL$ coefficient is statistically significant only at the 10% level. Moreover, the $XVAL \times IP$ coefficient is five times higher than the $XVAL$ coefficient. These results suggest that governance spillovers do not occur from cross-border deals in general, but are concentrated in cross-border deals in which the acquirer firm comes from a country with strong investor protection.

The estimates in column (3) imply that in deals in which the acquirer's country has better investor protection than the target's, a one-standard deviation increase in $XVAL$ is associated with a rise in non-target firms' governance index of 0.9 percentage points [= $(0.0026 + 0.0123) \times 0.581$], which represents 8% (= $0.0087 / 0.108$) of the average annual variation in $GOVAL$. Notice that this estimate is exclusively driven by the within-firm variation in corporate governance and cross-border M&A, as we are using a firm fixed-effects estimator. Unobservable (time-invariant) firm heterogeneity does not explain the corporate governance spillover effect associated with FDI in a given industry and host country.

Hypothesis 2 predicts that the corporate governance spillover effect of cross-border M&As depends on the degree of product market competition in the target firm's industry. To test this hypothesis, we expand regression equation (1) to include a measure of industry concentration – the Herfindahl-Hirschman index (HHI). The regression includes both the HHI variable and the interaction between HHI and $XVAL$. Column (4) shows that the $XVAL$ coefficient is positive and significant and the $XVAL \times HHI$ coefficient is negative and significant. The interpretation is that governance spillovers are concentrated in cross-border deals in which the target firm operates in more competitive industries (i.e., industries with low HHI). The spillover effect is three times greater in perfectly competitive industries (0.0165 in column (4)) than the average effect (0.0053 in column (2)).

Column (5) presents estimates of a regression that includes the interactions of *XVAL* with the difference in investor protection indicator ($XVAL \times IP$) and with industry concentration ($XVAL \times HHI$), as well as the triple interaction ($XVAL \times HHI \times IP$). The *XVAL* coefficient is 0.0138 and significant at the 5% level, which indicates a significant governance spillover in perfectly competitive industries even when there is no difference in investor protection between acquirer and target country industries (i.e., when *IP* is zero). The interaction $XVAL \times IP$ coefficient is 0.0725 and statistically significant, which suggests that there is a governance spillover in perfectly competitive industries when acquirer country investor protection is better than target country investor protection. In this case, a one-standard deviation increase in *XVAL* is associated with a 5 percentage points ($= (0.0138 + 0.0725) \times 0.581$) improvement in governance of non-target firms that operate in the same industry as the target firm. The effect is nearly six times stronger than that in column (3) where we do not control for product market competition. The governance spillover effect is significantly lower in less competitive industries as indicated by the negative and significant coefficients on $XVAL \times HHI$ and $XVAL \times HHI \times IP$.

We conclude that the evidence is consistent with Hypotheses 1 and 2, as the governance spillover effect is greatest when the acquirer comes from a country with stronger investor protection than that of the target country and the target operates in a competitive industry.

We perform a variety of robustness checks. First, we estimate the regressions in Table 4 using first-differences of the dependent and independent variables plus country, industry, and year fixed-effects. The dependent variable is the change in *GOV4I* from $t - 1$ to t and the main independent variables are the change from $t - 2$ to $t - 1$ of *XVAL* and its interaction with the changes in *IP* and *HHI*. Table 5 shows that the results in first-differences are qualitatively and quantitatively consistent with those obtained using firm fixed-effects despite the smaller number of observations. This reinforces our conclusion that changes in M&A activity lead to subsequent governance changes in a given industry and host country.

Second, we estimate the firm fixed-effects regressions of Table 4 restricting *XVAL* to include

only cross-border M&As in which the acquirer seeks to own more than 50% of the target's equity. This allows us to focus on the more significant M&As where majority control is sought by the acquirer. The results in Table 6, Panel A, are similar to those in Table 4.

Third, we perform a placebo test by randomizing *XVAL* across firms to see if there is a governance spillover in unrelated industries. For this effect, we randomly shuffle the values for *XVAL* and *IP* (note that *IP* depends on *XVAL* being non-zero) by country, industry, and year. The randomization is performed 1,000 times preserving the cluster structure and jointly for *XVAL* and *IP*.¹⁰ Panel B of Table 6 shows the average coefficient estimates and the standard z-score. The resulting false *XVAL* variable and its interactions with *IP* and *HHI* have no explanatory power. We conclude that spillovers are observed only in the same industry, suggesting that the spillover effect operates through the product market channel.

Fourth, we run the benchmark fixed effects regression using a sample that includes U.S. firms. Table IA.3 in the Internet Appendix shows that the results are similar with exception of the coefficient on the interaction *XVAL* x *HHI*, which is no longer significant. A possible explanation is that the *HHI* calculated at the industry and country level based on sales data is not a good measure of market concentration in a country as large as the United States, where many markets are segmented along regional boundaries.¹¹

Fifth, we use an alternative definition of investor protection based on country-year averages of our measure of firm-level governance (*GOV4I*) instead of the measure based on the WEF's index of protection of minority shareholders (*IP*). The advantage of using the average *GOV4I* is that it more directly measures firm-level governance and potentially captures somewhat different information from the *IP* measure we use in the main tests. However, *GOV4I* allows us to

¹⁰ The false *XVAL* variable has the same sample moments as the original one, but its relation to the original sample is random. The randomization using the slope coefficients may be biased toward not finding significance since it does not preserve much of the correlation structure among regressors. Kennedy (1995) recommends using the distribution of the *t*-statistics instead. We find that the distribution of the generated *t*-stats yields the same results.

¹¹ For example, in the health services industry (SIC 80) the *HHI* of 0.09 (less than half of the second-lowest *HHI* for this industry in other countries), but evidence in Cutler and Scott Morton (2013) for the hospital industry suggests that U.S. regional hospital markets are highly concentrated with half of them with *HHI* in excess of 0.25.

measure the acquirer-target differences only for firms based in the 22 developed markets and this means that acquirers from non-developed countries are ignored for the average *GOV41* measure.¹² Table IA.4 in the Internet Appendix shows that the results are similar when we use this alternative country-level measure of investor protection.

Finally, we control for country-level improvements in corporate governance by including country-specific time trends in the specifications in Table 4 and find similar results (Panel C of Table 6). The estimates in this case are driven by within-country-year variation and therefore rule out the possibility that country-level corporate governance reforms explain our findings.

The evidence is strong overall that cross-border M&A activity in an industry generates positive corporate governance spillovers to firms that operate in the same industry and host country. Consistent with Hypotheses 1 and 2, the spillover is more pronounced when the FDI originates from a country with strong investor protection and product market competition is more intense in the target firm's industry. Tables IA.5 and IA.6 in the Internet Appendix show that the results are similar when the regressions include industry-year fixed effects or global industry Tobin's Q to control for unobserved industry heterogeneity. For example, foreign acquirers could pursue targets in industry-years where they anticipate growth but main results are robust to this extra check.

4.2 Corporate governance subcategories results

We examine 41 firm-level governance attributes using the *GOV41* index. Table B1 in Appendix B provides the list of attributes organized in four broad subcategories: (1) board (24 attributes); (2) audit (3 attributes); (3) anti-takeover provisions (6 attributes); and (4) compensation and ownership (8 attributes). We present the corporate governance spillover results generated by cross-border M&As separately for each governance subcategory.

Panel A of Table 7 shows results of regressions that use the board subcategory as the

¹² For the countries where we can observe firm-level corporate governance with *GOV41*, the correlation is high with the country-level *IP* measure.

dependent variable. In column (1) the *XVAL* coefficient is insignificant. In column (2) the *XVAL* \times *IP* coefficient is positive and significant, which indicates that cross-border M&As have a positive spillover effect on the quality of boards of directors of non-target firms when acquirer country investor protection is stronger than target country protection. Column (3) indicates that the product market competition effect is statistically insignificant. Column (4) shows results that include the *XVAL* \times *IP* and *XVAL* \times *HHI* interactions as well as the triple interaction *XVAL* \times *HHI* \times *IP*. The spillover effect on board attributes is the strongest when acquirer country investor protection is stronger than target country protection and in competitive industries. The extent of the spillover effects is similar to those in Table 4 for the aggregate variable *GOV4I*.¹³

Panels B and C of Table 7 show results of regressions that use the audit and anti-takeover provisions subcategories as dependent variables, respectively. There is no evidence of statistically significant governance spillover effects of cross-border M&As in the case of these two subcategories.

Panel D of Table 7 shows results of regressions that use the compensation and ownership subcategory as the dependent variable. The *XVAL* coefficient is positive and significant in column (1). In column (2) the *XVAL* coefficient is positive and significant at the 10% level, which indicates significant spillovers even when the acquirer country has weaker investor protection than the target country. The effect is more pronounced, however, when the acquirer country has stronger investor protection than the target country, as indicated by the positive and significant interaction *XVAL* \times *IP* coefficient. Column (3) indicates that significant spillover effects take place regardless of the intensity of product market competition as shown by the positive and significant *XVAL* coefficient. Column (4) shows the strongest spillover effect to compensation and ownership attributes in perfectly competitive industries and when acquirer

¹³ For example, the board subcategory spillover estimate in perfectly competitive industries when acquirer country investor protection is stronger than target country protection (*XVAL* \times *IP* coefficient in column (4)) implies that a one-standard deviation increase in *XVAL* is associated with a 5.4 percentage points improvement in non-target firms governance.

country investor protection is better than target country protection.

Overall, we find that cross-border M&A activity in an industry seems to affect mainly internal governance mechanisms (board structure and compensation and ownership) rather than external governance mechanisms (audit attributes and anti-takeover provisions). One explanation of these findings is that external governance mechanisms such as anti-takeover provisions may not be as important outside the United States.

4.3 Endogeneity

Studies of the effect of peer choices on firm policies have a potential omitted variable problem (Manski (1993), Leary and Roberts (2014)). In our setting, the problem would arise if we were to run a regression of a firm's own governance choices on its peers' governance choices. Naturally, a correlation between the two variables would be seen because of a common omitted factor (reflection problem). Our experiment overcomes this challenge because we use the average cross-border M&A activity in a given country-industry ($XVAL$) as the independent variable rather than the governance choices of peer firms. $XVAL$ is less likely to be correlated with the omitted factor that drives both the firm's and its peers' governance choices. Another potential concern with interpretation of the results is that causality could run the opposite way. Namely, cross-border M&As might occur more often (higher $XVAL$) when foreigners are expecting improvements in governance. To address these concerns, we conduct two tests.

We first perform the first-differences regression analysis in Table 5 in the reverse direction, using the change in $GOV4I$ as the explanatory variable and the change in $XVAL$ as the dependent variable. We wish to determine whether cross-border M&As drive governance changes, or whether governance changes are intended to attract foreign bids. We estimate a regression in which the dependent variable is the change in $XVAL$ from $t - 1$ to t , and the main independent variable is the change in $GOV4I$ from $t - 2$ to $t - 1$. The regression also includes the same control variables used in Table 5. Untabulated results show that the coefficient on the change in $GOV4I$ is statistically insignificant, which is inconsistent with a reverse causality effect.

Another approach to address reverse causality concerns is to use instrumental variable estimation. Our choice of instruments is guided by previous research. From the finance literature we use the value of U.S. domestic M&As (as a percentage of market capitalization) in the same industry and year (*USDMA*). We use *USDMA* as an instrument because it should be positively related to *XVAL*, as FDI is driven by M&A waves (in the spirit of Rajan and Zingales (1998)). The exclusion restriction is likely to be satisfied as M&A activity in the United States is unlikely to be directly correlated with governance changes elsewhere. From the international trade literature we use import penetration (*IMP*), defined as the ratio of annual imports to sales in a given country-industry. *IMP* captures exogenous factors driving up foreign bidder interest in a given country-industry (e.g., tariff changes, access to markets), irrespective of any anticipation of governance changes. We expect *IMP* to be positively related to *XVAL* since openness to imports is likely go hand-in-hand with openness to FDI.

Finally, from the international finance literature we use the U.S. 3-month Treasury bill rate (*TBILL*). The choice of *TBILL* follows work on the role of the U.S Treasury bill as a push factor for FDI (Albuquerque, Bauer, and Schneider (2009)) and for total capital flows (Calvo, Leiderman, and Reinhart (1993)). Again, we do not expect *TBILL* to be related to firm-level governance changes in the host country. Because *TBILL* does not have country or industry variation, and the regression already includes year fixed-effects, we use it interacted with the other two instruments.

In summary we have the instruments: *USDMA*, *IMP*, *USDMA* \times *IMP*, and *USDMA* \times *TBILL*, and *IMP* \times *TBILL*. We instrument the endogenous variables: *XVAL* and the interaction variables *XVAL* \times *IP*, *XVAL* \times *HHI*, and *XVAL* \times *HHI* \times *IP*. Since *XVAL*, *IP*, and *HHI* are correlated and, at least *IP* is also possibly endogenous (since it depends on *XVAL*), we need to instrument not only *XVAL*, but also the interactions.¹⁴

Table 8 shows the results of the instrumental variables estimation. The regressions include

¹⁴ Note that $\widehat{XVAL} \times IP$, where \widehat{XVAL} is the predicted *XVAL* from the first stage, is not a valid instrument for *XVAL* \times *IP* (see Wooldridge (2002)).

the same control variables as in previous tables as well as firm and year fixed-effects. In the first-stage regression (untabulated), we find that the instruments are positively correlated with *XVAL*, which is consistent with our predictions. Further, Table 8 reports first-stage *F*-statistics above ten, which suggests that the instruments are not weak. Table 8 also reports Hansen's overidentification *J*-statistic. Hansen's test is a test of the null hypothesis that the excluded instruments are valid instruments, i.e., that they are uncorrelated with the error term and correctly excluded from the estimated equation. The results show that the null cannot be rejected, confirming that the instruments meet the exclusion restriction. Finally, the table reports the Sargan *C*-statistic for the null hypothesis of exogeneity of the instruments that use *TBILL* (i.e., $USDMA \times TBILL$ and $IMP \times TBILL$).

The second-stage estimates confirm a positive and significant corporate governance spillover effect following cross-border M&A activity in a given country-industry. The *XVAL* coefficient in column (1) implies that a one-standard deviation increase in predicted *XVAL* is associated with an increase in non-target firms' governance indexes of 0.8 percentage points ($= 0.1437 \times 0.053$). Columns (2)-(4) provide evidence consistent with Hypotheses 1 and 2 of the model that governance spillovers are more pronounced when acquirer country investor protection is higher than target country protection and when the industry of the target firm is more competitive. The estimates in column (4) imply that a one-standard deviation increase in predicted *XVAL* from an acquirer country with strong investor protection in perfectly competitive industries is associated with an increase in non-target firms' governance indexes of 1.9 percentage points ($= (0.1017 + 0.2495) \times 0.053$).

In untabulated analysis, the instrumental variable estimates in Table 8 are robust when we repeat the exercise but restrict the sample to majority stakes. We also perform the analysis using governance subcategories, and find that the primary changes appear to occur in the board and compensation and ownership attributes, consistent with the results in Table 7.

4.4 Valuation results

Hypothesis 3 states that acquisitions by foreign rivals lead to corporate governance improvements and valuation gains to shareholders of non-target firms that operate in the same industry as the target firm. To test this hypothesis, we use Tobin's Q (*TOBIN Q*) as the valuation measure.

The valuation results should be interpreted with caution because cross-border M&As may generate both productivity and governance effects in the target firm. While an improvement in the target's governance has a positive effect on the valuation of non-target firms in the same industry, an improvement in the target's productivity has a negative effect on the valuation of non-target firms, all else equal. As the two effects are correlated with governance changes, it is difficult to identify the effect of governance improvements on non-target firms' valuation. While the valuation results using ordinary least squares regressions do not support Hypothesis 3, we find a positive valuation spillover effect when we use an instrumental variables approach to account for the potential endogeneity of *XVAL*.

Table 9 presents the estimates of instrumental variable regressions of *TOBIN Q*. The instruments for the endogenous variable are the same as in Table 8. We use the same set of control variables as in Table 4. The *XVAL* coefficient is positive and significant, which indicates that cross-border M&A activity in an industry generates positive valuation spillovers to non-target firms operating in the same industry and host country. Column (4) includes all interaction variables and shows that these are important determinants of the extent of the valuation spillover effects to non-target firms. The interpretation is that the valuation spillover effect is enhanced if there is a positive difference in investor protection between acquirer and target countries and in more competitive industries.

Overall, we find that cross-border M&A activity in an industry generates substantial positive valuation externalities to other firms that operate in the same industry as the target. Product market competition and differences in investor protection are important conditions for valuation spillovers to occur.

4.5 Investment results

We now investigate whether cross-border M&A activity reduces empire building in non-target firms. Hypothesis 4 states that firms react to cross-border deals in their industry by reducing their investment rate. We use growth rate of assets ($\Delta ASSETS$) as proxy for the investment rate and an instrumental variables approach to account for the potential endogeneity of $XVAL$. We obtain consistent results using ordinary least squares regressions but the estimates are less precise.

Table 10 presents the results using the same instruments as in Table 8. The $XVAL$ coefficient is negative and significant, which indicates that cross-border M&As cause reductions in investment rates of non-target firms operating in the same industry and host country as the target. Column (2) shows that both the $XVAL$ coefficient and the interaction between IP and $XVAL$ are negative, which indicates a stronger spillover effect in curtailing excess overinvestment in non-target firms when acquirer country investor protection is stronger than target country protection. Column (3) shows a more pronounced reduction on investment rates in more competitive industries, as indicated by the positive coefficient on $XVAL \times HHI$. Column (4) presents consistent estimate when we allow for both differences in investor protection and differences in industry concentration.¹⁵

Our findings suggest that corporate governance spillover is an important channel to explain industrywide increases in firm valuation and reductions in empire-building following cross-border M&A activity that targets firms in a given industry and host country.

5. Alternative hypotheses

We have shown that cross-border M&As play an important role in driving functional

¹⁵ The country-level clustering requires some control variables to be partialled out, that is, removed from the regression by an application of the Frisch-Waugh-Lovell theorem. This is done by first regressing the dependent variable on the explanatory variables and then by using the residuals for the remainder of the estimation; see Davidson and MacKinnon (1993) and Baum, Schaffer, and Stillman (2010). Not doing so renders a non-invertible variance-covariance matrix. Table IA.7 in the Internet Appendix shows that the estimates are qualitatively similar when we cluster standard errors by firm, which does not require one to partial out some of the control variables.

convergence in governance. The evidence also suggests that product market competition is only one important conduit for governance spillovers. We also consider several complementary hypotheses to product market competition. While these theories individually do not appear to have a first-order effect in generating governance spillovers, they may have a considerable combined effect, strengthening our hypothesis that cross-border M&As drive functional convergence.

5.1 Takeover market

Pressures from the takeover market may induce changes in firms' governance practices that resemble the spillover effects that we identify. There are two possible scenarios. First, firms may opt for stronger governance so as to attract a takeover bid, perhaps by a foreign acquirer that demands stronger governance. If this story explains our findings, we would expect target firms to demonstrate better governance prior to a cross-border takeover than non-target firms. In our sample the average *GOV4I* for target firms in the year prior to the acquisition is 0.521 compared to 0.512 for the average *GOV4I* for non-target firms in the same industry; the difference is statistically insignificant.

Second, a move toward stronger governance could be an attempt to ward off potential acquirers and avoid a "court of last resort" (Jensen (1986)). We would therefore expect a target firm to have poorer governance prior to acquisition, which again is contrary to fact—the average *GOV4I* for targets is above that for non-targets in the year prior to the acquisition.

Two additional pieces of evidence are also inconsistent with an alternative hypothesis explanation. Changes in *GOV4I* do not predict changes in *XVAL* (see subsection 4.3), and $XVAL \times IP$ does not predict changes in anti-takeover provisions (see Panel C of Table 7).

5.2 CEO labor market

A second alternative hypothesis is that our results are driven by changes in the executive labor market induced by cross-border M&As rather than by spillover effects via product market

competition. For example, improvements in governance could reduce CEO pay and relax the participation constraint of CEOs in other firms, making it possible to increase monitoring and force CEOs to work harder (Acharya and Volpin (2010), Dicks (2012), and Levit and Malenko (2013)). We therefore measure how CEO compensation changes in target and non-target firms following the year of the M&A. In untabulated tests, we find that there is no significant change in CEO stock and option grants (attributes 37 and 39 of *GOV 41*) in the year following the cross-border M&A. While this evidence may not be conclusive, because of the small number of targets that remain public after the acquisition, it suggests that governance changes do not seem to be a response to pressures from the CEO labor market.

5.3 Technological efficiency of foreign acquirer

Cross-border M&As can bring technological innovations that reduce target firms' marginal cost of production as well as the marginal cost of production of non-target firms operating in the same industry. To take advantage of lower marginal costs, firms may optimally choose to produce more, leading to higher revenues. To protect the additional revenues, firms would have an incentive to improve governance.

This alternative hypothesis requires the operation of technological spillovers, which may be limited, as suggested by Haddad and Harrison (1993), Aitken and Harrison (1999), Javorcik (2004), and Haskel, Pereira, Slaughter (2007). Without technological spillovers, the revenues of the target firm would increase and those of the peer firms would decline as the target firm is able to grab a larger market share. In this scenario, peer firms would want weaker governance and experience lower valuations.

5.4 Shirking hypothesis

The agency conflict that we model generates empire building, leading to overinvestment in equilibrium. An alternative agency conflict is managerial shirking, in which case underinvestment occurs in equilibrium. When underinvestment occurs in equilibrium, the entry of a foreign firm that improves the target's governance reduces the target's underinvestment. It

may be possible that the target's peer firms respond by improving governance and reducing underinvestment, perhaps through product market competition. This alternative model would generate Hypotheses 1 through 3, but not Hypothesis 4.

6. Conclusion

We test several hypotheses that cross-border M&A activity in an industry is a source of functional convergence, leading to improvements in the corporate governance of target firm's industry rivals. Governance improvements are expected to be greater when the acquirer firm's country has stronger investor protection than the target firm's country and when the industry is more competitive. We provide evidence consistent with these hypotheses. Furthermore, cross-border M&As lead to increases in firm valuation and reductions in overinvestment of non-target firms, suggesting that FDI not only affects corporate governance, but also has real economic effects.

Our findings establish a direct link between FDI and the adoption of practices that promote corporate accountability and empower shareholders worldwide. To our knowledge, our paper is the first to provide evidence that the effect is not restricted to target firms but spills over to the target firm's industry rivals. Our findings show the role of market forces, namely, the international market for corporate control, in promoting good corporate governance practices worldwide, especially those related to internal governance mechanisms such as board structure and executive compensation.

We study corporate governance spillover effects only in the same industry in which the target firm operates. There may be spillovers to other industries, particularly along the target's industry supply chain, or even to all firms in the host country. We leave these questions for future research. We also leave for future research the identification of short-run versus long-run effects of cross-border M&As on corporate governance choices.

References

- Acharya, V., and P. Volpin, 2010, Corporate governance externalities, *Review of Finance* 14, 1-33.
- Aggarwal, R., I. Erel, M. Ferreira, and P. Matos, 2011, Does governance travel around the world? Evidence from institutional investors, *Journal of Financial Economics* 100, 154-181.
- Aggarwal, R., I. Erel, R. Stulz, and R. Williamson, 2009, Differences in governance practices between U.S. and foreign firms: Measurement, causes, and consequences, *Review of Financial Studies* 22, 3131-3169.
- Aitken, B., and A. Harrison, 1999, Do domestic firms benefit from direct foreign investment? Evidence from Venezuela, *American Economic Review* 89, 605-618.
- Albuquerque, R., G. Bauer, and M. Schneider, 2009, Global private information in international equity markets, *Journal of Financial Economics* 94, 18-46.
- Albuquerque, R., and N. Wang, 2008, Agency conflicts, investment, and asset pricing, *Journal of Finance* 63, 1-40.
- Baum, C.F., M.E. Schaffer, and S. Stillman, 2010, “ivreg2: Stata Module for Extended Instrumental Variables / 2SLS, GMM and AC/HAC, LIML and k-Class Regression,” <http://ideas.repec.org/c/boc/bocode/s425401.html>
- Bloom, N., R. Sadun, and J. Van Reenen, 2012, Americans do IT better: US multinationals and the productivity miracle, *American Economic Review* 102, 167-201.
- Brav, A., W. Jiang, F. Partnoy, and R. Thomas., 2008, Hedge fund activism, corporate governance, and firm performance, *Journal of Finance* 63, 1729-1775.
- Bris, A., N. Brisley, and C. Cabolis, 2008, Adopting better corporate governance: Evidence from cross-border mergers, *Journal of Corporate Finance* 14, 224-240.
- Bris, A., and C. Cabolis, 2008, The value of investor protection: Firm evidence from cross-border mergers, *Review of Financial Studies* 21, 605-648.

- Calvo, G., L. Leiderman, and C. Reinhart, 1993, Capital inflows to Latin America: The role of external factors, *IMF Staff Papers* 40, 108-151.
- Cheng, I.-H., 2011, Corporate governance spillovers, Working paper, Tuck School of Business.
- Cutler, D., and F. Scott Morton, 2013, Hospitals, market share, and consolidation, *Journal of American Medical Association* 310, 1964-1970
- Davidson, Russell, and James G. MacKinnon, 1993, *Estimation and Inference in Econometrics* (Oxford University Press, New York and Oxford).
- Denis, D., J. McConnell, 2003, International corporate governance, *Journal of Financial and Quantitative Analysis* 38, 1-36.
- Dicks, D., 2012, Executive compensation and the role for corporate governance regulation, *Review of Financial Studies* 25, 1971-2004.
- Djankov, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer, 2008, The law and economics of self-dealing, *Journal of Financial Economics* 88, 430-465.
- Doidge, C., G. A. Karolyi, and R. Stulz, 2004, Why are foreign firms listed in the US worth more? *Journal of Financial Economics* 71, 205-238.
- Doidge, C., G. A. Karolyi, and R. Stulz, 2007, Why do countries matter so much for corporate governance? *Journal of Financial Economics* 86, 1-39.
- Doidge, C., G. A. Karolyi, and R. Stulz, 2013, The U.S. left behind? Financial globalization and the rise of IPOs outside the U.S., *Journal of Financial Economics* 110, 546-573.
- Dougal, C., C. Parsons, and S. Titman, 2014, Urban vibrancy and corporate growth, *Journal of Finance*, forthcoming.
- The Economist, 2007, Message in a bottle of sauce – Japan’s corporate governance is changing, but it’s risky to rush things, November 29.
- Gantchev, N., O. Gredil, and C. Jotikasthira, 2014, Governance under the gun: Spillover effects of hedge fund activism, Working paper, University of North Carolina.
- Gilson, R., 2001, Globalizing corporate governance: Convergence of form or function, *American Journal of Comparative Law* 49, 329-357.

- Giroud, X., and H. Mueller, 2011, Corporate governance, product market competition, and equity prices, *Journal of Finance* 66, 563-600.
- Gompers, P., J. Ishii, and A. Metrick, 2003, Corporate governance and equity prices, *Quarterly Journal of Economics* 118, 107-156.
- Guadalupe, M., O. Kuzmina, and C. Thomas, 2012, Innovation and foreign ownership, *American Economic Review* 102, 3594-3627.
- Haddad, M., and A. Harrison, 1993, Are there positive spillovers from direct foreign investment? Evidence from panel data for Morocco, *Journal of Development Economics* 42, 51-74.
- Harford, J., 1999, Corporate cash reserves and acquisitions, *Journal of Finance* 54, 1969-1997.
- Harford, J., J. Stanfield, and F. Zhang, 2014, What does an LBO signal for the target's rivals? Working paper, University of Washington.
- Haskel, J., S. Pereira, and M. Slaughter, 2007, Does inward foreign direct investment boost the productivity of domestic firms? *Review of Economics and Statistics* 89, 482-496.
- Javorcik, B., 2004, Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages, *American Economic Review* 94, 605-627.
- Jensen, M., 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323-329.
- Karolyi, A., and A. Taboada, 2014, Regulatory arbitrage and cross-border bank acquisitions, *Journal of Finance*, forthcoming.
- Keller, W., and S. Yeaple, 2009, Multinational enterprises, international trade, and productivity growth: Firm level evidence from the United States, *Review of Economics and Statistics* 91, 821-831.
- Kennedy, P., 1995, Randomization tests in econometrics, *Journal of Business and Economic Statistics* 13, 85-94
- Khanna, T., J. Kogan, and K. Palepu, 2006, Globalization and similarities in corporate governance: A cross-country analysis, *Review of Economics and Statistics* 88, 69-90.

- Kim, E. H., and Y. Lu, 2013, Corporate governance reforms around the world and cross-border acquisitions, *Journal of Corporate Finance* 22, 236-253.
- Kovenock, D., and G. Phillips, 1997, Capital structure and product market behavior: An examination of plant exit and investment decisions, *Review of Financial Studies* 10, 767-803.
- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 1998, Law and finance, *Journal of Political Economy* 106, 1113-1155.
- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 2002, Investor protection and corporate valuation, *Journal of Finance* 57, 1147-1170.
- Leary, M., and M. Roberts, 2014, Do peer firms affect corporate capital structure? *Journal of Finance* 69, 139-178.
- Levit, D., and N. Malenko, 2013, The labor market for directors and externalities in corporate governance, Working paper, University of Pennsylvania.
- Manski, C., 1993, Identification of endogenous social effects: The reflection problem, *Review of Economic Studies* 60, 531-542.
- MacKay, P., and G. Phillips, 2005, How does industry affect firm financial structure? *Review of Financial Studies* 18, 1433-1466.
- Martynova, M., and L. Renneboog, 2008, Spillover of corporate governance standards in cross-border mergers and acquisitions, *Journal of Corporate Finance* 14, 200-223.
- Organization for Economic Co-operation and Development, 2007, International investment perspectives: Freedom of investment in a changing world.
- Philippon, T., 2006, Corporate governance over the business cycle, *Journal of Economic Dynamics and Control* 30, 2117-2141.
- Rajan, R., and L. Zingales, 1998, Financial dependence and growth, *American Economic Review* 88, 559-586.
- Rossi, S., and P. Volpin, 2004, Cross-country determinants of mergers and acquisitions, *Journal of Financial Economics* 74, 277-304.

- Servaes, H., and A. Tamayo, 2014, How do industry peers respond to control threats? *Management Science* 60, 380-399.
- Shleifer, A., and D. Wolfenzon, 2002, Investor protection and equity markets, *Journal of Financial Economics* 66, 3-27.
- Wooldridge, J., 2002, *Econometric Analysis of Cross Section and Panel Data* (MIT Press, Cambridge, Massachusetts).

Table 1**Corporate Governance and Cross-border M&As by Target Country**

This table shows the mean and standard deviation of the corporate governance index (*GOV41*) and annual transaction value of cross-border mergers and acquisitions (M&As) in the firm's country-industry as a fraction of market capitalization (*XVAL*). The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period.

Country	Number of observations	Number of firms	<i>GOV41</i>		<i>XVAL</i>	
			Mean	Standard deviation	Mean	Standard deviation
Australia	495	119	0.472	0.064	0.036	0.134
Austria	86	18	0.421	0.057	0.020	0.049
Belgium	124	27	0.355	0.079	0.046	0.264
Canada	797	188	0.670	0.073	0.060	0.405
Denmark	103	22	0.420	0.064	0.022	0.052
Finland	142	30	0.504	0.083	0.000	0.000
France	403	86	0.435	0.070	0.020	0.078
Germany	411	90	0.453	0.064	0.032	0.083
Greece	202	43	0.337	0.069	0.017	0.088
Hong Kong	278	66	0.432	0.058	0.013	0.034
Ireland	76	17	0.480	0.082	0.011	0.032
Italy	305	72	0.409	0.064	0.028	0.126
Japan	2,845	599	0.377	0.032	0.001	0.013
Netherlands	204	46	0.472	0.103	0.071	0.584
New Zealand	68	16	0.456	0.044	0.011	0.030
Norway	106	24	0.398	0.079	0.120	0.564
Portugal	69	14	0.352	0.047	0.007	0.020
Singapore	278	60	0.448	0.071	0.020	0.050
Spain	250	57	0.437	0.076	0.039	0.107
Sweden	207	48	0.434	0.095	0.045	0.103
Switzerland	280	61	0.504	0.095	0.011	0.022
United Kingdom	2,088	520	0.532	0.075	0.150	1.201
Total	9,817	2,223	0.460	0.108	0.050	0.581

Table 2
Corporate Governance and Cross-Border M&As by Industry

This table shows the mean and standard deviation of the corporate governance index (*GOV4I*) and annual transaction value of cross-border M&As in the firm's country-industry as a fraction of market capitalization (*XVAL*) for industries with at least five firms. The sample consists of Worldscope firms for which *GOV4I* data are available in the 2004-2008 period. Panel A reports the top ten industries and Panel B reports the bottom ten industries in terms of *XVAL*.

Panel A: Top ten industries

Industry	Number of obs.	Number of firms	<i>GOV4I</i>		<i>XVAL</i>	
			Mean	Standard deviation	Mean	Standard deviation
Transportation services	68	16	0.452	0.076	2.058	6.304
Health services	42	10	0.488	0.096	0.223	0.519
Motion pictures	37	9	0.459	0.104	0.221	0.470
Stone clay glass & concrete products	182	39	0.452	0.086	0.214	0.821
Real estate	251	58	0.450	0.103	0.160	0.210
Hotels rooming houses & camps	100	23	0.470	0.097	0.119	0.221
Primary metal industries	216	47	0.434	0.089	0.113	0.682
Rubber & miscellaneous plastics	110	24	0.446	0.094	0.093	0.849
Miscellaneous retail	91	20	0.498	0.105	0.075	0.151
Business services	633	143	0.475	0.103	0.074	0.155

Panel B: Bottom ten industries

Industry	Number of obs.	Number of firms	<i>GOV4I</i>		<i>XVAL</i>	
			Mean	Standard deviation	Mean	Standard deviation
Petroleum refining & related industries	78	16	0.485	0.145	0.000	0.001
Building materials & hardware	26	6	0.520	0.132	0.000	0.002
Apparel & accessory stores	73	17	0.450	0.080	0.002	0.004
Railroad transportation	44	9	0.498	0.155	0.002	0.016
Heavy construction except building	153	34	0.409	0.081	0.003	0.024
Food stores	149	33	0.461	0.117	0.003	0.010
Home furniture & furnishings stores	54	12	0.481	0.106	0.003	0.006
Building construction-gen. contractors	299	65	0.439	0.093	0.004	0.009
Local transit & highway passenger	74	15	0.423	0.098	0.004	0.014
Apparel & other finished products	60	13	0.391	0.069	0.005	0.015

Table 3
Summary Statistics

The table shows mean, median, standard deviation, minimum, maximum, and number of observations for each variable. The sample consists of Worldscope firms for which *GOV4I* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix.

Variable	Mean	Median	Standard deviation	Minimum	Maximum	Number of observations
<i>GOV4I</i>	0.460	0.439	0.108	0.195	0.878	9,817
<i>XVAL</i>	0.050	0.001	0.581	0.000	28.672	9,816
<i>SIZE</i>	14.598	14.579	2.237	5.347	22.052	9,221
<i>SGROWTH</i>	0.167	0.126	0.304	-0.661	2.232	9,012
<i>LEVERAGE</i>	0.235	0.219	0.190	0.000	1.319	9,220
<i>CASH</i>	0.138	0.090	0.150	0.000	0.998	8,330
<i>CAPEX</i>	0.047	0.034	0.051	0.000	0.313	9,040
<i>MB</i>	2.501	1.842	2.444	-1.870	15.969	9,418
<i>ROA</i>	0.047	0.054	0.126	-1.766	0.325	9,095
<i>R&D</i>	0.014	0.000	0.044	0.000	0.629	9,817
<i>PPE</i>	0.289	0.237	0.250	0.000	0.996	9,197
<i>FXSALES</i>	0.319	0.209	0.337	0.000	0.996	9,817
<i>ANALYST</i>	8.017	6.000	7.884	0.000	48.000	9,817
<i>CLOSE</i>	0.348	0.314	0.250	0.000	1.000	8,471
<i>ADR</i>	0.133	0.000	0.340	0.000	1.000	9,817
<i>IOTOTAL</i>	0.214	0.147	0.233	0.000	1.000	9,817
<i>DMA</i>	0.804	1.000	0.397	0.000	1.000	9,817
<i>IP</i>	0.398	0.000	0.490	0.000	1.000	9,817
<i>HHI</i>	0.278	0.197	0.248	0.000	1.000	9,805
<i>IMP</i>	1.172	0.000	3.852	0.000	27.226	10,069
<i>USDMA</i>	0.067	0.029	0.148	0.000	1.144	9,439
<i>TBILL</i>	3.134	3.149	1.405	1.371	4.730	9,515
<i>TOBIN Q</i>	1.641	1.293	1.386	0.429	36.906	9,021
<i>ΔASSETS</i>	0.107	0.054	0.256	-0.414	1.542	9,576

Table 4
Cross-Border M&As and Non-Target Corporate Governance

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV41*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). Regressions also include year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
<i>XVAL</i>		0.0053** (0.031)	0.0026* (0.095)	0.0165** (0.035)	0.0138** (0.021)
<i>IP</i>			0.0020 (0.443)		0.0013 (0.641)
<i>XVAL</i> × <i>IP</i>			0.0123** (0.011)		0.0725*** (0.009)
<i>HHI</i>				-0.0062 (0.820)	-0.0054 (0.837)
<i>XVAL</i> × <i>HHI</i>				-0.0240** (0.049)	-0.0253** (0.048)
<i>HHI</i> × <i>IP</i>					-0.0017 (0.844)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>					-0.1001** (0.028)
<i>SIZE</i>	-0.0056* (0.097)	-0.0054 (0.108)	-0.0054 (0.110)	-0.0053 (0.112)	-0.0053 (0.110)
<i>SGROWTH</i>	-0.0011 (0.686)	-0.0010 (0.701)	-0.0010 (0.701)	-0.0009 (0.719)	-0.0009 (0.724)
<i>LEVERAGE</i>	0.0049 (0.564)	0.0044 (0.601)	0.0044 (0.601)	0.0044 (0.599)	0.0043 (0.606)
<i>CASH</i>	-0.0149 (0.199)	-0.0151 (0.195)	-0.0150 (0.202)	-0.0149 (0.202)	-0.0144 (0.224)
<i>CAPEX</i>	-0.0335* (0.052)	-0.0318* (0.071)	-0.0309* (0.091)	-0.0319* (0.067)	-0.0307* (0.095)
<i>MB</i>	0.0001 (0.839)	0.0001 (0.823)	0.0001 (0.801)	0.0001 (0.828)	0.0001 (0.751)
<i>ROA</i>	0.0200*** (0.010)	0.0197** (0.011)	0.0199** (0.012)	0.0198** (0.012)	0.0200** (0.014)
<i>R&D</i>	0.0393 (0.531)	0.0408 (0.513)	0.0424 (0.498)	0.0409 (0.517)	0.0448 (0.469)
<i>PPE</i>	-0.0048 (0.677)	-0.0052 (0.651)	-0.0051 (0.657)	-0.0050 (0.663)	-0.0050 (0.666)
<i>FXSALES</i>	-0.0003 (0.944)	-0.0003 (0.957)	-0.0003 (0.948)	-0.0002 (0.972)	-0.0004 (0.934)
<i>ANALYST</i>	0.0005 (0.361)	0.0005 (0.372)	0.0005 (0.392)	0.0005 (0.385)	0.0004 (0.421)
<i>CLOSE</i>	-0.0142*** (0.007)	-0.0141*** (0.008)	-0.0145*** (0.006)	-0.0140*** (0.008)	-0.0144*** (0.006)
<i>ADR</i>	0.0202 (0.335)	0.0200 (0.340)	0.0199 (0.345)	0.0201 (0.341)	0.0203 (0.338)
<i>IOTOTAL</i>	0.0253** (0.024)	0.0249** (0.022)	0.0247** (0.020)	0.0247** (0.026)	0.0244** (0.023)
<i>DMA</i>		-0.0033 (0.371)	-0.0024 (0.454)	-0.0033 (0.365)	-0.0031 (0.397)
Number of observations	7,398	7,398	7,398	7,384	7,384
R-squared	0.875	0.875	0.875	0.875	0.876

Table 5
Cross-Border M&A and Non-Target Corporate Governance: First Differences

This table presents estimates of first differences panel regressions of the corporate governance index (*GOV41*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). Regressions include country, industry and year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
$\Delta XVAL$		0.0047*** (0.008)	0.0026* (0.062)	0.0143* (0.061)	0.0148** (0.010)
ΔIP			0.0021 (0.389)		-0.0011 (0.663)
$\Delta(XVAL \times IP)$			0.0117** (0.047)		0.0579* (0.069)
ΔHHI				-0.0088 (0.623)	-0.0137 (0.451)
$\Delta(XVAL \times HHI)$				-0.0211 (0.125)	-0.0276*** (0.008)
$\Delta(HHI \times IP)$					0.0109** (0.047)
$\Delta(XVAL \times HHI \times IP)$					-0.0763 (0.144)
$\Delta SIZE$	-0.0087*** (0.001)	-0.0088*** (0.001)	-0.0089*** (0.001)	-0.0087*** (0.001)	-0.0087*** (0.002)
$\Delta SGROWTH$	-0.0026 (0.373)	-0.0027 (0.371)	-0.0027 (0.369)	-0.0027 (0.371)	-0.0026 (0.374)
$\Delta LEVERAGE$	0.0072 (0.454)	0.0065 (0.496)	0.0071 (0.460)	0.0061 (0.521)	0.0062 (0.513)
$\Delta CASH$	-0.0148 (0.145)	-0.0153 (0.127)	-0.0153 (0.128)	-0.0155 (0.124)	-0.0156 (0.120)
$\Delta CAPEX$	-0.0264 (0.117)	-0.0245 (0.148)	-0.0250 (0.143)	-0.0247 (0.148)	-0.0263 (0.129)
ΔMB	-0.0001 (0.829)	-0.0001 (0.679)	-0.0001 (0.725)	-0.0001 (0.665)	-0.0001 (0.783)
ΔROA	0.0168** (0.024)	0.0174** (0.029)	0.0175** (0.024)	0.0178** (0.029)	0.0177** (0.025)
$\Delta R\&D$	-0.0196 (0.676)	-0.0165 (0.746)	-0.0167 (0.745)	-0.0163 (0.748)	-0.0167 (0.747)
ΔPPE	-0.0065 (0.594)	-0.0083 (0.507)	-0.0079 (0.520)	-0.0084 (0.504)	-0.0077 (0.528)
$\Delta FXSALES$	-0.0001 (0.991)	0.0001 (0.985)	0.0000 (0.996)	0.0003 (0.945)	0.0003 (0.948)
$\Delta ANALYST$	-0.0001 (0.748)	-0.0002 (0.665)	-0.0002 (0.653)	-0.0002 (0.635)	-0.0002 (0.582)
$\Delta CLOSE$	-0.0151*** (0.003)	-0.0154*** (0.002)	-0.0154*** (0.002)	-0.0159*** (0.002)	-0.0156*** (0.001)
ΔADR	0.0195** (0.024)	0.0195** (0.024)	0.0192** (0.024)	0.0195** (0.023)	0.0188** (0.027)
$\Delta IOTOTAL$	0.0175* (0.062)	0.0165** (0.048)	0.0166** (0.048)	0.0162* (0.052)	0.0163* (0.051)
ΔDMA		-0.0030 (0.331)	-0.0021 (0.502)	-0.0031 (0.315)	-0.0015 (0.611)
Number of observations	5,529	5,484	5,484	5,473	5,473
R-squared	0.209	0.210	0.211	0.210	0.212

Table 6
Cross-Border M&As and Non-Target Corporate Governance: Robustness

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV41*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). Panel A reports estimates using a sample of cross-border deals in which the percentage sought is above 50%. Panel B reports average coefficient estimates using 1,000 randomizations to calculate *XVAL* and *IP*. Panel C reports estimates using country-specific time trends. Regressions include the same control variables as in Table 4 (coefficients not shown) and year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

Panel A: Majority stakes				
	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0053** (0.032)	0.0027* (0.096)	0.0163** (0.041)	0.0135** (0.025)
<i>IP</i>		0.0031 (0.274)		0.0028 (0.375)
<i>XVAL</i> × <i>IP</i>		0.0116** (0.013)		0.0695** (0.011)
<i>HHI</i>			-0.0068 (0.803)	-0.0054 (0.838)
<i>XVAL</i> × <i>HHI</i>			-0.0236* (0.060)	-0.0245* (0.057)
<i>HHI</i> × <i>IP</i>				-0.0032 (0.730)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.0958** (0.033)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.876	0.876	0.876	0.876

Panel B: Placebo tests				
	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0000 (0.985)	-0.0001 (0.983)	0.0000 (1.000)	-0.0001 (0.983)
<i>IP</i>		0.0001 (0.964)		0.0028 (0.963)
<i>XVAL</i> × <i>IP</i>		-0.0001 (0.992)		-0.0004 (0.985)
<i>HHI</i>			-0.0071*** (0.000)	-0.0071* (0.059)
<i>XVAL</i> × <i>HHI</i>			-0.0002 (0.990)	0.0001 (0.994)
<i>HHI</i> × <i>IP</i>				-0.0002 (0.979)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				0.0008 (0.988)
Number of observations	7,397	7,397	7,383	7,383
Randomizations	1,000	1,000	1,000	1,000

Table 6: Continued

Panel C: Country-specific time trends

	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0054*** (0.002)	0.0027*** (0.010)	0.0170*** (0.001)	0.0141*** (0.008)
<i>IP</i>		0.0022 (0.467)		0.0017 (0.593)
<i>XVAL</i> × <i>IP</i>		0.0118*** (0.004)		0.0695** (0.027)
<i>HHI</i>			-0.0005 (0.985)	0.0000 (0.999)
<i>XVAL</i> × <i>HHI</i>			-0.0251*** (0.003)	-0.0259** (0.041)
<i>HHI</i> × <i>IP</i>				-0.0024 (0.777)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.0962* (0.054)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.876	0.876	0.877	0.877

Table 7
Cross-Border M&As and Non-Target Corporate Governance Subcategories

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV4I*) subcategories on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). Panel A presents the results for board attributes, Panel B for audit attributes, Panel C for anti-takeover provisions and Panel D for compensation and ownership attributes. Regressions include the same control variables as in Table 4 (coefficients not shown) and year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV4I* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

Panel A: Board				
	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0033 (0.185)	-0.0001 (0.962)	0.0217 (0.168)	0.0223** (0.023)
<i>IP</i>		0.0026 (0.365)		0.0036 (0.363)
<i>XVAL</i> × <i>IP</i>		0.0155** (0.028)		0.0711*** (0.009)
<i>HHI</i>			-0.0229 (0.308)	-0.0197 (0.373)
<i>XVAL</i> × <i>HHI</i>			-0.0391 (0.199)	-0.0517*** (0.009)
<i>HHI</i> × <i>IP</i>				-0.0088 (0.458)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.0827* (0.054)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.892	0.892	0.892	0.893
Panel B: Audit				
	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0036 (0.678)	0.0104 (0.307)	-0.0071 (0.877)	-0.0308 (0.355)
<i>IP</i>		-0.0161 (0.158)		-0.0297** (0.033)
<i>XVAL</i> × <i>IP</i>		-0.0287 (0.170)		0.0422 (0.740)
<i>HHI</i>			0.0973 (0.507)	0.0801 (0.582)
<i>XVAL</i> × <i>HHI</i>			0.0211 (0.843)	0.0982 (0.247)
<i>HHI</i> × <i>IP</i>				0.0548** (0.032)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.1671 (0.425)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.681	0.681	0.681	0.682

Table 7: Continued

Panel C: Anti-takeover provisions				
	(1)	(2)	(3)	(4)
<i>XVAL</i>	-0.0014 (0.574)	-0.0007 (0.665)	-0.0085 (0.480)	-0.0066 (0.525)
<i>IP</i>		0.0071 (0.226)		0.0060 (0.367)
<i>XVAL</i> × <i>IP</i>		-0.0043 (0.341)		-0.0394 (0.169)
<i>HHI</i>			-0.0072 (0.507)	-0.0133 (0.264)
<i>XVAL</i> × <i>HHI</i>			0.0156 (0.464)	0.0135 (0.511)
<i>HHI</i> × <i>IP</i>				0.0078 (0.318)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				0.0593 (0.168)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.785	0.785	0.785	0.786

Panel D: Compensation and ownership				
	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0170** (0.034)	0.0103* (0.076)	0.0287** (0.026)	0.0200 (0.158)
<i>IP</i>		0.0031 (0.528)		0.0027 (0.460)
<i>XVAL</i> × <i>IP</i>		0.0305** (0.016)		0.1720*** (0.009)
<i>HHI</i>			0.0060 (0.895)	0.0110 (0.813)
<i>XVAL</i> × <i>HHI</i>			-0.0254 (0.332)	-0.0212 (0.582)
<i>HHI</i> × <i>IP</i>				-0.0086 (0.707)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.2468** (0.025)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.736	0.736	0.736	0.737

Table 8
Cross-Border M&As and Non-Target Corporate Governance: Instrumental Variables

This table presents estimates of instrumental variable estimates of firm fixed effects panel regressions of corporate governance index (*GOV41*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). The instruments for the endogenous variables (*XVAL*, $XVAL \times IP$, $XVAL \times HHI$, $XVAL \times HHI \times IP$) are: (1) the value of domestic M&A (as a percentage of market capitalization) in the same industry and year in the United States, *USDMA*; (2) import penetration, defined as the ratio of annual imports to sales in a given country-industry, *IMP*; (3) the U.S. 3-month Treasury bill rate, *TBILL*, interacted with the other two instruments using two-step GMM. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Regressions include the same control variables (coefficients not shown) as in Table 4, including *IP*, *HHI* and $IP \times HHI$, and year fixed effects. All explanatory variables are lagged one year. Variable definitions are provided in Table B2 in the Appendix. The table also reports the *F*-statistic for the first-stage regression of *XVAL*, Hansen's *J*-statistic for the null that all instruments are valid (test of overidentifying restrictions), and Sargan's *C*-statistic for the null of exogeneity of the instruments that use *TBILL*. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.1437*** (0.000)	0.5405*** (0.000)	0.1713*** (0.005)	0.1017*** (0.004)
$XVAL \times IP$		0.2605*** (0.000)		0.2495*** (0.000)
$XVAL \times HHI$			-0.2419*** (0.002)	-0.1693*** (0.000)
$XVAL \times HHI \times IP$				-0.3876*** (0.003)
First stage F-statistic	28.75	19.79	14.72	34.22
Hansen J-statistic	1.037	8.193	5.400	13.278
p-value	(0.792)	(0.415)	(0.611)	(0.581)
Exogeneity test	0.073	8.826	0.881	10.575
p-value	(0.964)	(0.265)	(0.927)	(0.566)
Number of observations	6,979	6,979	6,979	6,979

Table 9
Cross-Border M&A and Non-Target Firm Valuation: Instrumental Variables

This table presents estimates of instrumental variable estimates of firm fixed effects panel regressions of Tobin's Q (*TOBIN Q*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). The instruments for the endogenous variables (*XVAL*, *XVAL* × *IP*, *XVAL* × *HHI*, *XVAL* × *HHI* × *IP*) are: (1) the value of domestic M&A (as a percentage of market capitalization) in the same industry and year in the United States, *USDMA*; (2) import penetration, defined as the ratio of annual imports to sales in a given country-industry, *IMP*; (3) the U.S. 3-month Treasury bill rate, *TBILL*, interacted with the other two instruments using two-step GMM. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Regressions include the same control variables (coefficients not shown) as in Table 4, including *IP*, *HHI* and *IP* × *HHI*, and year fixed effects. All explanatory variables are lagged one year. Variable definitions are provided in Table B2 in the Appendix. The table also reports the *F*-statistic for the first-stage regression of *XVAL*, Hansen's *J*-statistic for the null that all instruments are valid (test of overidentifying restrictions), and Sargan's C-statistic for the null of exogeneity of the instruments that use *TBILL*. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
<i>XVAL</i>	2.5861*	1.7981***	5.1096***	2.2210***
	(0.061)	(0.002)	(0.002)	(0.000)
<i>XVAL</i> × <i>IP</i>		-0.1600		1.3539***
		(0.776)		(0.006)
<i>XVAL</i> × <i>HHI</i>			-6.7232***	-3.2288***
			(0.002)	(0.000)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-6.1163***
				(0.000)
First stage F-statistic	15.70	22.37	6.99	23.21
Hansen <i>J</i> -statistic	6.980	11.104	8.674	17.174
p-value	(0.073)	(0.134)	(0.277)	(0.308)
Exogeneity test	4.591	8.126	5.917	13.384
p-value	(0.101)	(0.322)	(0.206)	(0.342)
Number of observations	6,714	6,714	6,714	6,714

Table 10
Cross-Border M&As and Non-Target Firm Asset Growth: Instrumental Variables

This table presents estimates of instrumental variable estimates of firm fixed effects panel regressions of the growth rate of total assets ($\Delta ASSETS$) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization ($XVAL$). The instruments for the endogenous variables ($XVAL$, $XVAL \times IP$, $XVAL \times HHI$, $XVAL \times HHI \times IP$) are: (1) the value of domestic M&A (as a percentage of market capitalization) in the same industry and year in the United States, $USDMA$; (2) import penetration, defined as the ratio of annual imports to sales in a given country-industry, IMP ; (3) the U.S. 3-month Treasury bill rate, $TBILL$, interacted with the other two instruments using two-step GMM. The sample consists of Worldscope firms for which $GOV41$ data are available in the 2004-2008 period. Regressions include the same control variables (coefficients not shown) as in Table 4, including IP , HHI and $IP \times HHI$, and year fixed effects, but partial them out to allow country-level clustering. All explanatory variables are lagged one year. Variable definitions are provided in Table B2 in the Appendix. The table also reports the F -statistic for the first-stage regression of $XVAL$, Hansen's J -statistic for the null that all instruments are valid (test of overidentifying restrictions), and Sargan's C -statistic for the null of exogeneity of the instruments that use $TBILL$. Robust p -values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
$XVAL$	-0.5509** (0.015)	-0.1514 (0.301)	-0.9254*** (0.000)	-0.6879*** (0.000)
$XVAL \times IP$		-0.9623*** (0.006)		-1.9593*** (0.000)
$XVAL \times HHI$			1.0416*** (0.001)	0.8119*** (0.000)
$XVAL \times HHI \times IP$				1.0348 (0.282)
First stage F-statistic	16.70	31.12	5.63	49.50
Hansen J -statistic	1.814	5.169	2.533	13.500
p-value	(0.612)	(0.739)	(0.925)	(0.554)
Exogeneity test	0.514	4.101	0.226	11.388
p-value	(0.773)	(0.768)	(0.994)	(0.496)
Number of observations	6,815	6,815	6,815	6,815

Appendix A

This appendix solves a simple industry oligopoly model that offers economic intuition for our main hypotheses. Consider an industry composed of $N \geq 2$ identical firms, labeled with subscript i . Outside shareholders and the manager of every firm are risk-neutral. The model has two decision stages. In the first stage, outside shareholders of firm i choose firm-level governance, $\phi_i \geq 0$, given the $N - 1$ governance choices of all other firms. In the second stage, given the governance choices, firm i 's manager chooses private benefits, $0 \leq s_i \leq 1$, and the quantity to sell of output, $q_i \geq 0$, given the choices of all other firms. Production entails a constant marginal cost, $c \geq 0$. The equilibrium price, $p \geq 0$, clears the market for the output. Letting Q denote the aggregate supply of the output, the demand function is $p = aQ^{-1}$, where the demand parameter, $a \geq 0$, is assumed to be large enough so that equilibrium profits are positive. This demand specification has negative unit elasticity, which makes it convenient analytically.

Nash equilibrium

We start by solving the second stage (the manager's problem). Firm i 's manager's compensation is composed of a fixed component, $w_0 \geq 0$; an equity component that results from managerial ownership, $0 < \alpha < 1$, times firm profits, π_i ; and private benefits, which may be captured at a cost (Shleifer and Wolfenzon (2002), La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002)):

$$w_0 + \alpha\pi_i + s_i pq_i - \phi_i \frac{s_i^2}{2} pq_i. \quad (\text{A.1})$$

Following Albuquerque and Wang (2008), we model a quadratic cost of extracting private benefits, which depends on the level of governance, ϕ_i .

Given the amount of private benefits, profits equal:

$$\pi_i = (1 - s_i)pq_i - cq_i. \quad (\text{A.2})$$

Managers choose s_i and q_i to maximize equation (A.1) subject to equation (A.2). The first-order necessary and sufficient conditions are:

$$\text{FOC for } s_i: \quad -\alpha p q_i + p q_i - \phi_i s_i p q_i = 0,$$

$$\text{FOC for } q_i: \quad \alpha \left((1 - s_i) \left(p + \frac{dp}{dq_i} q_i \right) - c \right) + s_i \left(p + \frac{dp}{dq_i} q_i \right) - \phi_i \frac{s_i^2}{2} \left(p + \frac{dp}{dq_i} q_i \right) = 0.$$

The first of these conditions yields, $s_i = (1 - \alpha)/\phi_i$. Private benefits are higher, the lower the manager's equity share and the weaker corporate governance. We constrain parameters so that $s_i < 1$.

The second condition can be simplified by factorizing the term $p + \frac{dp}{dq_i} q_i$:

$$\left(\alpha(1 - s_i) + s_i - \phi_i \frac{s_i^2}{2} \right) \left(p + \frac{dp}{dq_i} q_i \right) = \alpha c.$$

Since $p + \frac{dp}{dq_i} q_i = p \left(1 - \frac{q_i}{Q} \right)$ and $\alpha(1 - s_i) + s_i - \phi_i \frac{s_i^2}{2} = \alpha + (1 - \alpha)s_i/2 \stackrel{\text{def}}{=} \bar{\alpha}_i$, this equation can be solved to yield:

$$q_i = Q - \frac{\alpha c}{\bar{\alpha}_i a} Q^2. \tag{A.3}$$

In this model, because $\bar{\alpha}_i > \alpha$, firms produce more when their governance is weaker. The intuition for this result follows from Albuquerque and Wang (2008). Because private benefits are derived from revenues, managers have incentives to sell more. Because all other firms are also producing more, this behavior generates an externality where overall production increases. This “overproduction” story is consistent with evidence of overinvestment (see Harford (1999), Gompers, Ishii, and Metrick (2003), and Philippon (2006)).

Having solved the manager's problem, we can now determine the symmetric equilibrium outcome. Since $Q = q_1 + \dots + q_N$, equation (A.3) yields the solution to aggregate industry supply $Q = \frac{N-1}{\sum_{i=1}^N \bar{\alpha}_i a} \alpha c$, and prices are $p = \frac{1}{N-1} \sum_{i=1}^N \frac{\alpha c}{\bar{\alpha}_i a}$.

We now turn to the equilibrium in the first stage (the outside shareholder's governance choice problem). Outside shareholders maximize their share of profits net of wages and net of the cost of improving governance, which we model as $d\eta^{-1}\phi_i^\eta$, where $d \geq 0$ is a scale parameter, and $\eta \geq 1$ describes how fast the cost of changing governance increases as governance improves:

$$\max_{\phi_i} \{(1 - \alpha)[(1 - s_i)pq_i - cq_i] - w_0 - d\eta^{-1}\phi_i^\eta\}.$$

It is convenient to rewrite the optimization in terms of s_i and replace $\phi_i = (1 - \alpha)/s_i$. The necessary and sufficient first-order condition for s_i is:

$$-(1 - \alpha)pq_i + d(1 - \alpha)^\eta s_i^{-\eta-1} = 0. \quad (\text{A.4})$$

Note that an interior condition does not require $\eta > 1$. In fact, all our results remain when the cost of changing governance is linear in governance, i.e., $\eta = 1$.

This first-order condition presumes that managers disregard their choice of governance on second stage prices and quantities. While these may be non-trivial effects, they are likely to cancel each other with regard to their effect on revenues because better governance reduces quantities and increases prices. To keep the model simple and to be able to derive an intuition for our results, we ignore these effects.

In a symmetric first-stage equilibrium, $s_1 = \dots = s_N = s^*$, which then leads to $q_1 = \dots = q_N = q^*$, with $q^* = \frac{N-1}{N^2} \frac{\bar{a}a}{\alpha c}$, $p^* = \frac{N}{N-1} \frac{\alpha c}{\bar{a}}$, with

$$s^* = \left(\frac{d}{a} N (1 - \alpha)^{\eta-1} \right)^{1/(\eta+1)}.$$

When costs of adopting stronger governance increase, i.e., d increases, governance is weakened and private benefits increase. If the demand parameter, a , increases, however, the benefits of improving governance increase and private benefits are reduced. These two effects are proportional to each other. More ex ante competition, i.e., higher N , diminishes managers' ability to extract private benefits and thus reduces the incentives to improve governance.

We now present a necessary and sufficient condition that guarantees the existence of equilibria with positive profits. To simplify the expression, we work with the case $\eta = 1$. Substituting the equilibrium values for prices, quantities, and private benefits into profits, and setting $w_0 = 0$, it is possible to show that firm profits are positive if and only if

$$\frac{1}{N} - \left(\frac{1}{2} \frac{N-1}{N} \frac{1-\alpha}{\alpha} + 2 \right) \sqrt{\frac{dN}{a}} > 0.$$

For a fixed number of firms, N , there is a large enough demand parameter, a , that guarantees that this expression holds. In addition, since the term in parentheses is larger than 1 and the term multiplying it is $s_i = \sqrt{dN/a}$, for profits to be positive, private benefits must be less than 100%. Conversely, for fixed a , increasing the number of firms eventually leads to negative profits in the industry and to private benefits at 100% of revenues.

Spillover effects of a cross-border M&A

To model the effects of a cross-border acquisition, we assume that a firm, labeled with subscript “ f ”, is the target firm of a cross-border M&A and that the acquirer firm imposes better governance ($s_f < s^*$). We label all other firms with the subscript “ l ” for local. Repeating the calculations for the second-stage equilibrium private benefits and quantities, we find from equation (A.3) that $q_l = Q - \frac{\alpha c}{\bar{\alpha}_l a} Q^2$, and $q_f = Q - \frac{\alpha c}{\bar{\alpha}_f a} Q^2$, and that the equilibrium output price

$$\text{is } p^* = \frac{\alpha c}{\bar{\alpha}_l} + \frac{1}{N-1} \frac{\alpha c}{\bar{\alpha}_f}.$$

In the first stage, we solve only for governance of the local firms since the target firm exogenously changed its governance. Note that revenues for the local firms are $p q_l = a - \frac{\alpha c}{\bar{\alpha}_l} Q$. The first-order condition for governance for a target firm’s local rival is as in equation (A.4), but where we replace $Q = (N - 1)q_l + q_f$, and yields the implicit solution for s_l :

$$\frac{d}{a} (1 - \alpha)^{\eta-1} = s_l^{\eta+1} \left(1 - \frac{N-1}{N-1 + \frac{\bar{\alpha}_l}{\bar{\alpha}_f}} \right).$$

We can now derive our two main results. First, using the implicit function theorem and after some algebra:

$$\frac{\partial s_l}{\partial s_f} = \frac{1}{2} (1 - \alpha) \frac{(N-1)\bar{\alpha}_l}{(N-1)\bar{\alpha}_f + \bar{\alpha}_l} \frac{s_l}{(\eta+1)\bar{\alpha}_l + (N-1)(\bar{\alpha}_l - \alpha)} > 0.$$

Better governance imposed on the target firm, i.e., lower s_f , leads to lower private benefits in the other local firms, i.e., lower s_l . Intuitively, when the target firm improves its governance, and thus optimally reduces overproduction, more rents can be extracted by local rival firms in the

industry. These additional rents increase the marginal benefit of improving governance, otherwise more is taken away in the form of private benefits. This provides our first testable hypothesis:

Hypothesis 1: *Following a cross-border M&A made by a high-governance acquirer firm, we expect non-target local firms operating in the same industry as the target firm to improve their governance.*

Next, we consider the effect of product market competition, i.e., higher N , on $\frac{\partial s_l}{\partial \bar{\alpha}_f}$. The function $\frac{\partial s_l}{\partial s_f}$ depends on s_l and on N . Ignoring the indirect effect through s_l , it can be shown that $\frac{\partial^2 s_l}{\partial N \partial s_f} > 0$. That is, greater industry competition increases the responsiveness of governance in the industry with the cross-border M&A. The intuition is that when governance improves in a firm and more rents are available to other firms, it pays off to improve governance in these other firms, and the effect is more pronounced if governance is weaker, which is true with high N .

Hypothesis 2: *Following a cross-border M&A made by a high-governance acquirer firm, we expect a greater positive spillover to the governance of non-target local firms operating in the same industry as the target firm in more competitive industries.*

Appendix B

Table B1
Firm-Level Governance Attributes

Panel A: Board

- 1 All directors attended 75% of board meetings or had a valid excuse
- 2 CEO serves on the boards of two or fewer public companies
- 3 Board is controlled by more than 50% independent outside directors
- 4 Board size is at greater than five but less than sixteen
- 5 CEO is not listed as having a related-party transaction
- 6 Compensation committee composed solely of independent outsiders
- 7 Chairman and CEO positions are separated, or there is a lead director
- 8 Nominating committee composed solely of independent outsiders
- 9 Governance committee exists and met in the past year
- 10 Shareholders vote on directors selected to fill vacancies
- 11 Governance guidelines are publicly disclosed
- 12 Annually elected board (no staggered board)
- 13 Policy exists on outside directorships (four or fewer boards is the limit)
- 14 Shareholders have cumulative voting rights
- 15 Shareholder approval is required to increase/decrease board size
- 16 Majority vote requirement to amend charter/bylaws (not supermajority)
- 17 Board has the express authority to hire its own advisers
- 18 Performance of the board is reviewed regularly
- 19 Board-approved succession plan in place for the CEO
- 20 Outside directors meet without CEO and disclose number of times met
- 21 Directors are required to submit resignation upon a change in job
- 22 Board cannot amend bylaws without shareholder approval or can do so only under limited circumstances
- 23 Does not ignore shareholder proposal
- 24 Qualifies for proxy contest defenses combination points

Panel B: Audit

- 25 Consulting fees paid to auditors are less than audit fees paid to auditors
- 26 Audit committee composed solely of independent outsiders
- 27 Auditors ratified at most recent annual meeting

Panel C: Anti-takeover provisions

- 28 Single class, common
- 29 Majority vote requirement to approve mergers (not supermajority)
- 30 Shareholders may call special meetings
- 31 Shareholders may act by written consent
- 32 Company either has no poison pill or a pill that is shareholder approved.
- 33 Company is not authorized to issue blank check preferred

Panel D: Compensation and ownership

- 34 Directors are subject to stock ownership requirements
- 35 Executives are subject to stock ownership guidelines
- 36 No interlocks among compensation committee members
- 37 Directors receive all or a portion of their fees in stock
- 38 All stock-incentive plans adopted with shareholder approval
- 39 Options grants align with company performance and reasonable burn rate
- 40 Officers' and directors' stock ownership is at least 1% but not over 30% of total shares outstanding
- 41 Repricing prohibited

Table B2
Variable Definitions

Variable	Definition
<i>GOV41</i>	Firm-level index of corporate governance based on 41 attributes on board, audit, anti-takeover provisions, and compensation and ownership structure (RiskMetrics).
<i>XVAL</i>	Value of cross-border M&As (SDC Platinum) divided by market capitalization (Worldscope item 08001) in a country-industry (two-digit SIC level).
<i>SIZE</i>	Log of total assets in thousands of U.S. dollars (Worldscope item 02999).
<i>SGROWTH</i>	Two-year geometric average of annual growth rate in sales in U.S.dollars (Worldscope item 01001).
<i>LEVERAGE</i>	Total debt (Worldscope item 03255) divided by total assets (Worldscope item 02999).
<i>CASH</i>	Cash and short-term investments (Worldscope item 02001) divided by total assets (Worldscope item 02999).
<i>CAPEX</i>	Capital expenditures (Worldscope item 04601) divided by total assets (Worldscope item 02999).
<i>MB</i>	Market value of equity (Worldscope item 08001) divided by book value of equity (Worldscope item 03501).
<i>ROA</i>	Ratio of net income before extraordinary items (Worldscope item 01551) plus interest expenses (Worldscope item 01151) to total assets (Worldscope item 02999).
<i>R&D</i>	Research and development expenditures (Worldscope item 01201) divided by total assets (Worldscope item 02999).
<i>PPE</i>	Property, plant, and equipment (Worldscope item 02501) divided by total assets (Worldscope item 02999).
<i>FXSALES</i>	International sales (Worldscope item 07101) as a proportion of sales (Worldscope item 01001).
<i>ANALYST</i>	Number of analysts following a firm (IBES).
<i>CLOSE</i>	Number of shares held by insiders (shareholders who hold five percent or more of the outstanding shares, such as officers, directors, and immediate families, other corporations or individuals), as a fraction of the number of shares outstanding (Worldscope item 08021).
<i>ADR</i>	Dummy that equals one if a firm is cross-listed on a U.S. exchange through a level 2-3 ADR or ordinary listing, and zero otherwise (major depository institutions and U.S. stock exchanges).
<i>IOTOTAL</i>	Holdings by institutional investors as a fraction of market capitalization (FactSet/LionShares).
<i>DMA</i>	Dummy that takes a value one if there is at least one domestic M&A deal in a country-industry.
<i>IP</i>	Dummy variable that takes a value of one if the value-weighted average (weights are value of transaction) difference between acquirer and target's country-level level of investor protection (World Economic Forum) in a given country-industry (two-digit SIC) is positive, and zero otherwise.
<i>HHI</i>	Herfindahl-Hirschman index of the market shares based on sales (Worldscope item 01001) in a country-industry.
<i>IMP</i>	Import penetration, defined as imports (United Nations Comtrade) over sales (Worldscope item 01001) in a country-industry.
<i>DVAL</i>	Value of domestic M&As (SDC Platinum) divided by market capitalization (Worldscope item 08001) in a country-industry (two-digit SIC level).
<i>USTBILL</i>	Yield to maturity of 3-month U.S. Treasury bills (Datastream).
<i>TOBIN Q</i>	Total assets (Worldscope item 02999) plus market value of equity (Worldscope item 08001) minus book value of equity (Worldscope item 03501) divided by total assets (Worldscope item 02999).
<i>AASSETS</i>	Annual growth rate of total assets (Worldscope item 02999).

Internet Appendix for
“International Corporate Governance Spillovers:
Evidence from Cross-Border Mergers and Acquisitions”

Rui Albuquerque

Boston University, Católica-Lisbon School of Business and Economics
CEPR, ECGI

Luis Brandão-Marques

International Monetary Fund

Miguel A. Ferreira

Nova School of Business and Economics, ECGI

Pedro Matos

University of Virginia - Darden School of Business, ECGI

This Version: October 2015

Table IA.1**Summary Statistics: Investor Protection and Market Concentration by Target Country**

This table shows the mean and standard deviation of the investor protection (*IP*) and Herfindahl-Hirschman index (*HHI*) variables. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix.

Country	Number of observations	Number of firms	<i>IP</i>		<i>HHI</i>	
			Mean	Standard deviation	Mean	Standard deviation
Australia	495	119	0.146	0.354	0.376	0.206
Austria	86	18	0.701	0.460	0.566	0.265
Belgium	124	27	0.661	0.475	0.618	0.222
Canada	797	188	0.407	0.492	0.247	0.183
Denmark	103	22	0.364	0.484	0.551	0.288
Finland	142	30	1.000	0.000	0.538	0.286
France	403	86	0.758	0.429	0.361	0.225
Germany	411	90	0.147	0.354	0.316	0.245
Greece	202	43	0.812	0.392	0.387	0.254
Hong Kong	278	66	0.382	0.487	0.302	0.245
Ireland	76	17	0.805	0.399	0.607	0.268
Italy	305	72	0.785	0.412	0.372	0.214
Japan	2,845	599	0.362	0.481	0.099	0.093
Netherlands	204	46	0.745	0.437	0.464	0.236
New Zealand	68	16	0.538	0.502	0.776	0.248
Norway	106	24	0.537	0.501	0.639	0.254
Portugal	69	14	0.609	0.492	0.643	0.259
Singapore	278	60	0.510	0.501	0.358	0.255
Spain	250	57	0.727	0.447	0.474	0.275
Sweden	207	48	0.347	0.477	0.427	0.242
Switzerland	280	61	0.787	0.410	0.460	0.293
United Kingdom	2,088	520	0.151	0.358	0.248	0.195
Total	9,817	2,223	0.396	0.489	0.280	0.248

Table IA.2
Summary Statistics: Market Concentration by Industry

The table shows mean and standard deviation of the Herfindahl-Hirschman index (*HHI*) of sales market shares by industry. The sample consists of Worldscope firms for which *GOV4I* data are available in the 2004-2008 period. The number of firms is the average number of firms used in the calculation of the *HHI*, by country and year. Variable definitions are provided in Table B2 in the Appendix.

Industry	Number of firms	Mean	Standard deviation
Agricultural Production-Crops	4	0.575	0.330
Forestry	3	0.716	0.280
Fishing Hunting & Trapping	1	0.955	0.135
Metal Mining	334	0.279	0.213
Coal Mining	24	0.346	0.210
Oil & Gas Extraction	117	0.463	0.359
Mining & Quarrying-Nonmetallic Minerals	15	0.821	0.173
Building Construction-Gen Contractors	53	0.166	0.181
Heavy Construction Except Building	46	0.235	0.253
Construction-Special Trade Contractors	14	0.284	0.196
Food & Kindred Products Mfrs	76	0.188	0.184
Tobacco Products Mfrs	2	0.754	0.254
Textile Mill Products Mfrs	17	0.390	0.257
Apparel & Other Finished Products-Mfrs	25	0.309	0.253
Lumber & Wood Prods Except Furniture Mfrs	7	0.391	0.355
Furniture & Fixtures Mfrs	10	0.497	0.254
Paper & Allied Products Mfrs	17	0.345	0.240
Printing Publishing & Allied Industries	22	0.281	0.202
Chemicals & Allied Products Mfrs	122	0.157	0.156
Petroleum Refining & Related Industries Mfrs	4	0.533	0.325
Rubber & Miscellaneous Plastics Mfrs	17	0.408	0.209
Leather & Leather Products Mfrs	3	0.926	0.013
Stone Clay Glass & Concrete Prods Mfrs	18	0.415	0.235
Primary Metal Industries Mfrs	34	0.377	0.282
Fabricated Metal Products Mfrs	46	0.262	0.215
Industrial & Commercial Machinery Mfrs	145	0.144	0.122
Electronic & Other Electrical Equip Mfr	157	0.162	0.178
Transportation Equipment Mfrs	53	0.249	0.162
Measuring & Analyzing Instruments-Mfrs	61	0.269	0.201
Miscellaneous Manufacturing Industries Mfrs	30	0.366	0.326
Railroad Transportation	5	0.594	0.266
Local/Suburban Transit & Hwy Passenger	10	0.313	0.246
Motor Freight Transportation/Warehouse	26	0.365	0.303
Water Transportation	13	0.541	0.289
Transportation By Air	5	0.625	0.235
Transportation Services	5	0.569	0.203

Table IA.2: Continued

Industry	Number of firms	Mean	Standard deviation
Communications	20	0.250	0.486
Electric Gas & Sanitary Services	25	0.255	0.189
Wholesale Trade-Durable Goods	79	0.269	0.214
Wholesale Trade-Nondurable Goods	51	0.247	0.232
Building Materials & Hardware	9	0.481	0.305
General Merchandise Stores	25	0.313	0.323
Food Stores	22	0.427	0.300
Automotive Dealers & Service Stations	9	0.420	0.294
Apparel & Accessory Stores	18	0.368	0.324
Home Furniture & Furnishings Stores	16	0.297	0.179
Eating & Drinking Places	38	0.325	0.280
Miscellaneous Retail	23	0.268	0.184
Depository Institutions	38	0.224	0.144
Nondepository Credit Institutions	23	0.232	0.210
Security & Commodity Brokers	42	0.283	0.223
Insurance Carriers	14	0.313	0.227
Insurance Agents Brokers & Service	5	0.657	0.313
Real Estate	57	0.142	0.125
Holding & Other Investment Offices	161	0.279	0.241
Hotels Rooming Houses & Camps	11	0.353	0.137
Personal Services	5	0.402	0.074
Business Services	210	0.138	0.159
Auto Repair Services & Parking	6	0.289	0.130
Miscellaneous Repair Services	2	0.778	0.201
Motion Pictures	17	0.277	0.249
Amusement & Recreation Services	25	0.314	0.222
Health Services	10	0.401	0.213
Educational Services	16	0.343	0.112
Social Services	3	0.697	0.309
Engineering & Accounting & Mgmt Svcs	62	0.182	0.163
Miscellaneous Services Nec	11	0.475	0.390
Administration Of Economic Programs	1	1.000	0.000
National Security & International Affairs	1	1.000	0.000

Table IA.3
Cross-Border M&As and Non-Target Corporate Governance: Sample Including U.S. Firms

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV4I*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). Regressions include the same control variables as in Table 4 (coefficients not shown) and year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV4I* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0073** (0.001)	0.0042** (0.029)	0.0146*** (0.008)	0.0112** (0.035)
<i>IP</i>		0.0021 (0.259)		0.0020 (0.224)
<i>XVAL</i> × <i>IP</i>		0.0138*** (0.000)		0.0533 (0.161)
<i>HHI</i>			-0.0068 (0.709)	-0.0048 (0.798)
<i>XVAL</i> × <i>HHI</i>			-0.0154 (0.189)	-0.0155 (0.256)
<i>HHI</i> × <i>IP</i>				-0.0037 (0.516)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.0688 (0.255)
Number of observations	24,749	24,749	24,712	24,712
R-squared	0.920	0.921	0.921	0.921

Table IA.4
Cross-Border M&As and Non-Target Corporate Governance: Alternative Measure of Investor Protection

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV41*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). The *IP* dummy variable is calculated using the average *GOV41* in each country and year. Regressions include the same control variables as in Table 4 (coefficients not shown) and year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0053** (0.031)	0.0038** (0.010)	0.0165** (0.035)	0.0028 (0.707)
<i>IP</i>		0.0015 (0.375)		-0.0029 (0.310)
<i>XVAL</i> × <i>IP</i>		0.0119* (0.098)		0.0314** (0.031)
<i>HHI</i>			-0.0062 (0.820)	-0.0161 (0.492)
<i>XVAL</i> × <i>HHI</i>			-0.0240** (0.049)	0.0034 (0.809)
<i>HHI</i> × <i>IP</i>				0.0161 (0.203)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.0452** (0.012)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.366	0.367	0.365	0.367

Table IA.5**Cross-Border M&As and Non-Target Corporate Governance: Industry-Year Fixed Effects**

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV4I*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). Regressions include the same control variables as in Table 4 (coefficients not shown) and industry-year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV4I* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0060*** (0.001)	0.0022* (0.090)	0.0216*** (0.000)	0.0160** (0.042)
<i>IP</i>		0.0011 (0.706)		-0.0008 (0.867)
<i>XVAL</i> × <i>IP</i>		0.0157*** (0.000)		0.1094*** (0.010)
<i>HHI</i>			0.0023 (0.923)	0.0021 (0.933)
<i>XVAL</i> × <i>HHI</i>			-0.0327** (0.006)	-0.0304 (0.119)
<i>HHI</i> × <i>IP</i>				0.0005 (0.962)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.1582** (0.017)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.401	0.401	0.400	0.403

Table IA.6
Cross-Border M&As and Non-Target Corporate Governance: Control for Global Industry
Tobin's Q

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV41*) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization (*XVAL*). *GLOBAL Q* is the average Tobin's Q across all firms in a given industry (two-digit SIC) and year. Regressions include the same control variables as in Table 4 (coefficients not shown) and year fixed effects. All explanatory variables are lagged one year. The sample consists of Worldscope firms for which *GOV41* data are available in the 2004-2008 period. Variable definitions are provided in Table B2 in the Appendix. Robust *p*-values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
<i>XVAL</i>	0.0054** (0.031)	0.0022* (0.090)	0.0216*** (0.000)	0.0160** (0.042)
<i>IP</i>		0.0011 (0.706)		-0.0008 (0.867)
<i>XVAL</i> × <i>IP</i>		0.0157*** (0.000)		0.1094*** (0.010)
<i>HHI</i>			0.0023 (0.923)	0.0021 (0.933)
<i>XVAL</i> × <i>HHI</i>			-0.0327** (0.006)	-0.0304 (0.119)
<i>HHI</i> × <i>IP</i>				0.0005 (0.962)
<i>XVAL</i> × <i>HHI</i> × <i>IP</i>				-0.1582** (0.017)
<i>GLOBAL Q</i>		0.0000 (0.994)	-0.0030 (0.125)	-0.0030 (0.175)
Number of observations	7,398	7,398	7,384	7,384
R-squared	0.366	0.401	0.400	0.403

Table IA.7
Cross-Border M&As and Non-Target Firm Asset Growth: Instrumental Variables

This table presents estimates of instrumental variable estimates of firm fixed effects panel regressions of the growth rate of total assets ($\Delta ASSETS$) on the value of cross-border M&A in a firm's country-industry as a fraction of market capitalization ($XVAL$). The instruments for the endogenous variables ($XVAL$, $XVAL \times IP$, $XVAL \times HHI$, $XVAL \times HHI \times IP$) are: (1) the value of domestic M&A (as a percentage of market capitalization) in the same industry and year in the United States, $USDMA$; (2) import penetration, defined as the ratio of annual imports to sales in a given country-industry, IMP ; (3) the U.S. 3-month Treasury bill rate, $TBILL$, interacted with the other two instruments using two-step GMM. The sample consists of Worldscope firms for which $GOV41$ data are available in the 2004-2008 period. Regressions include the same control variables (coefficients not shown) as in Table 4. All explanatory variables are lagged one year. Variable definitions are provided in Table B2 in the Appendix. The table also reports the F -statistic for the first-stage regression of $XVAL$, Hansen's J -statistic for the null that all instruments are valid (test of overidentifying restrictions), and Sargan's C -statistic for the null of exogeneity of the instruments that use $TBILL$. Robust p -values adjusted for country-level clustering are reported in brackets. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)
$XVAL$	-0.6169* (0.089)	-0.1185 (0.538)	-0.8563* (0.066)	-0.7416*** (0.008)
IP		0.0132 (0.385)		0.0565*** (0.005)
$XVAL \times IP$		-0.5682 (0.154)		-1.7059** (0.012)
HHI			-0.0879 (0.232)	0.0463 (0.608)
$XVAL \times HHI$			1.1919* (0.054)	0.8783** (0.042)
$IP \times HHI$				-0.0099 (0.847)
$XVAL \times HHI \times IP$				-0.2903 (0.887)
First stage F-statistic	4.21	9.38	3.51	3.75
Hansen J -statistic	5.948	19.941	10.275	15.118
p-value	(0.114)	(0.011)	(0.174)	(0.443)
Exogeneity test	3.560	14.892	8.291	9.296
p-value	(0.169)	(0.011)	(0.141)	(0.504)
Number of observations	6,815	6,815	6,815	6,815