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

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We test the hypothesis that foreign direct investment promotes corporate governance spillovers in the host country. Using firm-level data from 64 countries during the period 2005–2014, we find that cross-border M&A activity is associated with subsequent improvements in the governance of nontarget firms when the acquirer country has stronger investor protection than the target country. The effect is more pronounced when the target industry is more competitive. Cross-border M&As are also associated with increases in investment and valuation of nontarget firms. Alternative explanations, such as access to global financial markets and cultural similarities, do not appear to explain our findings. (*JEL* G32, G34, G38)

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 (GDP) has increased nearly six times in the last decades from 0.5% in the 1980s to 3% between 2000 and 2014. More than half of FDI occurs through cross-border mergers and acquisitions (M&As). 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 (Organisation 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 (Manne 1965; Scharfstein 1988). 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 M&As generate substantial valuation gains when the acquirer firm's country has stronger investor protection than the target firm's country. 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. The main hypothesis is that there is a positive governance spillover for nontarget firms following a cross-border M&A when the acquirer firm is from a country with higher investor protection relative to the host country. We discuss several mechanisms that predict such spillovers, which share the intuition that cross-border M&As act as a coordinating device for other firms to also improve governance. Further, we hypothesize that cross-border M&As lead to increases in investment and valuation of nontarget firms in line with the predicted governance spillovers. In our analysis, we focus on nontarget firms because it is empirically difficult to measure the effects on target firms as these firms are frequently delisted following the M&A.[1]

To test these hypotheses, we use firm-level data on corporate governance and cross-border M&As in 64 target countries over 2005–2014, covering both emerging and developing nations. Although U.S. firms are included in the sample as acquirers, we exclude U.S. target firms in the main tests.[2] The main dependent variable is a firm-level governance index. We measure corporate

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[1] We identify 233 targets in cross-border M&As in our sample. Of these targets, 28 are delisted in the same year, 187 are delisted the following year, and only 18 remain in our sample for two years or more after the deal.

[2] We focus on non-U.S. target firms for three reasons: (1) U.S. firms typically have better corporate governance than otherwise similar non-U.S. firms (Aggarwal et al. 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) we use domestic M&A activity in the United States as an instrumental variable.

governance using the percentage of 16 attributes on which the firm meets the minimum acceptable requirements (in terms of board, audit, antitakeover provisions, and compensation and ownership) drawn from the Bloomberg's Environmental, Social and Governance (ESG) database. The sample includes 6,691 unique non-U.S. firms, for a total of 33,498 firm-year observations for which we have data for the main variables of interest. While our index relies on fewer governance attributes than most international corporate governance studies, our sample is substantially larger and has greater cross-country and time-series variation. For example, Aggarwal et al. (2009, 2011) use an index that relies on 41 governance attributes from the RiskMetrics/Institutional Shareholder Services (ISS), but the sample only includes 22 countries, all of which are developed countries, over 2004–2008.

Our international setting allows us to consider substantially more differences in governance than what we can see in a single country such as the United States. While Aggarwal et al. (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 can spillover to the local economy.

Our main explanatory variable depends on who the relevant peer firms are with regards to the target firm. The mechanisms for governance spillovers that we consider suggest that we look at nontarget firms that operate in the same country and industry as the target firm. Our main explanatory variable measures the entry of foreign firms into a country/industry through cross-border M&As, interacted with the difference in investor protection between the source country and host country. We measure the value of all cross-border M&As in the target firm's industry as a fraction of market capitalization. In our regressions, we also control for the level of cross-border M&As in order to control for the primary reasons that cause capital flows regardless of the differences in investor protection. We also control for covariates, such as firm size, growth opportunities, leverage, tangibility, insider ownership, and institutional ownership, and year and firm fixed effects.

We find that cross-border M&As from source countries with relatively stronger investor protection vis-à-vis the host country produce significant positive governance spillovers within the target firm's industry. In contrast, the level of cross-border M&As by itself is statistically insignificant. The governance spillover effect due to cross-border M&A from a source country with stronger investor protection is economically significant if compared with the effects of other important governance determinants, such as foreign institutional ownership. A 1-standard-deviation change in cross-border M&A from a country with stronger investor protection vis-à-vis the host country results in a change in the governance index that represents 2.5% of the annual standard deviation in that index. In contrast, in Aggarwal et al. (2011), a 1-standard-deviation change in foreign institutional ownership results in a change

that represents 3% of the standard deviation in their governance index. Thus, our governance *spillover effect* is about the same size as the *direct effect* of foreign institutional ownership on governance. What is remarkable about the effect in our paper is that, as a spillover effect, it changes the governance of all the firms in the industry (excluding the direct effect on the target firm, which presumably could be much larger). These findings are consistent with the notion that cross-border M&As can promote good corporate governance practices in the host country.

One specific mechanism that we hypothesize to lead to such spillovers is product market competition. Following Giroud and Mueller (2011), we hypothesize that firms in less competitive industries may be subject to greater agency costs, which may persist even after the entry of a foreign competitor. We find significant differences in the degree of governance spillovers when the target firm faces tougher product market competition. A 1-standard-deviation change in cross-border M&A from a country with stronger investor protection vis-à-vis the host country and into a perfectly competitive industry results in a change in the governance index that represents 5.5% of the annual standard deviation in that index. Our governance spillover effect in competitive industries is almost double the size of the direct effect of foreign institutional ownership on governance in Aggarwal et al. (2011).

It is possible that the industry spillover effects that we capture are in fact country spillover effects. While we do not find a statistically significant effect of country-wide cross-border M&As in the governance of nontarget firms, we consider two prominent theories for country effects of cross-border M&As. First, Doidge, Karolyi, and Stulz (2007) hypothesize that increased access to global financial markets for firms located in countries with low economic and financial development can lead to governance changes across the board. Taking cross-border M&A activity at the country level as shocks to the access to global financial markets, we find no evidence of governance spillovers when the target firm is located in a country with low GDP per capita or low stock market capitalization (as a percentage of GDP).[3] Second, Ahern, Daminelli, and Fracassi (2015) show that the volume of cross-border M&As is higher between countries with relatively similar cultures. We find no evidence of governance spillovers after cross-border M&As involving countries with relatively similar cultures. We conclude that the effect of cross-border M&As remains significant when we control for economic development, financial development, and culture variables. Other mechanisms such as the takeover market, the CEO labor market or technological efficiency also do not seem to explain our findings.

Next, we test whether the governance spillovers produce real effects. We find that cross-border M&A activity in an industry from a source country with relatively higher investor protection vis-à-vis the host country is associated with

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[3] It is, however, possible that our test of the Doidge, Karolyi, and Stulz (2007) hypothesis lacks power by not having a large enough shock to global financial market access.

increases in investment of nontarget firms in the target firm's industry. We also find positive spillovers on the market valuation of nontarget firms following cross-border M&As. 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 redo our empirical exercise using an instrumental variables estimator to address omitted variables and reverse causality issues simultaneously.[4] We use the level of tariffs by industry in the host country, the level of import penetration in the host country/industry, and domestic M&A activity in the United States (since the sample does not include U.S. firms as targets) as sources of exogenous variation in cross-border M&As in each country and industry. These instruments are jointly significant in explaining cross-border M&As. The instrumental variable estimates suggest a causal effect from cross-border M&A (from source countries with relatively higher investor protection) to peer effects in corporate governance.

Our work contributes to a literature that studies convergence of corporate governance practices around the world (see Denis and McConnell 2003 for a review of the literature on international corporate governance). 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, when there is a change in legislation that forces the adoption of better governance practices; and (3) *contractual* convergence, when firms commit themselves to better governance regimes such as through U.S. cross-listing (Doidge, Karolyi, and Stulz 2004; Kumar and Ramchand 2008; Lel and Miller 2008). Our evidence demonstrates the importance of functional convergence as compared to formal convergence 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).

Our research is also related to papers that link product market competition and firm policy choices (e.g., Kovenock and Phillips 1997; MacKay and Phillips 2005) as well as papers that highlight the importance of peer firms

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[4] Note that our exercise is not subject to 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, that is, selection of firms or an omitted common factor. Our experiment overcomes this challenge by examining the correlation between nontarget 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.

in determining investment and financial policies (e.g., Dougal, Parsons, and Titman 2015; Leary and Roberts 2014). Consistent with our results, Servaes and Tamayo (2014) show that when a U.S. firm is targeted by a hostile takeover attempt its industry peers respond by cutting capital expenditures and cash holdings and increasing leverage and payout to shareholders. In addition, Harford, Stanfield, and Zhang (2016) find that leveraged buyout target rivals engage in governance improvements, and Gantchev, Gredil, and Jotikasthira (2014) find that peers of firms targeted by hedge fund activism improve operating performance in the same way as targets. These findings are consistent with the idea that the threat of takeover and shareholder activism can help reduce industry-wide agency problems, since they also affect the policies of industry peers. We extend these findings by providing direct evidence of industry-wide corporate governance changes through spillover effects and therefore evidence of functional convergence driven by the international market for corporate control.

In addition, our research is linked to a literature that examines the determinants and valuation gains of cross-border M&As. Previous research highlights the role of differences in country-level investor protection (Rossi and Volpin 2004; Bris and Cabolis 2008; Chari, Ouimet, and Tesar 2010), cultural proximity (Ahern, Daminelli, and Fracassi 2015), economic nationalism (Dinc and Erel 2013), foreign institutional investors (Ferreira, Massa, and Matos 2010), currency and stock market valuation (Erel, Liao, and Weisbach 2012), international taxation (Huizinga and Voget 2009), bank regulatory arbitrage (Karolyi and Taboada 2015), differences in takeover laws (Lel and Miller 2015), differences in labor market regulations (Alimov 2015; Dessaint, Golubov, and Volpin 2017), and industry specialization (Frésard, Hege, and Phillips 2017).

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 by promoting linkages with host country firms, which can generate improvements in productivity. Empirically, however, there is mixed evidence of productivity spillovers associated with FDI (e.g., Haddad and Harrison 1993; Aitken and Harrison 1999; Javorcik 2004; Haskel, Pereira, and Slaughter 2007; Keller and Yeaple 2009; Bloom, Sadun, and Van Reenen 2012; Guadalupe, Kuzmina, and Thomas 2012; Abebe, McMillan, and Serafinelli 2017). If foreign firms become more productive at the expense of lower productivity in host country firms, FDI may actually have an adverse effect. We identify a new channel—corporate governance—through which FDI may generate productivity spillover effects at the industry level.

1. Data

The data source for firm-level governance is Bloomberg's Environmental, Social and Governance (ESG). Our sample of governance attributes covers 64 countries over 2005–2014. We use 16 attributes (divided into four

subcategories: board, audit, antitakeover provisions, and compensation and ownership) to create a composite governance index, *GOV*, for each firm and year. Table A1 of the appendix lists the attributes.[5] The index measures the percentage of attributes in which the firm meets minimum acceptable requirements. If a firm satisfies all 16 governance attributes, its *GOV* is 100%. The evidence in Aggarwal et al. (2009) suggests that local minority shareholders benefit from governance improvements as measured by increases in governance indexes. They use an index that relies on 41 governance attributes from the RiskMetrics/Institutional Shareholder Services (ISS), but their sample is limited in terms of the number of countries and years (22 developed countries over 2004–2008).

The data source for cross-border M&As is SDC Platinum, and our sample of M&As covers the period from 2004 through 2013 (all explanatory variables are lagged by 1 year). We select all completed deals in which the acquirer seeks to own more than 50% of the target's equity (i.e., the parent's target is a public company) from countries for which firm-level governance data are available. By restricting our sample to control acquisitions, we focus on the most significant M&As, which are more likely to change the level of protection to the target firm's investors. We exclude leveraged buyouts, spinoffs, recapitalizations, self-tenders, exchange offers, repurchases, minority stake purchases, acquisitions of remaining interest, and privatizations. Of the resultant deals, we keep only those deals with a transaction value of at least $1 million. This gives a sample of 9,995 cross-border deals with acquirers coming from 144 countries.

The spillover mechanisms that we study can differ on which nontarget firms are affected: industry peers or country peers. In the first case, we measure cross-border M&A activity (*XVAL*) as the annual value of all cross-border deals in the target firm's country and industry (at the two-digit SIC level) as a fraction of market capitalization. In the second case, we measure cross-border M&A activity (*XVALC*) as the annual value of all cross-border deals in the target firm's country as a fraction of market capitalization. We winsorize *XVAL* and *XVALC* at the bottom and top 1% levels.

The final sample covers 6,691 unique firms for which firm-specific *GOV* and country-industry-level *XVAL* are available. In 2014, these firms represent roughly 56% of the market capitalization of these countries.[6] To focus purely on spillover effects in our tests, we exclude firms that were targets themselves in cross-border M&As in the current year. 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

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[5] Bloomberg's ESG contains 269 indicators that vary greatly in coverage. We selected the 16 in our index from those indicators with good coverage that are also most related to the attributes in the index used by Aggarwal et al. (2009). The overall correlation between the two indexes is 0.6.

[6] The percentage of market capitalization covered by the firms in our sample ranges from 11% in Peru to 80% in Japan.

Table 1
Corporate governance and cross-border M&As by target country

Country	Number of observations	Number of firms	GOV		XVAL	
			Mean	SD	Mean	SD
Argentina	30	8	0.650	0.083	0.020	0.042
Australia	1,975	333	0.706	0.093	0.028	0.064
Austria	47	16	0.735	0.089	0.011	0.028
Belgium	75	23	0.639	0.105	0.049	0.096
Bermuda	50	21	0.705	0.101	0.013	0.015
Brazil	526	127	0.716	0.060	0.010	0.044
Canada	1,584	284	0.821	0.084	0.018	0.034
Chile	30	12	0.719	0.073	0.010	0.020
China	6,052	1,115	0.706	0.065	0.001	0.004
Colombia	23	10	0.742	0.063	0.000	0.000
Denmark	112	29	0.724	0.089	0.021	0.075
Finland	76	40	0.726	0.083	0.014	0.024
France	660	114	0.633	0.123	0.013	0.045
Germany	138	42	0.745	0.075	0.015	0.044
Greece	30	16	0.640	0.078	0.003	0.006
Hong Kong	711	157	0.631	0.112	0.004	0.023
India	3,597	765	0.600	0.108	0.004	0.009
Indonesia	167	57	0.628	0.071	0.001	0.004
Israel	74	20	0.709	0.090	0.010	0.014
Italy	279	59	0.728	0.069	0.018	0.059
Japan	10,453	1,926	0.672	0.046	0.002	0.015
Luxembourg	30	11	0.723	0.133	0.008	0.018
Malaysia	273	67	0.608	0.105	0.004	0.018
Mexico	125	39	0.688	0.074	0.012	0.027
Netherlands	222	55	0.764	0.084	0.029	0.067
New Zealand	71	25	0.707	0.097	0.012	0.028
Norway	154	41	0.744	0.080	0.039	0.087
Pakistan	23	13	0.620	0.116	0.003	0.000
Peru	13	6	0.663	0.087	0.077	0.155
Philippines	121	37	0.607	0.112	0.001	0.006
Poland	36	11	0.641	0.078	0.052	0.116
Portugal	39	10	0.694	0.062	0.016	0.038
Russian Federation	137	45	0.671	0.103	0.005	0.026
Singapore	325	67	0.683	0.115	0.019	0.063
South Africa	405	93	0.664	0.102	0.008	0.035
South Korea	175	35	0.671	0.062	0.002	0.015
Spain	214	48	0.658	0.090	0.017	0.047
Sweden	354	73	0.698	0.109	0.020	0.046
Switzerland	156	39	0.808	0.094	0.005	0.008
Taiwan	1,161	307	0.629	0.071	0.001	0.003
Thailand	106	35	0.602	0.096	0.001	0.002
Turkey	100	37	0.693	0.060	0.007	0.051
United Kingdom	2,477	370	0.767	0.077	0.030	0.064
United Arab Emirates	26	12	0.721	0.102	0.005	0.014
Other	66	41				
Total	33,498	6,691	0.686	0.094	0.009	0.035

This table shows number of observations, number of firms, mean, and standard deviation of the corporate governance index (*GOV*) and annual transaction value of cross-border mergers and acquisitions (M&As) in the target firm's country-industry as a fraction of market capitalization (*XVAL*). The sample consists of FactSet firms for which *GOV* data are available in the 2005–2014 period. Table A2 in the appendix provides the variable definitions.

exclude U.S. target firms and corresponding spillover effects for their local peers.

Table 1 shows that, on average, the countries with the highest *GOV* are Canada (82.1%), Switzerland (80.8%), and the United Kingdom (76.7%).

Table 2
Corporate governance and cross-border M&As by target industry

Industry	Number of observations	Number of firms	GOV		XVAL	
			Mean	SD	Mean	SD
A. Top ten industries						
Trucking & warehousing	181	36	0.672	0.068	0.035	0.082
Oil & gas extraction	919	173	0.748	0.112	0.028	0.052
Coal mining	276	58	0.694	0.073	0.027	0.074
Wholesale trade, nondurable goods	464	98	0.698	0.075	0.026	0.070
Hotels & other lodging places	215	44	0.643	0.111	0.021	0.065
Lumber & wood products	56	15	0.757	0.094	0.017	0.067
Agricultural services	37	11	0.684	0.102	0.017	0.073
Petroleum & coal products	64	29	0.724	0.094	0.017	0.079
Miscellaneous retail	367	77	0.684	0.085	0.015	0.067
Business services	2,129	431	0.682	0.093	0.015	0.038
B. Bottom ten industries						
Misc. manufacturing industries	184	39	0.673	0.060	0.001	0.016
Auto dealers & service stations	67	17	0.734	0.082	0.001	0.006
Educational services	78	18	0.685	0.080	0.001	0.007
Furniture & home furnishings stores	113	23	0.675	0.067	0.001	0.004
Heavy construction, except building	444	95	0.688	0.081	0.001	0.007
Food stores	360	73	0.699	0.070	0.001	0.005
General merchandise stores	235	52	0.695	0.067	0.000	0.002
Personal services	42	13	0.685	0.065	0.000	0.001
Depository institutions	31	8	0.647	0.096	0.000	0.000
Special trade contractors	114	28	0.701	0.064	0.000	0.000

This table shows number of observations, number of firm, mean, and standard deviation of the corporate governance index (*GOV*) and annual transaction value of cross-border M&As in the target firm's country-industry as a fraction of market capitalization (*XVAL*) for each industry with at least five firms. Panel A reports the top ten industries and panel B reports the bottom ten industries in terms of *XVAL*. The sample consists of FactSet firms for which *GOV* data are available in the 2005–2014 period. Table A2 in the appendix provides the variable definitions.

The countries with the lowest *GOV* are India (60.0%), Thailand (60.2%), and the Philippines (60.7%). Average cross-border M&A activity (*XVAL*) is highest in Peru (7.7%), Poland (5.2%), and Belgium (4.9%) and is lowest in China, Colombia, Indonesia, Philippines, Taiwan, and Thailand (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 "Trucking & Warehousing" industry has the highest average level of *XVAL*. The industries with the lowest average *XVAL* include "Food Stores" and "Heavy Construction, Except Building."

We use the revised antidirector rights index of protections for minority shareholders from Djankov et al. (2008) to build a measure of investor protection. For each cross-border M&A, the difference between acquirer and target country investor protection is denoted by ΔIP, a dummy variable that takes a value of one if the value of transactions-weighted average difference between the acquirer and target antidirector rights index in a given country-industry (at the two-digit SIC level) is positive.[7] We construct a similar measure

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[7] Table IA.1 in the Internet Appendix reports summary statistics of ΔIP by country.

of differences in investor protection for each country (ΔIPC). Our regressions include *XVAL* and *XVAL* × ΔIP as explanatory variables.

We control for the intensity of domestic M&As activity (*DVAL*) as the annual value of all domestic deals in the target firm's country and industry (at the two-digit SIC level) as a fraction of market capitalization. *DVAL* is included because an active domestic market for corporate control could influence the governance of the target's peers (Servaes and Tamayo 2014). We construct a similar measure of domestic M&As activity (*DVALC*) for each country.

We obtain firm characteristics from the WRDS-FactSet Fundamentals Annual Fiscal (North America and International) database. We use several firm-specific control variables in our regressions: logarithm of total assets in U.S. dollars (*ASSETS*), debt to assets ratio (*LEVERAGE*), cash holdings to assets ratio (*CASH*), capital expenditure to assets ratio (*CAPEX*), property, plant, and equipment to assets ratio (*PPE*), return on assets (*ROA*), equity market-to-book ratio (*MB*), 2-year annual sales growth in U.S. dollars (*SGROWTH*), research and development expenditures to assets ratio (*R&D*), foreign sales to total sales ratio (*FXSALES*), number of analysts following a firm (*ANALYST*), dummy variable that takes a value of one if a firm is cross-listed on a U.S. exchange (*ADR*), percentage of shares closely held (*CLOSE*), and sum of the holdings of institutions in a firm's shares divided by market capitalization (*IO_TOTAL*). Firm-level controls that are defined as ratios are winsorized at the bottom and top 1% levels. Table A2 in the appendix provides variable definitions and data sources. Table 3 provides summary statistics of the variables.

To test for the mechanism that leads to governance spillovers, we measure product market competition at the industry level (at the two-digit SIC level) using the Herfindahl-Hirschman index (*HHI*) based on annual sales for each industry and year in the United States. We use the *HHI* based on the United States because in many countries publicly listed firms are a poor representation of the universe of firms.[8]

We also consider other mechanisms using country-level measures of economic development (ΔGDP_PC, a dummy variable that equals one if the value of transactions-weighted average of the differences between acquirer country and target country GDP per capital is positive), and financial development (ΔMKT_GDP, a dummy variable that equals one if the value of transactions-weighted average of the differences between acquirer and target country market capitalization to GDP is positive) as suggested by

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[8] Tables IA.1 and IA.2 in the Internet Appendix report summary statistics of *HHI* at the country level and industry level, respectively. Some industries have maximum *HHI* of one, but they are unlikely to be outliers. The reason is that in the industries where the maximum *HHI* is one, the mean *HHI* is also high. These industries are "Agricultural Production - Livestock" (SIC 2) with mean *HHI* of 0.53, "Fishing, Hunting & Trapping" (SIC 9) with mean *HHI* of 0.94, "Local & Interurban Passenger Transit" (SIC 41) with mean *HHI* of 0.78, "Legal Services" (SIC 81) with mean *HHI* of 0.82, and "Services, Not Elsewhere Classified" (SIC 89) with mean *HHI* of 0.86. In addition, we find similar results when we repeat our main tests using the *HHI* variable winsorized at the top 1%.

Table 3
Summary statistics

Variable	Mean	Median	SD	Minimum	Maximum	Number of observations
GOV	0.686	0.688	0.094	0.188	1.000	33,498
XVAL	0.009	0.000	0.035	0.000	0.427	33,498
ΔIP	0.170	0.000	0.376	0.000	1.000	33,498
HHI	0.096	0.076	0.087	0.009	1.000	33,498
DVAL	0.010	0.001	0.030	0.000	0.366	33,498
TOBIN_q	1.628	1.183	1.744	0.381	98.250	33,427
INV	0.017	0.006	0.077	−0.259	0.379	33,416
ASSETS	5,703	1,072	19,649	0.000	443,000	33,498
LEVERAGE	0.232	0.214	0.180	0.000	0.972	33,498
CASH	0.154	0.115	0.141	0.000	0.993	33,498
CAPEX	0.055	0.038	0.058	0.000	0.437	33,498
PPE	0.321	0.284	0.226	0.000	0.946	33,498
ROA	0.080	0.071	0.089	−2.878	0.411	33,498
MB	2.446	1.509	3.217	0.002	36.470	33,498
SGROWTH	0.158	0.092	0.392	−1.000	3.725	33,498
R&D	0.011	0.000	0.028	0.000	0.308	33,498
FXSALES	0.244	0.033	0.325	0.000	1.000	33,498
ANALYST	6.040	3.000	7.295	0.000	56.000	33,498
ADR	0.050	0.000	0.218	0.000	1.000	33,498
CLOSE	0.338	0.339	0.262	0.000	1.000	33,498
IO_TOTAL	0.134	0.082	0.159	0.000	1.000	33,498
XVALC	0.005	0.002	0.009	0.000	0.108	33,384
ΔIPC	0.295	0.000	0.456	0.000	1.000	33,384
ΔGDP_PC	14,013	14,307	17,994	−41,535	61,417	33,498
ΔMKT_GDP	67.31	32.73	178.66	−740.95	950.08	33,498
$\Delta TRUST$	0.021	0.000	0.050	0.000	0.348	33,384
$\Delta HIERAR$	0.018	0.000	0.044	0.000	0.261	33,384
$\Delta INDIV$	0.013	0.000	0.032	0.000	0.195	33,384
DVALC	0.783	1.000	0.412	0.000	1.000	33,496
$\Delta DVALC$	0.170	0.000	0.376	0.000	1.000	33,496
$\Delta COMP$	0.865	1.000	0.341	0.000	1.000	27,508
ΔTFP	0.327	0.000	0.469	0.000	1.000	33,383
TARIFFS	0.023	0.000	0.049	0.000	0.605	33,498
IMP	0.351	0.000	0.965	0.000	10.350	33,498
US_DVALC	0.017	0.005	0.035	0.000	0.349	33,498

This table shows mean, median, standard deviation, minimum, maximum, and number of observations for each variable. The sample consists of FactSet firms for which corporate governance index (*GOV*) data are available in the 2005–2014 period. Table A2 in the appendix provides the variable definitions.

Doidge, Karolyi, and Stulz (2007); cultural differences (value of transactions-weighted average) between acquirer and target country in terms of trust ($\Delta TRUST$), hierarchy ($\Delta HIERAR$), and individualism ($\Delta INDIV$) like in Ahern, Daminelli, and Fracassi (2015);[9] differences in domestic M&A activity (as a fraction of market capitalization) between acquirer and target country ($\Delta DVALC$) to capture the variation due to differences in domestic markets for corporate control; differences in CEO labor market between acquirer and target country as measured by CEO total compensation ($\Delta COMP$); and differences in total factor productivity between acquirer and target country (ΔTFP).

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[9] Ahern, Daminelli, and Fracassi (2015) measures, which come from WVS-World Values Survey, are available only until 2008. For the 2009–2014 period, we use the 2008 values given that these variables are slow moving.

2. Corporate Governance Spillovers of Cross-Border Mergers and Acquisitions

We examine the relation between the *nontarget* firm's governance index and the intensity of cross-border M&A activity. We start with an analysis of spillovers to the governance of the target firm's local rivals. We run a baseline regression using a firm-year panel:

$$GOV_{i,t} = \alpha XVAL_{i,t-1} + \gamma \, \Delta IP_{i,t-1} + \beta XVAL_{i,t-1} \times \Delta IP_{i,t-1}$$
$$+ \Gamma Z_{i,t-1} + \mu_i + \gamma_t + \varepsilon_{i,t}, \tag{1}$$

where $GOV_{i,t}$ is the corporate governance index for firm i in year t; $XVAL_{i,t-1}$ is the value of cross-border M&As in firm i's country-industry as a percentage of market capitalization in year t-1; $\Delta IP_{i,t-1}$ is dummy variable that takes a value of one if the average difference between the acquirer and target antidirector rights index in a given country-industry is positive; and $XVAL_{i,t-1} \times \Delta IP_{i,t-1}$ is the value of cross-border M&As originating in countries with better investor protection than that in the host country. We expect that $XVAL_{i,t-1}$ summarizes how cross-border M&A affects corporate governance generally, while the interaction $XVAL_{i,t-1} \times \Delta IP_{i,t-1}$ captures how differences in investor protection shape the effect of cross-border M&A on corporate governance. The regression Equation (1) includes firm-level controls ($Z_{i,t-1}$), a firm fixed effect (μ_i) to control for time-invariant firm characteristics, and a year fixed effect (λ_t) to control for changes in governance affecting many countries simultaneously (e.g., adoption of IFRS by European firms in 2005). All explanatory variables are lagged by 1 year. We correct standard errors for clustering of observations at the firm level (i.e., we assume observations are independent across firms, but not within firms).

The governance spillover effects that we consider may operate through product market competition. Following Giroud and Mueller (2011), we hypothesize that the positive spillover to the governance of the target's local rival firms after a cross-border M&A is more pronounced in more competitive industries (e.g., managerial shirking would be more severely restricted after the cross-border M&A for the target and nontarget firms). Firms in less competitive industries may be subject to greater agency costs and these may be perpetuated even after the entry of a foreign competitor.[10] Thus, the relevant peers are the target firm's country-industry rivals.

Table 4 reports the estimates. Column 1 for estimates without *XVAL* shows that the control variables have the expected signs. Corporate governance is positively associated with institutional ownership (*IO_TOTAL*), which is consistent with the idea that institutional ownership is associated with better corporate governance. While it is important to control for these ownership

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[10] A previous version of this paper formalized this argument based on a simple model à la Shleifer and Wolfenzon (2002) and Albuquerque and Wang (2008).

Table 4
Cross-border M&As and nontarget corporate governance

	(1)	(2)	(3)	(4)	(5)
XVAL		0.0021	−0.0189	0.0169	−0.0202
		(.876)	(.203)	(.363)	(.297)
ΔIP			0.0009		0.0008
			(.421)		(.685)
XVAL × ΔIP			0.0857***		0.1672***
			(.007)		(.000)
HHI				0.0416**	0.0415**
				(.030)	(.030)
XVAL × HHI				−0.1295	0.0093
				(.230)	(.923)
ΔIP × HHI					0.0008
					(.972)
XVAL × ΔIP × HHI					−0.9585**
					(.017)
DVAL		−0.0329***	−0.0320**	−0.0333***	−0.0316**
		(.008)	(.010)	(.007)	(.011)
ASSETS (log)	0.0009	0.0009	0.0009	0.0010	0.0010
	(.626)	(.634)	(.625)	(.596)	(.574)
LEVERAGE	−0.0084	−0.0084	−0.0084	−0.0081	−0.0082
	(.258)	(.261)	(.259)	(.277)	(.267)
CASH	−0.0088	−0.0088	−0.0089	−0.0089	−0.0089
	(.241)	(.238)	(.236)	(.235)	(.233)
CAPEX	0.0198	0.0195	0.0197	0.0194	0.0199
	(.107)	(.112)	(.109)	(.114)	(.105)
PPE	−0.0031	−0.0031	−0.0031	−0.0029	−0.0029
	(.670)	(.667)	(.671)	(.689)	(.695)
ROA	0.0277***	0.0275***	0.0276***	0.0277***	0.0282***
	(.008)	(.009)	(.009)	(.008)	(.007)
MB	−0.0005**	−0.0005**	−0.0005**	−0.0005**	−0.0005**
	(.039)	(.036)	(.039)	(.028)	(.031)
SGROWTH	−0.0015	−0.0014	−0.0013	−0.0015	−0.0014
	(.329)	(.346)	(.371)	(.328)	(.349)
R&D	0.2038***	0.2043***	0.2031***	0.2037***	0.2021***
	(.000)	(.000)	(.000)	(.000)	(.000)
FXSALES	−0.0026	−0.0027	−0.0028	−0.0027	−0.0028
	(.624)	(.609)	(.599)	(.616)	(.603)
ANALYST	−0.0009***	−0.0009***	−0.0009***	−0.0009***	−0.0009***
	(.000)	(.000)	(.000)	(.000)	(.000)
ADR	0.0169	0.0171	0.0170	0.0171	0.0168
	(.128)	(.123)	(.124)	(.123)	(.129)
CLOSE	0.0057*	0.0057*	0.0057*	0.0055*	0.0053
	(.087)	(.088)	(.088)	(.098)	(.111)
IO_TOTAL	0.0581***	0.0585***	0.0583***	0.0590***	0.0586***
	(.000)	(.000)	(.000)	(.000)	(.000)
Number of observations	33,498	33,498	33,498	33,498	33,498
Number of firms	6,691	6,691	6,691	6,691	6,691
R-squared	.124	.124	.124	.124	.125

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV*) on the value of cross-border M&As in a target firm's country-industry as a fraction of market capitalization (*XVAL*). *ΔIP* (dummy variable) is the difference in investor protection between acquirer country and target country in a given target firm's country-industry. *HHI* is the Herfindahl-Hirschman index of market shares based on U.S. sales in a given industry. Regressions include year fixed effects. All explanatory variables are lagged 1 year. The sample consists of FactSet firms for which *GOV* data are available in the 2005–2014 period. Table A2 in the appendix provides the variable definitions. Robust *p*-values adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

links, our focus in this study is to identify the governance spillover effects of cross-border M&As when foreign investors assume control of target firms. Column 2 considers the effect of cross-border M&A activity in an industry on the governance of nontarget firms operating in the same industry. We find a positive but insignificant effect of *XVAL* on nontarget firms' governance.

The international market for corporate control should have a stronger effect if the acquirer country has better investor protection than the host country. To test this hypothesis, the regression in Column 3 includes the interaction $XVAL \times \Delta IP$ (as well as *XVAL*). We find that the $XVAL \times \Delta IP$ coefficient is positive and significant at the 1% level and that the *XVAL* coefficient is statistically insignificant.[11] These results suggest that governance spillovers do not occur from cross-border deals in general but are concentrated in those deals in which the acquirer firm comes from a country with stronger investor protection than that of the target firm. The estimates in Column 3 imply that in deals in which the acquirer country has better investor protection than the target, a 1-standard-deviation increase in *XVAL* is associated with a rise in nontarget firms' governance index of 0.23 percentage points $[=(-0.0189+0.0857) \times 0.035]$, which represents 2.5% $(= 0.0023/0.094)$ of the standard deviation in *GOV*. The governance spillover effects caused by cross-border M&As from a country with stronger investor protection are economically significant if compared with the direct effects of other important governance determinants such as foreign institutional ownership. In Aggarwal et al. (2011), a 1-standard-deviation increase in foreign institutional ownership (*IO_FOR*) is associated with an increase of about 3% of the standard deviation in their governance index. Thus, our governance *spillover effect* is about as large as the *direct effect* of foreign institutional ownership on governance.[12]

Columns 4 and 5 test the product market competition mechanism by adding a measure of industry concentration, the Herfindahl-Hirschman index (*HHI*), and the interaction with both *XVAL* and $XVAL \times \Delta IP$. Column 4 shows that the $XVAL \times HHI$ coefficient is negative but insignificant. Column 5 presents estimates of a regression that includes the interactions of *XVAL* with the difference in investor protection indicator ($XVAL \times \Delta IP$) and with industry concentration ($XVAL \times HHI$), as well as the triple interaction ($XVAL \times \Delta IP \times HHI$). The interaction $XVAL \times \Delta IP$ coefficient is 0.1672 and statistically significant, which suggests that there is a governance spillover in perfectly competitive industries when the acquirer country investor protection is better than that of the target country. In this case, a 1-standard-deviation increase in *XVAL* is associated with a 0.51 percentage points $(=[-0.0202+0.1672] \times$

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[11] We obtain similar estimates when we measure total cross-border M&A activity over the last 3 years, normalized by lagged market capitalization of the industry, to account for delays in the implementation of governance changes.

[12] The firm fixed effects estimate of the effect of foreign institutional ownership on governance in Aggarwal et al. (2011) of 0.023 multiplied by a 1-standard-deviation change in foreign institutional ownership (0.15) results in a change that represents 3% of the standard deviation in their governance index (0.108).

0.035) improvement in governance of nontarget firms that operate in the same industry as the target firm. The effect is more than two times stronger than that in Column 3, where we do not control for product market competition, and represents 5.5% (= 0.0051/0.094) of the standard deviation in *GOV.* This governance spillover effect is economically significant and is almost twice the magnitude of the direct effect of foreign institutional ownership on governance documented in Aggarwal et al. (2011). The governance spillover effect is significantly lower in less competitive industries as indicated by the negative and significant coefficient on $XVAL \times \Delta IP \times HHI$.

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

3. Additional Mechanisms

Next, we consider additional mechanisms that may explain the observed governance spillovers using the regression Equation (1). The regressions include the country-level measure of domestic M&As activity (*DVALC*) and the same firm-level control variables used in Table 4.

3.1 Country-wide governance spillovers
We investigate whether the spillover effects that we find are truly at the industry level or rather at the country level. In panel A of Table 5, we investigate whether country-level cross-border M&A activity from source countries with better investor protection than the host country leads to firm-level governance improvements in nontarget firms in the host country. The regressions use country-level measures of cross-border M&A activity (*XVALC*) and investor protection differences between acquirer and target country (ΔIPC).

Columns 1 and 2 show that the country-level measures of cross-border M&As and investor protection differences, and their interaction, are statistically insignificant. In particular, the effect of *XVALC* is insignificant when the acquirer country investor protection is better than that of the target country.

Columns 3 and 4 test the product market competition mechanism by adding a measure of industry concentration, the Herfindahl-Hirschman index (*HHI*), and the interaction with both *XVALC* and $XVALC \times \Delta IPC$. We find that the effect of *XVALC* is insignificant in perfectly competitive industries when the acquirer country investor protection is better than that of the target country. The overall country-level effect of cross-border M&As from a source country with stronger investor protection vis-à-vis the host country (evaluated at the median *HHI* of 0.076) is statistically insignificant (the coefficient is -0.453 with a *p*-value of .328). The effect is significantly lower in less competitive industries as indicated by the negative and significant coefficient on $XVALC \times \Delta IPC \times HHI$.

Our main explanatory variable $XVAL \times \Delta IP$ remains statistically significant in all specifications despite the strong correlation between *XVAL* and *XVALC*.

Table 5
Cross-border M&As and nontarget corporate governance: Alternative hypotheses

	(1)	(2)	(3)	(4)
A. Country-level effects				
$XVALC$	−0.4733	−0.4640	−0.3289	−0.3844
	(.281)	(.392)	(.438)	(.506)
ΔIPC		0.0060		0.0023
		(.565)		(.816)
$XVALC \times \Delta IPC$		−0.0603		0.2476
		(.914)		(.668)
HHI			0.0504*	0.0355
			(.093)	(.193)
$XVALC \times HHI$			−1.5579	−0.8732
			(.303)	(.524)
$\Delta IPC \times HHI$				0.0530
				(.140)
$XVALC \times \Delta IPC \times HHI$				−3.6476**
				(.041)
$XVAL$	0.0024	0.0028	0.0019	0.0025
	(.923)	(.918)	(.940)	(.928)
ΔIP	0.0007	0.0005	0.0006	0.0003
	(.698)	(.792)	(.729)	(.881)
$XVAL \times \Delta IP$	0.0884***	0.0855**	0.0867***	0.0797**
	(.003)	(.027)	(.004)	(.037)
Number of observations	33,498	33,410	33,498	33,410
Number of firms	6,627	6,657	6,627	6,657
R-squared	.128	.128	.128	.128
B. Access to global financial markets				
$XVALC$	−0.4695	−0.4568	−0.4391	
	(.289)	(.271)	(.306)	
ΔGDP_PC	0.0000		0.0000	
	(.575)		(.605)	
$XVALC \times \Delta GDP\_PC$	0.0000		0.0000	
	(.511)		(0.683)	
ΔMKT_GDP		0.0000	0.0000	
		(.413)	(.522)	
$XVALC \times \Delta MKT\_GDP$		0.0047	0.0027	
		(.202)	(.615)	
$\Delta GDP\_PC \times \Delta MKT\_GDP$			−0.0000	
			(.689)	
$XVALC \times \Delta GDP\_PC \times \Delta MKT\_GDP$			−0.0000	
			(.903)	
$XVAL$	−0.0015	0.0047	0.0008	
	(.948)	(.848)	(.971)	
ΔIP	0.0012	0.0008	0.0014	
	(.505)	(.642)	(.460)	
$XVAL \times \Delta IP$	0.0927***	0.0813***	0.0855***	
	(.002)	(.010)	(.005)	
Number of observations	33,498	33,498	33,498	
Number of firms	6,687	6,687	6,687	
R-squared	.130	.130	.132	

(continued)

The estimates in Column 4 imply that the overall effect of cross-border M&As (at the industry level) from a country with stronger investor protection vis-à-vis the host country ($XVAL + XVAL \times \Delta IP$) is 0.082 with a *p*-value of .007. These results suggest that governance spillovers seem to occur at the industry level, rather than at the country level.

Table 5
Continued

	(1)	(2)	(3)	(4)
C. Culture				
XVALC	−0.5462	−0.4263	−0.4366	−0.5281
	(.248)	(.149)	(.109)	(.103)
ΔTRUST	0.1049			−0.0187
	(.409)			(.891)
XVALC × ΔTRUST	0.3555			5.6320
	(.873)			(.152)
ΔHIERAR		−0.1799**		−0.2738***
		(.041)		(.002)
XVALC × ΔHIERAR		−3.3399		3.0423
		(.535)		(.664)
ΔINDIV			0.2911	0.4609**
			(.160)	(.013)
XVALC × ΔINDIV			0.6009	−20.2156*
			(.937)	(.063)
XVAL	0.0041	0.0043	0.0116	0.0125
	(.863)	(.857)	(.593)	(.557)
ΔIP	0.0009	0.0004	0.0006	0.0004
	(.646)	(.809)	(.755)	(.828)
XVAL × ΔIP	0.0813**	0.0890***	0.0733**	0.0758**
	(.016)	(.002)	(.019)	(.050)
Number of observations	33,498	33,498	33,498	33,498
Number of firms	6,691	6,691	6,691	6,691
R-squared	.130	.134	.134	.145
D. Domestic M&A, CEO compensation, and total factor productivity				
XVALC	−0.8199*	−0.4712	−0.9003*	
	(.092)	(.216)	(.072)	
ΔDVALC	0.0089			
	(.182)			
XVALC × ΔDVALC	0.7872**			
	(.043)			
ΔCOMP		0.0201***		
		(.006)		
XVALC × ΔCOMP		0.5789		
		(.467)		
ΔTFP			−0.0069	
			(.468)	
XVALC × ΔTFP			1.2110***	
			(.006)	
XVAL	0.0102	0.0086	0.0112	
	(.710)	(.699)	(.647)	
ΔIP	0.0016	0.0008	0.0003	
	(.368)	(.545)	(.875)	
XVAL × ΔIP	0.0675	0.0905**	0.0672*	
	(.124)	(.038)	(.074)	
Number of observations	33,496	27,508	33,383	
Number of firms	6,691	6,336	6,636	
R-squared	.135	.153	.123	

This table presents estimates of firm fixed effects panel regressions of the corporate governance index (*GOV*) on the value of cross-border M&As in a target firm's country-industry as a fraction of market capitalization (*XVAL*). Δ*IP* (dummy variable) is the difference in investor protection between acquirer country and target country in a given target firm's country-industry. *HHI* is the Herfindahl-Hirschman index of market shares based on U.S. sales in a given industry. *XVALC* is the value of cross-border M&As in a country as a fraction of market capitalization. Δ*IPC* (dummy variable) is the difference in investor protection between acquirer country and target country. Δ*GDP_PC* is the difference in GDP per capita in dollars between acquirer country and target country. Δ*MKT_GDP* is the difference in ratio of stock market capitalization to GDP between acquirer country and target country. Δ*TRUST*, Δ*HIERAR* and Δ*INDIV* are the differences in trust, hierarchy and individualism between acquirer country and target country. Δ*DVALC* (dummy variable) is the difference in domestic M&A activity (as a fraction of market capitalization) between acquirer country and target country. Δ*COMP* (dummy variable) is the difference in median CEO compensation between acquirer country and target country. Δ*TFP* (dummy variable) is the difference in total factor productivity between acquirer country and target country. Regressions include the country-level measure of domestic M&As activity (*DVALC*), the same firm-level control variables used in Table 4 (coefficients not shown) and year fixed effects. All explanatory variables are lagged 1 year. The sample consists of FactSet firms for which *GOV* data are available in the 2005–2014 period. Table A2 in the appendix provides the variable definitions. Robust *p*-values adjusted for country-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

3.2 Access to global financial markets

Doidge, Karolyi, and Stulz (2007) propose a theory that has implications for country-wide spillover effects. They argue that financial globalization introduces incentives for firms to adopt better governance and move away from country-level determinants. They hypothesize that such mechanism is more likely in less economically developed countries and in countries with less developed financial markets.

Panel B of Table 5 presents evidence for the Doidge, Karolyi, and Stulz (2007) country-level governance mechanisms. The regressions use country-level measures of cross-border M&A activity (*XVALC*), differences in GDP per capita (ΔGDP_PC), and ratio of stock market capitalization to GDP (ΔMKT_GDP) between acquirer and target country.

The estimates show that *XVALC* is statistically insignificant. In addition, the interactions with ΔGDP_PC and ΔMKT_GDP of the country are insignificant. The overall country-level effect of cross-border M&As from a source country with stronger investor protection vis-à-vis the host country (evaluated at the median ΔGDP_PC and ΔMKT_GDP) is statistically insignificant (the coefficient is -0.229 with *p*-value of .697). Our main explanatory variable $XVAL \times \Delta IP$ remains significant when we control for economic and financial development. The estimates in Column 3 imply that the overall effect of cross-border M&As (at the industry level) from a country with stronger investor protection vis-à-vis the host country is 0.086 with a *p*-value of .002.

While we fail to find evidence of country-wide spillovers, it is possible that *XVALC* does not measure a relevant enough shock to the access to global financial markets and that our exercise has low power to test the theory in Doidge, Karolyi, and Stulz (2007).

3.3 Culture

We investigate the possibility that spillover effects are not due to investor protection differences, but rather to cultural differences across countries. We extend the conceptual framework in Ahern, Daminelli, and Fracassi (2015) to consider that firm-level governance changes are more likely if the source country and the host country share similar cultural values. The cultural dimensions that we consider are trust, hierarchy, and individualism. We therefore hypothesize that cross-border M&A activity from countries with similar cultures lead to firm-level governance improvements in nontarget firms in the host country.

Panel C of Table 5 presents evidence for the Ahern, Daminelli, and Fracassi (2015) mechanism using country-level measures of differences in cultural values. Because this mechanism is not about differences in investor protection, but rather differences in culture, we do not interact ΔIP with the culture variables.

The estimates in Columns 1–3 show that *XVALC* is insignificant as are the interactions of *XVALC* with trust differences ($\Delta TRUST$), hierarchy differences ($\Delta HIERAR$), and individualism differences ($\Delta INDIV$). Column 4 indicates that

XVALC from countries that are further apart in terms of individualism contribute less to governance changes, while the other interactions with trust and hierarchy differences remain statistically insignificant. Our main explanatory variable $XVAL \times \Delta IP$ remains significant when we control for differences in culture. The estimates in Column 4 imply that the overall effect of cross-border M&As (at the industry level) from a source country with stronger investor protection vis-à-vis the host country ($XVAL+XVAL \times \Delta IP$) is 0.088 with a *p*-value of .01. The evidence suggests that governance spillovers are not driven by similarities in culture between acquirer and target country.

3.4 Takeover market
Pressures from the takeover market may induce changes in firms' governance practices that resemble the spillover effects that we identify. We investigate two possible alternative stories. First, firms may opt for stronger governance so as to attract a takeover bid, perhaps by a foreign acquirer that demands stronger governance (e.g., Kumar and Ramchand 2008). If this story explains our findings, we would expect target firms to have better governance prior to a cross-border takeover than nontarget firms. In our sample, the average *GOV* for target firms in the year prior to the acquisition is 0.703 compared to 0.694 for the average *GOV* for nontarget firms in the same industry and year; the difference is statistically insignificant.

Second, the threat of a takeover may force competitors to shape up and avoid a "court of last resort" (Manne 1965; Jensen 1986; Scharfstein 1988). Cross-border M&As could signal exposure to a larger takeover market. We measure $\Delta DVALC$ as a dummy variable that equals one if the value of transactions-weighted average of the differences between acquirer and target domestic M&A activity (as a fraction of market capitalization) is positive.

Panel D of Table 5, Column 1, shows some evidence for this mechanism in the form of a positive and significant interaction $XVALC \times \Delta DVALC$ coefficient, but the overall country-level effect ($XVALC+XVALC \times \Delta DVALC$) is insignificant (coefficient is -0.033 with a *p*-value of .905). While the $XVAL \times \Delta IP$ coefficient is insignificant at the 5% level, we find that the overall effect of cross-border M&As (at the industry level) from a source country with stronger investor protection vis-à-vis the host country is significant at 0.078 with a *p*-value of .011.

3.5 CEO labor market
Changes in the executive labor market induced by cross-border M&As rather than by governance spillover effects via product market competition may explain our results. Improvements in governance could increase the amount of CEO incentive pay to incentivize CEOs to work harder (Acharya and Volpin 2010; Dicks 2012; Levit and Malenko 2016).

We measure $\Delta COMP$ as a dummy variable that equals one if the value of transactions-weighted average of the differences between acquirer and

target country median CEO total compensation is positive. The data source for compensation is Bloomberg ESG, the same source used to obtain the governance data. We use only observations for which we have at least five firms per country and year.

Panel D of Table 5, Column 2, shows that the $XVALC \times \Delta COMP$ coefficient is insignificant as well as the overall country-level effect of $XVALC + XVALC \times \Delta COMP$ (coefficient is 0.108 with a p-value of .883). Our main explanatory variable $XVAL \times \Delta IP$ remains significant, and the overall effect of cross-border M&As (at the industry level) from a source country with stronger investor protection vis-à-vis the host country is 0.099 with a p-value of .006. The evidence is inconsistent with governance changes responding to pressures from the CEO labor market.

3.6 Technological efficiency of foreign acquirer

Cross-border M&As can bring technological innovations that reduce the target firms' marginal cost of production as well as the marginal cost of production of nontarget 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 mechanism requires technological spillovers, which may be limited (Haddad and Harrison 1993; Aitken and Harrison 1999; Javorcik 2004; Haskel, Pereira, and Slaughter 2007). Without technological spillovers to peer firms, the revenues of the target firm would increase and those of the peer firms would decline as the target firm can grab a larger market share. In this scenario, peer firms might want weaker governance and experience lower valuations.

Panel D of Table 5, Column 3, tests this hypothesis using total factor productivity to measure technological efficiency. We measure ΔTFP as a dummy variable that equals one if the value of transactions-weighted average of the differences between acquirer and target country total factor productivity is positive. There is a positive spillover effect from cross-border M&As that originate in countries with higher technological efficiency but the overall country-level effect of $XVALC + XVALC \times \Delta TFP$ coefficient is insignificant (coefficient is 0.311 with a p-value of .263). Our main explanatory variable $XVAL \times \Delta IP$ remains significant, and the overall effect of cross-border M&As (at the industry level) from a source country with stronger investor protection vis-à-vis the host country is 0.078 with a p-value of .017.

Overall, the evidence supports that cross-border M&A activity originating from a country with strong investor protection generates positive corporate governance spillovers in the host country to firms that operate in the same industry as the target firm. The spillover is more pronounced in industries with tougher product market competition. In contrast, access to global financial markets, cultural similarities, exposure to large takeover markets, CEO labor markets, and technological efficiency do not appear to explain our findings.

4. Robustness

We perform a variety of robustness checks of our findings. The Internet Appendix presents the results of these checks. First, 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 ΔIP (note that ΔIP depends on *XVAL* being nonzero) by country, industry, and year. The randomization is performed 1,000 times preserving the cluster structure and jointly for *XVAL* and ΔIP.[13] Table IA.3 shows the average coefficient estimates and the standard z-score. The resultant false *XVAL* variable and its interactions with ΔIP and *HHI* have no explanatory power. We conclude that spillovers are observed only in the same industry, which is consistent with the absence of significant country-wide effects (see Table 5), suggesting that the spillover effects operate through the product market competition mechanism.

Second, we run the benchmark regressions in Table 4 using a sample that includes U.S. firms. Table IA.4 shows that the results are similar to those in Table 4.

Third, we replace *IO_TOTAL*, which measures total institutional ownership, by *IO_FOR*, which measures foreign institutional ownership, in an attempt to control directly for the effect uncovered in Aggarwal et al. (2011). Table IA.5 shows that *IO_FOR* is positively associated with firm-level governance, but the interactions $XVAL \times \Delta IP$ and $XVAL \times \Delta IP \times HHI$ remain statistically significant. In alternative, we replace *IO_TOTAL* by *IO_ACT*, which measures ownership by activist investors (e.g., hedge funds, private equity investors). Table IA.6 shows that firm-level governance does not appear to be associated with *IO_ACT* and the interactions $XVAL \times \Delta IP$ and $XVAL \times \Delta IP \times HHI$ remain statistically significant.

Fourth, we control for country-level improvements in corporate governance in each period by including country-year fixed effects in the benchmark regressions in Table 4. Table IA.7 reports the estimates. Even though this is a demanding specification, we still find a significant effect of $XVAL \times \Delta IP$ and of the triple interaction $XVAL \times \Delta IP \times HHI$ on nontarget firm governance.

Fifth, 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) in alternative to firm level. Table IA.8 reports the estimates, which are consistent with those in Table 4.

Sixth, Table IA.9 presents estimates in which the regression allows for leads and lags $(-1, +1)$ of *XVAL*. The $XVAL(t+1)$ lead coefficient suggests that firms

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[13] 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-statistics yields the same results.

may change governance in anticipation to cross-border acquisitions but the effect is not as strong as the effect associated with *XVAL* $(t-1)$ lagged values. Given that *XVAL* is to some extent predictable, local firms may act on the anticipatory effect of the M&A. But the realization of the M&A should have an additional effect provided that *XVAL* is not fully predictable.

Seventh, we estimate the effect of the interaction $XVAL \times \Delta IP$ on firm-level governance separately for the sample of diversifying deals (i.e., acquirer and target have the same two-digit SIC codes) and nondiversifying deals (i.e., acquirer and target have different two-digit SIC codes). Table IA.10 reports the estimates. We find that the governance spillovers are stronger, economically and statistically, in the sample of diversifying acquisitions.

Eighth and finally, we estimate the effect of the interaction $XVAL \times \Delta IP$ on nontarget firm governance using three alternative measures of investor protection taken from Djankov et al. (2008): the anti-self-dealing index, the ex ante anti-self-dealing index, and the ex post anti-self-dealing index. Table IA.11 reports these estimates. The results are in line with those using the antidirector rights index with the exception of the broad definition of the anti-self-dealing index for which the results are statistically insignificant.

5. 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. Another potential concern with interpretation of the results is that causality could run the opposite way. Specifically, 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 regression analysis in Table 4 in the reverse direction, using *GOV* (lagged) as the explanatory variable and *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. The regression also includes the same control variables used in Table 4. The results in Table IA.12 in the Internet Appendix show that the coefficient on *GOV* is statistically insignificant, which is inconsistent with reverse causality explaining our findings.

Another approach to address reverse causality (and omitted variable bias) concerns is to use instrumental variable (IV) estimation. Our choice of instruments is guided by previous research. From the international trade

literature, we use tariffs (*TARIFFS*), defined as the average tariff rate as a percentage of the sale price in a given country-industry, and import penetration (*IMP*), defined as the ratio of annual imports to sales in a given country-industry. *TARIFFS* and *IMP* provide information about plausibly exogenous factors driving up foreign bidder interest in a given country-industry, regardless of any anticipation of governance changes. While *TARIFFS* is directly related to barriers to trade, *IMP* captures nontradeability across industries besides being related to trade barriers. We expect *TARIFFS* to be positively related to *XVAL*, and *IMP* to be negatively related, as openness to imports is likely to go hand-in-hand with openness to FDI. From the finance literature, we use the annual value of U.S. domestic M&As (as a percentage of market capitalization) in a given industry (*US_DVALC*). We use *US_DVALC* 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). We expect *DVALC* to be positively related to *XVAL*. The exclusion restriction is likely to be satisfied as we are unaware of any theories that link M&A activity in the United States directly to governance changes elsewhere in the world.

Table 6 shows the results of the IV estimation. The specification corresponds to that in Column 3 of Table 4, and *XVAL*, ΔIP and $XVAL \times \Delta IP$ are the endogenous regressors. The regressions also include the same control variables as Table 4 as well as firm and year fixed effects. Columns 1–3 present the estimates of the first-stage regressions. We find that the instruments are correlated with *XVAL* in a way that is consistent with our predictions. Further, the estimates do not seem to suffer from a weak instruments problem as the Sanderson-Windmeijer F-statistic rejects the null of weak instruments in Columns 1–3.

The second-stage estimates in Column 4 are consistent with a positive and significant corporate governance spillover effect following cross-border M&A activity in a given country-industry when the source country has better investor protection than the host country. The $XVAL \times \Delta IP$ coefficient in Column 4 implies that the increase in predicted *XVAL* generated by a 1-standard-deviation increase in each of the excluded instruments is associated with an increase in nontarget firms' governance indexes of 2.8 percentage points, in cross-border M&As from a source country with better investor protection than that of the host country.[14] This effect is not significantly different from the ordinary least squares (OLS) effect in Column 3 of Table 4.[15]

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[14] Table IA.13 in the Internet Appendix reports instrumental variable estimates consistent to those in Table 6 when *XVAL* is calculated using only cross-border M&As in which the acquirer country investor protection is higher than that of the target country. In this case, the explanatory variable of interest is *XVAL* instead of the interaction term $XVAL \times \Delta IP$.

[15] This effect captures the change in *GOV* induced by the variation in *XVAL* that is not related to other determinants of *GOV*. Using the estimates from the first-stage regressions, this corresponds to a change in *XVAL* of $-0.0367 \times 0.049 + 0.0040 \times 0.965 + 0.0104 \times 0.035 = 0.0024$. The estimated change in *GOV* is $(-1.0225 + 12.6823) \times 0.0024 = 0.0280$. The 90% confidence interval of the overall effect is [0.0012, 0.0547], which overlaps with the 90% confidence interval of the overall effect using the OLS estimate [0.0007, 0.0040] (point estimate of 0.0023).

Table 6
Cross-border M&As and nontarget corporate governance: Instrumental variables

	First stage			Second stage
	XVAL (1)	ΔIP (2)	XVAL × ΔIP (3)	GOV (4)
XVAL				−1.0225
				(.482)
ΔIP				−0.1276
				(.374)
XVAL × ΔIP				12.6823**
				(.047)
TARIFFS	−0.0367***	0.3286***	−0.0045*	
	(000)	(.009)	(.072)	
IMP	0.0040**	0.0039	−0.0007	
	(.040)	(.621)	(.189)	
US_DVALC	0.0104*	−0.3345***	−0.0026	
	(.089)	(.000)	(.480)	
DVAL	0.0271	0.1447**	−0.0066	0.0942
	(.110)	(.039)	(.518)	(.375)
ASSETS (log)	−0.0003	−0.0053	−0.0003	0.0024
	(.712)	(.437)	(.394)	(.613)
LEVERAGE	0.0032	0.0560**	0.0004	−0.0022
	(.317)	(.042)	(.792)	(.924)
CASH	0.0015	0.0253	0.0005	−0.01
	(.663)	(.418)	(.817)	(.695)
CAPEX	0.0093	−0.1647***	0.0023	−0.0212
	(.125)	(.001)	(.507)	(.625)
PPE	−0.0043	0.0257	−0.0023	0.0243
	(.118)	(.365)	(.168)	(.319)
ROA	0.0081**	0.0228	0.0009	0.0265
	(.045)	(.536)	(.637)	(.371)
MB	−0.0002**	−0.0013	−0.0001*	0.0008
	(.022)	(.171)	(.065)	(.470)
SGROWTH	−0.0011	−0.0127**	−0.0010**	0.0089
	(.216)	(.032)	(.013)	(.350)
R&D	0.0106	0.6921***	0.0078	0.1712
	(.580)	(.002)	(.539)	(.439)
FXSALES	−0.0014	0.0574***	0.0001	0.0024
	(.529)	(.002)	(.940)	(.873)
ANALYST	−0.0001	0.0008	−0.0001	−0.0001
	(.134)	(.195)	(.125)	(.925)
ADR	0.0095	0.0306	0.0033	−0.012
	(.151)	(.463)	(.357)	(.842)
CLOSE	0.0043***	0.0254*	0.0005	0.0049
	(.003)	(.076)	(.561)	(.730)
IO_TOTAL	−0.0089*	−0.1316***	0.0016	0.0119
	(.060)	(.000)	(.559)	(.783)
Sanderson-Windmeijer F-statistic	10.96	14.04	8.85	
p-value	.000	.000	.000	
Number of observations	32,864	32,864	32,864	32,864
Number of firms	6,057	6,057	6,057	6,057

This table presents estimates of instrumental variable estimates of firm fixed effects panel regressions of corporate governance index (*GOV*) on the value of cross-border M&As in a target firm's country-industry as a fraction of market capitalization (*XVAL*). *ΔIP* (dummy variable) is the difference in investor protection between acquirer country and target country in a given target firm's country-industry. *XVAL*, *ΔIP*, and *XVAL × ΔIP* are the endogenous variables and *TARIFFS*, *IMP*, and *US_DVALC* are the instruments. Regressions include year fixed effects. All explanatory variables are lagged 1 year. The sample consists of FactSet firms for which *GOV* data are available in the 2004–2008 period. Table A2 in the appendix provides the variable definitions. Robust *p*-values adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

6. Real Effects

In this section, we test the hypotheses that acquisitions by foreign rivals from countries with better investor protection than the host countries lead to increases in investment and valuation gains to shareholders of nontarget firms that operate in the same industry as the target firm.

6.1 Investment results

We first investigate the hypothesis that cross-border M&A activity leads to spillovers in investment in nontarget firms. We use the ratio of the change in property, plant, and equipment to lagged total assets (*INV*) as proxy for firm-level (net) investment rate. We conduct our tests using both OLS and IV methods.

Table 7 presents the results. The $XVAL \times \Delta IP$ coefficient is positive and significant in the OLS regressions in Columns 3 and 5, which indicates that cross-border M&As from countries with better investor protection than the host country are associated with increases in investment for nontarget firms operating in the same industry and country as the target. Column 5 shows a less pronounced increase in investment in less competitive industries, as indicated by the negative and significant coefficient on $XVAL \times \Delta IP \times HHI$ variable, consistent with the product market competition mechanism. A 1-standard-deviation change in cross-border M&A from a country with stronger investor protection vis-à-vis the host country results in a change that represents 16% of the average investment rate (24% in perfectly competitive industries). Column 6 of Table 7 presents the IV second-stage estimates using the same instruments used in Table 6 (*TARIFFS*, *IMP*, and *US_DVALC*). Consistent with the OLS estimates, we find that the coefficient on the $XVAL \times \Delta IP$ interaction variable is positive and statistically significant.

Overall, our findings suggest that governance spillovers are an important channel to explain industry-wide increases in investment following cross-border M&As.

6.2 Valuation results

We next investigate the hypothesis that cross-border M&A activity leads to firm valuation gains in nontarget firms using Tobin's q (*TOBIN_q*) as the valuation measure.

The valuation results are subject to conflicting sources of variation because cross-border M&As may generate both productivity and governance effects in the target firm. While an improvement in the target firm's governance has a positive effect on the valuation of nontarget firms in the same industry, an improvement in the target firm's productivity has a negative effect on the valuation of nontarget firms, all else equal.[16] As the two effects are correlated

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[16] Table IA.14 in the Internet Appendix reports that the unexpected component of *GOV* has in-sample predictive power for firm valuation (measured by the logarithm of Tobin's q). A 1-standard-deviation increase in the unexpected component of *GOV* is associated with an increase in Tobin's q of 0.36% ($=0.0716 \times 0.05$).

Table 7
Cross-border M&As and nontarget investment

	Fixed effects (1)	Fixed effects (2)	Fixed effects (3)	Fixed effects (4)	Fixed effects (5)	Fixed effects IV (6)
XVAL		0.0032	−0.0158	−0.0076	−0.0411**	1.6934
		(.825)	(.319)	(.704)	(.044)	(.501)
ΔIP			−0.0042***		−0.0046**	−0.1185
			(.002)		(.047)	(.636)
XVAL × ΔIP			0.0940***		0.1589***	20.4584*
			(.005)		(.002)	(.056)
HHI				−0.0522**	−0.0515**	
				(.013)	(.014)	
XVAL × HHI				0.0952	0.2040*	
				(.446)	(.080)	
ΔIP × HHI					0.0059	
					(.811)	
XVAL × ΔIP × HHI					−0.6771*	
					(.069)	
DVAL		−0.0189	−0.0172	−0.0187	−0.0164	0.0897
		(.260)	(.305)	(.262)	(.325)	(.647)
ASSETS (log)	−0.0317***	−0.0317***	−0.0317***	−0.0318***	−0.0318***	−0.0277***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.001)
LEVERAGE	−0.0505***	−0.0505***	−0.0503***	−0.0509***	−0.0507***	−0.0569
	(.000)	(.000)	(.000)	(.000)	(.000)	(.162)
CASH	0.0408***	0.0407***	0.0408***	0.0408***	0.0409***	0.0326
	(.000)	(.000)	(.000)	(.000)	(.000)	(.484)
PPE	−0.1341***	−0.1342***	−0.1341***	−0.1344***	−0.1343***	−0.0888**
	(.000)	(.000)	(.000)	(.000)	(.000)	(.026)
ROA	0.0767***	0.0766***	0.0768***	0.0765***	0.0769***	0.0467
	(.000)	(.000)	(.000)	(.000)	(.000)	(.367)
MB	0.0017***	0.0017***	0.0017***	0.0017***	0.0017***	0.0047**
	(.000)	(.000)	(.000)	(.000)	(.000)	(.013)
SGROWTH	0.0004	0.0005	0.0005	0.0006	0.0006	0.0212
	(.807)	(.794)	(.787)	(.761)	(.754)	(.199)
R&D	0.0958**	0.0961**	0.0978**	0.0969**	0.0983**	−0.0425
	(.019)	(.018)	(.017)	(.017)	(.015)	(.915)
FXSALES	−0.0061	−0.0062	−0.0059	−0.0062	−0.0060	0.0021
	(.252)	(.247)	(.264)	(.242)	(.256)	(.936)
ANALYST	0.0009***	0.0009***	0.0009***	0.0009***	0.0009***	0.0024**
	(.000)	(.000)	(.000)	(.000)	(.000)	(.031)
ADR	−0.0046	−0.0046	−0.0045	−0.0046	−0.0047	−0.0837
	(.586)	(.592)	(.597)	(.585)	(.580)	(.452)
CLOSE	0.0130***	0.0129***	0.0130***	0.0131***	0.0131***	−0.0042
	(.000)	(.000)	(.000)	(.000)	(.000)	(.868)
IO_TOTAL	0.0291***	0.0294***	0.0285***	0.0287***	0.0277***	−0.0033
	(.003)	(.003)	(.004)	(.004)	(.006)	(.969)
Number of observations	33,416	33,416	33,416	33,416	33,416	32,780
Number of firms	6,684	6,684	6,684	6,684	6,684	6,048
R-squared	.185	.185	.186	.186	.186	

This table presents estimates of firm fixed effects panel regressions of the investment rate (*INV*) on the value of cross-border M&As in a target firm's country-industry as a fraction of market capitalization (*XVAL*). ΔIP (dummy variable) is the difference in investor protection between acquirer country and target country in a given target firm's country-industry. *HHI* is the Herfindahl-Hirschman index of market shares based on U.S. sales in a given industry. Column 6 presents instrumental variable (IV) estimates in which *XVAL*, ΔIP, and *XVAL × ΔIP* are the endogenous variables and *TARIFFS*, *IMP*, and *US_DVALC* are the instruments. Regressions include year fixed effects. All explanatory variables are lagged 1 year. The sample consists of FactSet firms for which corporate governance index (*GOV*) data are available in the 2005-2014 period. Table A2 in the appendix provides the variable definitions. Robust *p*-values adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 8
Cross-border M&As and nontarget firm valuation

	Fixed effects (1)	Fixed effects (2)	Fixed effects (3)	Fixed effects (4)	Fixed effects (5)	Fixed effects IV (6)
XVAL		0.0516	−0.0181	0.1745**	0.0583	−0.1017
		(.364)	(.766)	(.014)	(.419)	(.976)
ΔIP			0.0142***		−0.0091	−0.5372*
			(.009)		(.338)	(.080)
XVAL × ΔIP			0.2367*		0.6230***	−19.1934
			(.087)		(.002)	(.230)
HHI				0.4576***	0.4492***	
				(.000)	(.000)	
XVAL × HHI				−1.0770***	−0.6181**	
				(.001)	(.031)	
ΔIP × HHI					0.2847***	
					(.009)	
XVAL × ΔIP × HHI					−5.0519***	
					(.004)	
DVAL		0.0051	0.0061	0.0025	0.0048	−0.0349
		(.917)	(.902)	(.959)	(.923)	(.871)
ASSETS (log)	−0.2405***	−0.2405***	−0.2414***	−0.2391***	−0.2393***	−0.2447***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
LEVERAGE	0.0106	0.0105	0.0073	0.0128	0.0087	0.036
	(.774)	(.776)	(.842)	(.729)	(.813)	(.523)
CASH	0.2736***	0.2736***	0.2680***	0.2729***	0.2671***	0.2931***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
CAPEX	0.1318**	0.1315**	0.1315**	0.1301**	0.1321**	0.0858
	(.030)	(.030)	(.031)	(.032)	(.030)	(.420)
PPE	0.0290	0.0292	0.0281	0.0316	0.0304	−0.0001
	(.414)	(.411)	(.431)	(.370)	(.391)	(.999)
ROA	0.6569***	0.6566***	0.6568***	0.6570***	0.6594***	0.6712***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
SGROWTH	0.0438***	0.0439***	0.0443***	0.0431***	0.0435***	0.0161
	(.000)	(.000)	(.000)	(.000)	(.000)	(.509)
R&D	−0.9229***	−0.9234***	−0.9332***	−0.9311***	−0.9364***	−0.4174
	(.000)	(.000)	(.000)	(.000)	(.000)	(.425)
FXSALES	−0.0019	−0.0018	−0.0048	−0.0012	−0.0045	0.0323
	(.940)	(.942)	(.852)	(.962)	(.862)	(.418)
ANALYST	0.0002	0.0002	0.0002	0.0001	0.0001	−0.0006
	(.831)	(.825)	(.822)	(.853)	(.889)	(.706)
ADR	−0.0233	−0.0237	−0.0234	−0.0233	−0.0230	0.0548
	(.518)	(.511)	(.518)	(.518)	(.526)	(.647)
CLOSE	−0.0190	−0.0192	−0.0204	−0.0209	−0.0229	0.0036
	(.213)	(.209)	(.184)	(.172)	(.138)	(.915)
IO_TOTAL	0.3093***	0.3098***	0.3135***	0.3149***	0.3191***	0.2643***
	(0.000)	(.000)	(.000)	(.000)	(.000)	(.006)
Number of observations	33,427	33,427	33,156	33,427	33,156	32,790
Number of firms	6,687	6,687	6,627	6,687	6,627	6,050
R-squared	.257	.257	.258	.258	.260	

This table presents estimates of firm fixed effects panel regressions of the logarithm of Tobin's q (*TOBIN_q*) on the value of cross-border M&As in a target firm's country-industry as a fraction of market capitalization (*XVAL*). *ΔIP* (dummy variable) is the difference in investor protection between acquirer country and target country in a given target firm's country-industry. *HHI* is the Herfindahl-Hirschman index of market shares based on U.S. sales in a given industry. Column 6 presents instrumental variable (IV) estimates in which *XVAL*, *ΔIP*, and *XVAL × ΔIP* are the endogenous variables and *TARIFFS*, *IMP*, and *US_DVALC* are the instruments. Regressions include year fixed effects. All explanatory variables are lagged 1 year. The sample consists of FactSet firms for which corporate governance index (*GOV*) data are available in the 2005-2014 period. Table A2 in the appendix provides the variable definitions. Robust *p*-values adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

with governance changes, it may be difficult to identify the effect of governance improvements on nontarget firm valuation.

Table 8 presents the estimates of firm valuation regressions. The table shows that the coefficient on the $XVAL \times \Delta IP$ interaction is positive and significant in the OLS regressions in Columns 3 and 5 as predicted. The effect of cross-border flows is economically weaker in less competitive industries in Columns 4 and 5. A 1-standard-deviation change in cross-border M&A from a country with stronger investor protection vis-à-vis the host country results in an increase of 0.8% in Tobin's q (2.4% in perfectly competitive industries). Column 6 presents the IV second-stage estimates using the same instruments used in Tables 6 and 7 (*TARIFFS*, *IMP* and *US_DVALC*). We find that the coefficient on the $XVAL \times \Delta IP$ interaction variable is no longer statistically significant. While the valuation results using OLS regressions support our hypothesis, we do not find a positive valuation spillover effect when we use an IV approach to account for the potential endogeneity of *XVAL*.

Overall, we find that cross-border M&A activity in an industry generates positive firm valuation spillovers to other local 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.

7. Conclusion

We test the hypothesis that cross-border M&A activity from countries with better investor protection is a source of functional convergence, leading to corporate governance improvements in the host country. We provide evidence consistent with spillovers to nontarget firms in the same country and industry as the target firm, but not to nontarget firms in other industries. This allows us to distinguish across several mechanisms for governance spillovers that may be at work, in particular product market competition. Furthermore, cross-border M&As lead to increases in investment and market valuation of nontarget firms, suggesting that FDI not only affects corporate governance, but also produces real effects.

Our findings establish a direct link between FDI and the adoption of corporate governance practices that promote corporate accountability and empower shareholders worldwide. To our knowledge, our paper is the first to provide direct evidence that FDI produces corporate governance improvements that are not restricted to target firms but spill over to the target firm's industry rivals. Our findings show that market forces, namely the international market for corporate control, promote good corporate governance practices worldwide.

Appendix

Table A1
Firm-level governance attributes

A. Board of directors

1	All directors attended 75% of board meetings or had a valid excuse
2	CEO and executive directors serve on the boards of two or fewer public companies
3	Board is controlled by more than 50% independent directors
4	Board size is at greater than five but less than sixteen
5	Compensation committee composed solely of independent directors
6	Chairman and CEO positions are separated, or there is a lead director
7	Annually elected board (no staggered board)
8	Nonexecutive directors have three or fewer outside directorships

B. Audit

9	The audit committee solely comprises independent directors
10	Auditors ratified at most recent annual meeting

C. Antitakeover provisions

11	Single class, common shares
12	Company either has no poison pill or a shareholder-approved pill
13	Company is not authorized to issue blank check preferred

D. Compensation and ownership

14	Executives are subject to stock ownership guidelines
15	No interlocks among compensation committee members
16	Directors receive all or a portion of their fees in stock

Table A2
Variable definitions

Variable	Definition
GOV	Firm-level index of corporate governance based on 16 attributes on board, audit, antitakeover provisions, and compensation and ownership structure (Bloomberg ESG)
XVAL	Value of cross-border M&As of public parent targets (SDC Platinum) divided by market capitalization in a country-industry (two-digit SIC level)
ΔIP	Dummy variable that takes a value of one if the value of transactions-weighted average difference between acquirer and target country antidirector rights index (Djankov et al. 2008) in a given target firm's country-industry (two-digit SIC level) is positive, and zero otherwise
HHI	Herfindahl-Hirschman index of the market shares in a industry (two-digit SIC level) calculated using sales of U.S. firms
DVAL	Value of domestic M&As (SDC Platinum) divided by market capitalization in a country-industry (two-digit SIC level)
TOBIN_q	Total assets (FactSet item FF_ASSETS) plus market value of equity (Factstet item FF_MKT_VAL) minus book value of equity (Factstet item FF_COM_EQ) divided by total assets
INV	Change in property, plant, and equipment (FactSet item PPE_NET) divided by lagged total assets (FactSet item FF_ASSETS)
ASSETS	Total assets in million of U.S. dollars (FactSet item FF_ASSETS)
LEVERAGE	Total debt (FactSet item FF_DEBT) divided by total assets (FactSet item FF_ASSETS)
CASH	Cash and short-term investments (FactSet item FF_CASH_ST) divided by total assets (FactSet item FF_ASSETS)
CAPEX	Capital expenditures (FactSet item FF_CAPEX_FIX) divided by total assets (FactSet item FF_ASSETS)
PPE	Property, plant, and equipment (FactSet item PPE_NET) divided by total assets (FactSet item FF_ASSETS)

(continued)

Table A2
Continued

Variable	Definition
CLOSE	Number of shares held by insiders (shareholders who hold 5% 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 (FactSet item FF_SHS_CLOSELY_HELD_PCT)
ROA	Operating income (FactSet item FF_OPER_INC) plus interest expenses (FactSet item FF_INT_EXP_DEBT) divided by total assets (FactSet item FF_ASSETS)
MB	Market value of equity (FactSet item FF_MKT_VAL) divided by book value of equity (FactSet item FF_COM_EQ)
SGROWTH	Two-year geometric average of annual growth rate in sales in U.S. dollars (FactSet item FF_SALES)
R&D	Research and development expenditures (FactSet item FF_RD_EXP) divided by total assets (FactSet item FF_ASSETS)
FXSALES	International sales as a proportion of sales (FactSet item (FactSet item FF_FOR_SALES_PCT)
ANALYST	Number of analysts following a firm (IBES)
ADR	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 depositary institutions and U.S. stock exchanges)
IO_TOTAL	Holdings by institutional investors as a fraction of market capitalization (FactSet)
XVALC	Value of cross-border M&As of public parent targets (SDC Platinum) divided by market capitalization in a country
ΔIPC	Dummy variable that takes a value of one if the value of transactions-weighted average difference between acquirer and target country antidirector rights index (Djankov et al. 2008) is positive, and zero otherwise
DVALC	Value of domestic M&As of public parent targets (SDC Platinum) divided by market capitalization in a country
ΔGDP_PC	Value of transactions-weighted average difference between acquirer and target country gross domestic product per capita in U.S. dollars (World Bank)
ΔMKT_GDP	Value of transactions-weighted average difference between acquirer and target country ratio of stock market capitalization to gross domestic product (World Bank)
ΔTRUST	Value of transactions-weighted average difference between acquirer and target country trust, defined as whether people believe most other people can be trusted (World Values Survey)
ΔHIERAR	Value of transactions-weighted average difference between acquirer and target country hierarchy, defined as whether people believe they should follow instructions from a superior at work even if they do agree versus having to be convinced first (World Values Survey)
ΔINDIV	Value of transactions-weighted average difference between acquirer and target country individualism, defined as whether people believe income differences are an incentive for effort versus whether incomes should be made more equal (World Values Survey)
ΔDVALC	Dummy variable that takes a value of one if the value of transactions-weighted average difference between acquirer and target country domestic M&As (as a fraction of market capitalization) is positive, and zero otherwise
ΔCOMP	Dummy variable that takes a value of one if the value of transactions-weighted average difference between acquirer and target country median CEO compensation is positive, and zero otherwise
ΔTFP	Dummy variable that takes a value of one if the value of transactions-weighted average difference between acquirer and target country total factor productivity (Penn World Table) is positive, and zero otherwise
TARIFFS	Average tariffs (MFN duty rate applied) by country and industry (two-digit SIC level), as a percentage of sales price (World Trade Organization UNCTAD TRAINS)
IMP	Import penetration, defined as imports (United Nations COMTRADE) over sales in a country-industry (two-digit SIC level)
US_DVALC	Value of domestic M&As of public parent targets (SDC Platinum) in the United States divided by market capitalization in a given industry (two-digit SIC level)

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