

The Value of Investor Protection: Firm Evidence from Cross-Border Mergers

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International law prescribes that in a cross-border acquisition of 100% of the target shares, the target firm becomes a national of the country of the acquiror, and consequently subject to its corporate governance system. Therefore, cross-border mergers provide a natural experiment to analyze the effects of changes in corporate governance on firm value. We construct measures of the change in investor protection in a sample of 506 acquisitions from 39 countries. We find that the better the shareholder protection and accounting standards in the acquiror's country, the higher the merger premium in cross-border mergers relative to matching domestic acquisitions. (*JEL* F3, F4, G3)

In the classical law and finance literature, better legal protection of investors is associated with better financial markets. La Porta et al. (1998) (LLSV) provided pioneering results documenting a strong association between the quality of the legal protections and measures of financial development, and many other articles have extended these results.¹ Spurred by the academic findings, politicians and regulators around the world have started a process of corporate governance reform aimed to improve the quality of the investor protection provided by the legal system. That is, cross-sectional differences *among* countries have translated into legal reforms *within* countries.²

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¹ Legal rules determine corporate valuation in La Porta et al. (2002) and Himmelberg, Hubbard, and Love (2002); firm's financing choices in Demircug-Kunt and Maksimovic (1998, 1999); the allocation of capital in Wurgler (2000), Beck and Levine (2002), and Claessens and Laeven (2003); the efficiency of the markets in Mørck, Yeung, and Yu (2000); and the severity of currency crises in Johnson et al. (2000).

² A good example is the World Bank reference to Claessens and Laeven (2003): "Improving corporate governance contributes to the development of the public and private capital markets" (in Mike Lubrano's "Why Corporate

However, because of its cross-sectional approach, the academic literature is at best unhelpful when one is arguing either in favor of or against corporate governance reform. Most of the academic literature relies on the indicators constructed by LLSV, which are static by construction. Therefore, unless one has either episodic evidence (as in Glaeser, Johnson, and Shleifer, 2001, on the Poland–Czech Republic difference) or new indicators (as in Pistor, 2000 for transition economies; Black, Jang, and Kim, 2006 for South Korea; and Hyytinen, Kuosa, and Takalo, 2003 for Finland), it is not possible to conclude that improvements in investor protection at the country level have positive effects in the financial markets. Also, a straight interpretation of the traditional law and finance view suggests that countries that opt into less protective regimes will end up with less valuable firms, yet no empirical evidence exists on that extreme.

The first contribution of our paper is that it provides evidence on the value of investor protection. We note that cross-border mergers are a mechanism for how firms change corporate governance. Specifically, our study is based on the observation that in a cross-border merger, the target firm usually adopts the accounting standards, disclosure practices, and governance structures of the country of the acquiring firm. By international law, the nationality of a firm changes when 100% of it is acquired by a foreign firm. Among other implications, a change in nationality implies that the law that applies to the target company—and, therefore, the protection provided by such law to the target firm’s investors—changes as well. Our advantage is that the new law can even be less protective than before, a type of legal reform that is unheard of in the literature.³ Consequently, cross-border mergers are an ideal setting to analyze valuation effects of changes in legal protection. We measure the valuation effects of the merger with the merger premium.

Of course, the legal system of the acquiror is just the legal minimum, above which the merging parties can contract upon. A complementary view to the law and finance approach argues that firms can by themselves opt out of the legal system by adopting voluntarily better corporate governance practices. In the extreme, the Coasian view (see Glaeser, Johnson, and Shleifer, 2001) is that laws are completely unnecessary, as firms will privately contract on the optimal level of investor protection. Although legal systems can differ, efficiency arguments guarantee that in equilibrium, all companies provide the same degree of protection, assuming that contracts can be enforced similarly in all countries.

Governance?” Development Outreach, March 2003, The World Bank Institute), whereas the cited paper shows that “In countries with more secure property rights, firms might allocate resources better and consequentially grow faster” (Claessens and Laeven, 2003).

³ For example, Seita, the French tobacco company, was acquired in October 1999 by Tabacalera, from Spain, to form a new entity called Altadis, which started reporting under Spanish GAAP. Spanish GAAP is rated lower than French in the LLSV index of accounting standards quality.

Consistent with these ideas, empirical research has shown that private contracts have value. Gompers, Metrick, and Ishii (2003) and Cremers and Nair (2005) find evidence that firm-specific measures of investor protection are associated with higher stock returns. Both studies use data from the United States, where judicial enforcement of contracts is arguably effective. Bergman and Nicolaievsky (2007) find that privately held firms in Mexico significantly enhance investor protection relative to the legal minimum, which suggests that judicial enforcement is effective there as well.

Alas, Bergman and Nicolaievsky (2007) find as well that public companies do not improve protection upon what is provided by the law. Their interpretation is that for public companies, the cost of renegotiation of contracts is prohibitively expensive. Moreover, Doidge, Karolyi, and Stulz (2007) have shown that after controlling for country characteristics, firms do not differ much in their corporate governance levels, at least in less developed economies. The question is then whether and when investors value firm-specific changes in investor protection.

The second contribution of our paper is that it distinguishes the value of changes in firm-specific corporate governance provisions and the value of legal rules. In a cross-border merger, the participating companies may contract upon the corporate governance system of the new firm, especially when the systems of protection of the target and the acquiror collide. For instance, the accounting standards of the target and the acquiror need to be unified, and the resulting standards will be the ones by default (the acquiror's, in the case of a 100% merger) or the ones upon which the parties agree. We have data on the accounting standards (US GAAP, IAS, EU standards, or local standards) of the merging firms and the merged firm and as well as on the consolidation rules of the acquiring company. In some mergers, consolidation happens when the acquiror buys 20% of the target, and then the accounting system changes. In some other mergers, the change happens when the acquiror buys 50%. In some mergers, there is no consolidation at all. Consequently, we can test the effect of firm-specific provisions on the valuation of the merger, relative to the legal minimum. Our analysis of accounting standards is then powerful enough to separate out the impact of legal rules from the impact of private contracts.

Before summarizing the main results, let us state up front the weaknesses of our approach. A disadvantage of our sample is that we do not have information on other firm-specific corporate governance provisions and how they change with the merger. We do not know, for instance, how the board size changes relative to the former companies, nor how many independent directors there are before and after. If the extreme version of the Coasian view holds, firms in cross-border mergers will always contract efficiently on investor protection, rendering the two original legal systems irrelevant, but we do not have full information on those contracts. Therefore, we must interpret our results with caution, because a failure to find a relationship between the change in legal rules and the merger premium may indicate that investor protection is not

valuable, but also that the firms undo the effect of legal rules by means of specific corporate governance provisions.

As our paper studies the effects of legal rules on the premium paid in a merger, another disadvantage of our framework is that the merger premium is affected by many other factors. Among those we consider: the acquiror's managerial ability, regulation, the bargaining power of the merging firms, the level of competition in the industry under consideration, etc. In order to isolate the pure governance effects, we examine whether these factors are correlated with differences in legal protections. We also eliminate the effect of other country-specific variables by comparing each cross-border merger in our sample with a similar, domestic acquisition. Finally, we control in our multivariate regressions for firm and country characteristics that have been shown in the literature to determine merger premia.

Our sample consists of 506 cross-border mergers⁴ in the period 1989 to 2002. We measure the potential transfer of investor protection from the acquiror to the target with the difference in the indices of shareholder protection (at the country level) and accounting standards (at the firm level) computed by LLSV. We then analyze the effect of differences in investor protection in the two countries on the merger premium.

The results of the paper are consistent with the law and finance view, but our findings offer some additional insights:

- We find that the adjusted merger premium is significantly larger in 100% acquisitions for which the shareholder protection of the acquiror is better than the target's. This effect is not significant for acquisitions of less than 100%. The economic significance is substantial: in 100% acquisitions, a one-standard-deviation increase in the difference in the shareholder protection index between the acquiror and the target results in a premium that is 0.37 standard-deviations higher. This result suggests a positive valuation effect of improving the legal protection of the target shareholders, which is consistent with the theoretical model of investor protection in La Porta et al. (2002).

There are several alternative explanations: (i) the potentially better managerial skills that the more protective acquiror may bring about; (ii) the presence of agency problems due to the low ownership concentration in the country of nationality of the acquiror, which induces acquirors to pay larger premiums; and (iii) the more competitive market for control in the acquiring country. We rule them out by showing that proxies for those variables are unrelated to the difference in legal protections between the two countries.

- Individual firms' corporate governance provisions affect the premium. In particular, the accounting standards of the merging firms are significantly

⁴ For the multivariate analyses, we only use 241 acquisitions for which all the variables are available.

valuable, irrespective of the quality of the accounting standards in the two countries. When accounting standards change because of the firm-specific consolidation rules, a one-standard-deviation increase in the difference in the accounting standards quality index between the acquiror and the target results in a merger premium that is about 0.3 standard deviations higher. When accounting standards change automatically because it is a 100% merger, the economic significance is 0.15 standard deviations. That is, firm-specific provisions are economically more significant than legal rules. Indeed, in a “horse race” between legal differences and differences in firm characteristics, we confirm that it is the effect of adopting the acquiror’s better accounting standards via consolidation that matters the most, even relative to the pure change in the legal protections induced by the merger.

- We do not find evidence on the symmetric effect. When the protections of the target firm shareholders deteriorate, either because it is 100% bought by an acquiror in a country with weaker legal protections, or because the merged firm chooses accounting standards that are worse than before the merger, the premium is not significantly lower. This result is consistent with three hypotheses, which we cannot distinguish: (i) Firms may overcome the reduction in investor protection induced by these deals by means of private contracts—for which we do not have sufficient data. (ii) The insignificant effect of legal rules is consistent with Doidge, Karolyi, and Stulz (2007), who find that firm characteristics explain governance in more financially developed countries, while country characteristics explain governance in less developed countries. Consequently, in a merger where the target is from a more protective country, firm-specific provisions are more important. (iii) The market does not value reductions in investment protection.

The last two results challenge the established view of corporate governance that stresses the importance of the law and its effects on corporate value: First, because we find that firm-specific provisions are more valuable than legal rules; and second, because we find that sometimes changes in legal rules do not translate into any market impact. We conclude that legal reform is desirable for a country both because it has a direct effect on firm performance—and we are not the first ones to show this—and because, by raising the legal minimum, it induces corporate governance changes at the firm level, which are positively valued by the market.

Our work is related to Doukas and Travlos (1988), who show that the announcement effect of a cross-border merger is larger when the acquiring firm is entering a new geographic market for the first time. Bris and Cabolis (2004) analyze the industry effects of cross-border mergers that are caused by differences in investor protection. They find that the Tobin’s Q of an industry is positively related to the percentage of the market capitalization in the industry that is acquired by firms coming from countries that are more protective.

Finally, our paper is in the same spirit as Daines (2001), who provides cross-sectional results to show that the market assigns a higher value to the assets of firms incorporated in Delaware. Our rich panel allows us to extend Daines's methodology.⁵

The paper is organized as follows. Section 1 establishes how cross-border mergers alter the level of protection provided to the investors of the merging firms. Section 2 describes the data and their sources. Section 3 outlines the construction of merger-specific corporate governance indices from the original merger sample. Section 4 describes the methodology to calculate matching-acquisition abnormal returns and provides preliminary results. Section 5 is devoted to the multivariate analysis. Section 6 proposes and tests several explanations for our results, and Section 7 provides some robustness tests. Section 8 concludes.

1. Governance Transfer Due to Mergers and Acquisitions

In this section, we explain how cross-border mergers allow target companies to change their legal environment, and then to alter the level of protection provided to their investors.

With the caveats detailed below, a cross-border merger entails a change in the nationality of the target firm and in the corporate law—or commercial code—applicable to the firm. In principle, it is possible that contractual arrangements between the parties involved in a cross-border merger circumvent the legal effects of the transaction, implying that in some cases, the acquiring firm adopts the practices of the target. Thus, the merging parties can make contractual arrangements, so that the merged firm reports using the accounting standards of the target firm's country or a third country.⁶ In other cases, the legal system prevents the transfer of corporate governance practice. Foreign firms acquiring

⁵ Three closely related papers are Chari, Ouimet, and Tesar (2004); Starks and Wei (2004); and Kuipers, Miller, and Patel (2003). Chari et al. study the stock market's reaction to cross-border mergers, and find that the acquiror's return is larger when the control of the target company changes to the acquiring firm. This is consistent with our finding that cross-border mergers have a positive effect on a less-protective target when 100% of the firm is acquired. However, section 7.7.2 shows that changes in nationality and not changes in control explain the valuation effects we document. Starks and Wei (2004); and Kuipers, Miller, and Patel (2003) analyze how differences in investor protection determine the announcement effect of cross-border acquisitions of US companies. Starks and Wei (2004) find that takeover premia are decreasing in the quality of the corporate governance in the acquiring country and that acquirors from more protective countries are more likely to finance their acquisitions with stock. Kuipers et al. show that the return to targets of cross-border deals in the United States is positively related to the quality of the investor protection in the acquiror's country. In these two papers, the target firm is always *better*—in terms of investor protection—than the acquiror, and differences in valuation arise mainly from differences in the legal environment in the acquiring country only.

⁶ Example: The firm resulting from the 1996 acquisition of the Swedish Merita Nordbanken by the Danish Unidanmark started to report in Swedish GAAP—the standards of the target firm—following the agreement of both groups of shareholders.

in the United States with stock, for instance, must register their securities with the Securities Exchange Commission; thereby, acquirors must comply to some extent with the legal rules in the country of nationality of the target firm.

Our challenge is to identify changes in investor protection induced by changes in the *nationality* of the target firm.⁷ In what follows, we discuss the implications of such a change for the most common measures of corporate governance. In particular, we focus on the protection provided to the shareholders and the creditors of the firms involved as well as the changes in accounting standards and political corruption induced by cross-border mergers. We explain that, while the degree of shareholder protection and the accounting standards that apply to a firm change upon being acquired in a cross-border transaction, the creditors—to the extent that the underlying asset does not change location—remain under the protection of the target country's courts. Other dimensions of investor protection that have been widely discussed in the literature, like the degree of corruption, are inherent to the country where the target firm operates.

Finally, an important distinction to make is that the resulting corporate law that applies to a firm after a cross-border merger can be different from the law applicable to the acquisition itself. The US regulation, for instance, requires foreign acquirors of a corporation where at least 10% of the shares are held by US investors to comply with the Williams Act.⁸ Therefore, US law applies to the acquisition, notwithstanding the nationality of the parties involved and the law that applies to their practices.

1.1 Shareholder protection

Shareholder protection refers to the protection provided by the corresponding corporate law or the commercial code to the shareholders of a company. In principle, the law applicable to companies is the law of the country of nationality of the firm. The relevant protection is not determined by the law of the country of nationality of the shareholders, the country where the firm operates, or the country where some firm's assets are located. Therefore, the location of the shareholders of the company is, in principle, irrelevant (Horn, 2001). In a cash-for-stock merger, the shareholders of the newly created firm are the old shareholders of the acquiror, while in a stock-for-stock merger, some shareholders of the newly created firm are located in the country of nationality of the target. Consequently, a cross-border merger results in the change of nationality of the target firm, the laws applicable to the firm and possibly a change in the level of shareholder protection provided by the law to the shareholders of the target firm.

⁷ Nationality is defined here as the location of the company's headquarters. The law applicable to companies can be determined according to two principles. According to the "seat theory," the relevant law is the law of the location of a company's headquarters. According to the "incorporation theory," the relevant law is the law of the country of incorporation. The seat theory is dominant in the United States and Europe (see Horn, 2001).

⁸ See Securities Act Release No. 33-6897 (June).

There is only one important exception to this rule. The principle of *extraterritoriality* dictates that in certain cases, a state can assert jurisdiction over its nationals abroad.⁹ However, the extraterritoriality of corporate law is not applied when a foreign firm acquires 100% of the shares of a company.¹⁰

To conclude, in the absence of contractual arrangements between the parties, international law states that acquisitions of 100% interest in a company by a foreign firm result in a change of the law applicable to the target firm.

1.2 Accounting standards

The resulting accounting standards of a newly merged firm are by default the accounting standards of the country of nationality of the acquiring firm if it buys 100% of the target. This derives from the discussion on the relevant corporate law above.¹¹ Firms, of course, can exceptionally alter that situation via contractual arrangements.

Consolidation rules play an important role in determining the accounting standards that apply to a cross-border merger. In general, 100% acquisitions result in consolidation. However, by US Generally Accepted Accounting Principles, any acquisition involving more than 50% of the voting shares triggers consolidation.¹² Under International Accounting Standards, accounting consolidation is required when control changes, but a change of control may not require that more than one-half of the voting shares of the target are owned by the acquiror;¹³ local standards can establish different rules. As a result, whether the target company in a cross-border merger adopts the accounting standards of the acquiring firm depends on the consolidation rules set by the accounting standards of the acquiror.¹⁴

⁹ In the case of cross-border mergers, a host state is entitled to subject a foreign-owned subsidiary to local corporate law by reason of domicile of the subsidiary (Muchlinski, 1997). This becomes relevant when rights of minority shareholders are to be protected in a country different from the country of nationality of the firm.

¹⁰ The reason is that the extraterritoriality of corporate law is applied in international law following what is known as the “nationality test” (Muchlinski, 1997). The domicile of the target firm remains in the host country when less than 100% of the shares of the target are acquired by the foreign firm. The textbook case that illustrates the nationality test is *Fruehauf*, where *Fruehauf France SA* was a company two-thirds owned by its American parent. The French regulation was applied to a case involving exports by *Fruehauf France* to the People’s Republic of China, which were prohibited under the US Trading with the Enemy Legislation (Muchlinsky, 1997). The US Treasury Department accepted that the French subsidiary was under control of French law by domicile, even though it was legally a US corporation.

¹¹ Example: In the 1999 acquisition of Canadian *Seagram* by French *Vivendi*, the newly merged firm adopted the French accounting system.

¹² FASB 94 defines “control” as holding more than a 50% voting interest in the target.

¹³ Under Interpretation 12 of the Standing Interpretation Committee (SIC), an enterprise must consolidate a special-purpose entity when the substance of the relationship indicates that the special-purpose entity is controlled by the reporting enterprise. Control is presumed when a parent company directly or indirectly holds more than half of the voting rights, but also when the parent has power over more than half of the voting rights via an agreement with other investors. Interpretation SIC 12 also sets out a number of circumstances that evidence a relationship of control even when the parent holds less than one-half of the voting rights.

¹⁴ Note that, although contractual arrangements can improve the accounting standards of the merged firm, in some situations, firms decide not to do so. The case of *Altadis* is representative of this situation, whereby a French company changed its standards to Spanish GAAP, which LLSV rank below the French GAAP in terms of quality.

1.3 Legal protections not affected by changes of nationality

1.3.1 Creditor protection. La Porta et al. (2000) argue that importing creditor protection by acquiring a firm in another country is not possible, because corporate assets remain under the jurisdiction of the country where they are located and not under the jurisdiction where the firm is incorporated. To the extent that a US multinational, for example, cannot force Chapter 11 on the default of one of its subsidiaries in another country, creditor protection is not transferable from the United States to that country. This, in principle, is correct, with some caveats that we describe next.

For secured claims, it is generally assumed that the law of the *situs* of the collateral is the applicable law for all purposes.¹⁵ In general, if fixed assets are the collateral of the target firm's debt, the law applicable to those assets—and therefore, to the creditors—of the target firm remains in the host country.

In certain cases, courts in the country of nationality of the firm have jurisdiction over assets located in other countries.¹⁶ The United States follows the *universality approach*, under which an insolvency case should be treated as a single case, and creditors should be treated equally irrespective of their location. In contrast, under the *territoriality approach*, each country has jurisdiction over the assets of the firm located within the country (Bufford et al., 2001).

To summarize, the acquisition of a firm in a host state by a foreign firm does not change the jurisdiction of the insolvency proceeding to the foreign country, as long as either creditors or assets remain in the host country. However, a conflict of jurisdiction may arise if the country follows—like the United States—the universality approach. Therefore, creditor protection is, in general, invariant to changes in control. Note that the merging parties cannot agree upon the jurisdiction over the firm's assets, since boards of directors represent shareholders' interests only, unless the firm is in distress.

1.3.2 Corruption. The standard measure of corruption, like the one used in LLSV, is defined by the International Country Risk Guide as “a measure of corruption within the political system that is a threat to foreign investment by distorting the economic and financial environment, reducing the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability, and introducing inherent instability into the political process.”¹⁷ As a result, a firm operating internationally is affected

¹⁵ Generally, this rule is well founded for real estate. There is, however, a relevant debate in international law regarding intangibles, which by nature do not have a physical location.

¹⁶ For instance, US courts have jurisdiction over bankruptcy cases where creditors or assets are in the United States, irrespective of the nationality of the firm (US Bankruptcy Code §304). The US law applies either when the assets or the creditors are located abroad. If a US firm acquires a firm in Argentina, for example, US courts have jurisdiction over the assets of the newly created firm in Argentina. Section §541(a) of the US Bankruptcy Code establishes that the estate includes all of the assets of the debtor, “wherever located and by whomever held.”

¹⁷ See <http://www.countrydata.com>.

by the corruption in the country where it operates, the country where it pays taxes, and the country where its creditors are located. This happens irrespective of the nationality of the newly merged firm.

A cross-border merger affects the level of corruption that involves both the acquiring and the target firm. When acquiring abroad, a firm must get involved with the system of political relations prevailing in the country where the target firm operates. Similarly, the target firm becomes subject to the system of political relations present in the country of the acquiring company.

There is evidence in the literature that foreign investors are affected by the corruption level in the host country. Some authors have obtained data on investment choices by individual investors in Sweden, which show that individuals who are more likely to have connections with the local financial community and have access to information prefer to invest in firms where there is more room for extraction of private benefits of control.

2. Data

2.1 Initial sample

Our main source of data is the Securities Data Corporation Mergers and Acquisitions database (SDC). We obtain information on all completed acquisitions of public companies between January 1989 and December 2002 for all available countries. We exclude leverage buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, minority stake purchases, acquisitions of minority interest, and privatizations. This initial dataset contains 8,053 announcements of which 1,508 are cross-border.

Table 1 describes the construction of our sample, which we divide into two groups: cross-border and domestic mergers.

SDC provides detailed information on the deal as well as on characteristics of the merging firms. However, SDC does not provide information on stock prices. Therefore, we merge the information obtained from SDC with Worldscope-Datastream. This SDC+Worldscope dataset comprises 3,339 observations where 713 correspond to cross-border deals.

Relative to the initial sample, the firms in the SDC+Worldscope dataset are significantly larger in terms of total assets. Table 1 shows that the median cross-border target in the SDC+Worldscope sample has total assets of \$389 million versus \$179 million in the initial sample. Similarly, acquirors in cross-border mergers have assets of \$8.6 billion in the SDC+Worldscope sample, compared to \$3.8 billion in the original SDC sample. Moreover, based on Kolmogorov-Smirnov tests of differences, we show that the distribution of total assets is statistically different in both samples. Results are similar for the subsample of domestic mergers.

Table 1
Construction of the sample

	Cross-border mergers					
	Original SDC sample		SDC + Worldwide sample		Final sample	
	Target	Acquiror	Target	Acquiror	Target	Acquiror
Number of acquisitions	1,508		713		506	
Total assets (\$Mit) at $t = 0$						
Mean	\$2,052.6	\$35,290.7	\$2,945.6	\$76,588.3	\$3,799.6	\$63,282.3
Median	\$179.4	\$3,778.5	\$388.9	\$8,577.5	\$359.0	\$7,644.5
Min	\$0.0	\$19.0	\$0.0	\$19.0	\$0.0	\$19.0
Max	\$140,979.9	\$944,327.0	\$140,102.0	\$1,615,859.0	\$123,995.2	\$925,791.5
Standard deviation	\$9,399.9	\$105,804.0	\$9,787.0	\$189,221.5	\$10,866.5	\$155,780.7
Test of differences with original SDC sample			0.1841***	0.1798***	0.1715***	0.1685***
(p -value)			(0.0000)	(0.0000)	(0.0000)	(0.0000)
Test of differences with SDC + Worldwide sample					0.0862*	0.0437
(p -value)					(0.0680)	(0.6760)
Domestic mergers						
	Original SDC sample		SDC + Worldwide sample		Final sample	
	Target	Acquiror	Target	Acquiror	Target	Acquiror
Number of acquisitions	6,545		2,626		506	
Total assets (\$Mit) at $t = 0$						
Mean	\$2,528.9	\$11,924.0	\$2,425.6	\$16,912.0	\$2,610.6	\$25,993.5
Median	\$148.4	\$1,259.4	\$295.1	\$2,337.8	\$361.8	\$2,889.6
Min	\$1.4	\$6.8	\$1.4	\$6.8	\$1.4	\$6.8
Max	\$574,103.3	\$1,057,657.0	\$120,094.0	\$1,057,657.0	\$82,618.7	\$925,791.5
Standard deviation	\$19,548.7	\$42,800.3	\$8,346.6	\$62,985.0	\$7,687.6	\$72,349.3
Test of differences with original SDC sample			0.1729***	0.1122***	0.2074***	0.1851***
(p -value)			(0.0000)	(0.0000)	(0.0000)	(0.0000)
Test of differences with SDC + Worldwide sample					0.0724	0.1029***
(p -value)					(0.1080)	(0.0010)

The original sample consists of all domestic and cross-border mergers identified by the Securities Data Corporation (SDC) M&A Database between January 1989 and December 2002. Only completed deals where both the acquiror and the target are publicly listed corporations are included. We exclude from the sample: leverage buyouts, privatizations, acquisitions of minority interest, and spin-offs. We then construct a sample of cross-border mergers with accounting information available in Worldwide sample). Finally, we identify, for each of the cross-border mergers in the sample, another domestic acquisition in the same year, where the target company belongs to the same country and industry, and is the closest in size to the cross-border target. The "Final sample" includes only those cross-border mergers for which a matching acquisition could be identified, and after winsorizing the sample at the 1% level. The table shows the Total assets at the announcement of the acquisition for the three samples. Tests of differences are based on a nonparametric Kolmogorov-Smirnov test.

2.2 Matching sample

We construct the "final sample" by identifying a domestic merger for each cross-border merger in the SDC+Worldscope sample. One way to isolate the pure effects of changes in investor protection is to measure the merger premium in the cross-border merger relative to a similar domestic acquisition. We select, for each cross-border deal, a domestic merger that meets the following criteria: (i) it is announced in the same year as the cross-border merger; (ii) the target firm belongs to the same country and industry (2-digit SIC code) as the target firm of the cross-border merger; (iii) the target company is different from the target company of the cross-border merger; (iv) the percentage of the target's shares sought by the acquiror is below 50%, if the percent sought in the cross-border merger is below 50%, and vice versa; and (v) the target firm is the closest in terms of total assets to the target of the corresponding cross-border merger.

The final sample excludes observations when there is a single acquisition in a given year, industry, and country, as well as when the matching target firm is either more than double in size or less than half in size than the corresponding cross-border target. The final sample also excludes cross-border mergers for which the investor protection indices in LLSV are not available, like for the Eastern European countries.

The sample that satisfies all the above characteristics consists of 1,012 observations. There are 506 cross-border mergers and 506 corresponding domestic mergers for which we have complete information on deal characteristics and stock price history for both the target and the acquiring firms.

Table 1 shows that, relative to the original sample, our final sample of matching pairs contains significantly larger firms. For instance, while the median size of a cross-border target is \$179 million in the original sample, it increases to \$359 million in the final sample (significantly different at the 1% level). However, the differences between the SDC+Worldscope sample and the final sample are not large. Total assets are \$388 million and \$359 million, respectively, and their difference is statistically significant only at the 10% level, for cross-border targets. The sample of acquirors in cross-border mergers and the sample of target firms in the domestic mergers are not significantly different between the SDC+Worldscope and final samples.

2.3 Description of the data

Our sample of cross-border mergers is geographically fairly diversified. It contains acquisition announcements from target firms from 39 countries and acquiring firms from 25 countries (see Appendix, Table A). Table 2 provides descriptive statistics of the firms in the sample.

With respect to acquirors, Table 2 shows that cross-border acquirors are significantly larger than domestic acquirors (\$7.7 billion versus \$3.1 billion, significantly different at the 1% level) and have a higher Tobin's Q . These differences remain significant one year after the acquisition announcement. Note also that in the median cross-border merger, the acquiror is 20 times as

Table 2
Description of the sample

	Acquiring company					
	$t = -1$			$t = 0$		
	N	Cross-border	Domestic	Difference (p -value)	N	Difference (p -value)
Total assets	504	6,773.315	2,953.781	(0.0000)	506	7,724.915
Tobin's Q	502	1.56	1.38	(0.0000)	502	1.45
Sales to total assets	503	61.91	50.96	(0.3516)	505	54.27
Return on assets	522	6.09	5.83	(0.2040)	528	4.27
Cash flow to sales	524	12.87	11.75	(0.1339)	526	12.48
Investment to assets	99	31.62	25.79	(0.2288)	97	34.06
					Target company	
					N	Difference (p -value)
					444	8,456.926
					442	1.34
					444	54.82
					467	4.86
					463	11.14
					86	32.37
						Domestic
						3,734.399
						1.23
						48.17
						3.72
						11.69
						30.38
						(0.0000)
						(0.0002)
						(0.0759)
						(0.1031)
						(0.2228)
						(0.1439)

	Difference acquiror-target (p -values)					
	$t = -1$			$t = 0$		
	N	Cross-border	Domestic	Difference (p -value)	N	Difference (p -value)
Total assets	462	316.714	318.733	(0.5460)	348	379.488
Tobin's Q	442	1.34	1.45	(1.0000)	334	1.30
Sales to total assets	461	68.85	73.06	(0.0777)	348	53.48
Return on assets	449	4.91	4.57	(0.4980)	348	4.90
Cash flow to sales	472	10.70	9.87	(0.6094)	358	11.48
Investment to assets	52	22.80	22.52	(1.0000)	45	25.24
						Domestic
						391.315
						1.23
						63.54
						3.32
						8.54
						17.33
						(0.1055)
						(0.3232)
						(0.6705)
						(0.0023)
						(0.0045)
						(0.5488)

	Difference acquiror-target (p -values)					
	$t = -1$			$t = 0$		
	N	Cross-border	Domestic	Difference (p -value)	N	Difference (p -value)
Total assets		(0.0000)	(0.0000)	(0.0000)		(0.0000)
Tobin's Q		(0.0000)	(0.1238)	(0.5587)		(0.0008)
Sales to total assets		(0.0001)	(0.0036)	(0.0000)		(0.1982)
Return on assets		(0.0207)	(0.0002)	(0.0076)		(0.0029)
Cash flow to sales		(0.0002)	(0.0066)	(0.0359)		(0.1342)
Investment to assets		(1.0000)	(0.8714)	(0.7428)		(0.7083)
				(0.0309)		(0.7449)
				(0.2649)		(0.1460)

Median accounting ratios for the base sample of cross-border mergers, and the corresponding domestic mergers, in years $t = -1$, $t = 0$, and $t = +1$ relative to the year of announcement. All variables are winsorized at the 1% level. We construct a paired-sample of acquisitions consisting of a cross-border merger and a matching domestic merger announced in the same year, where the target company belongs to the same country and industry, and is the closest in size to the cross-border target. Our original sample consists of 3163 completed acquisitions of public firms between 1989 and 2002, with available information in both Worldscope and the Securities Data Corporation Mergers and Acquisitions database. We exclude spin-offs, leverage buyouts, acquisitions of minority interests, and privatizations. Tests of significance are based on a nonparametric Kruskal-Wallis test. Tests of differences are based on a Wilcoxon matched-pairs signed-rank test. p -values are in parentheses.

large as the target, compared with 8.4 times in a domestic merger. Relative to target firms, acquirors in cross-border mergers display higher Tobin's Q s, higher sales, higher return on assets, and higher cash flow to assets. We find similar differences in domestic mergers. We additionally find that domestic acquirors invest more than domestic targets.

With respect to target firms, the matching procedure is very efficient. There are no significant differences between cross-border targets and matching domestic targets at time $t = 0$ in the five accounting variables we consider. One year after the acquisition, cross-border targets compared to matching domestic targets display significantly higher return on assets (4.51% versus 3.32%), and higher cash-flow-to-assets (11.26% versus 8.54%). The sample of target firms is significantly reduced at $t = 1$ (260 firms instead of 348 firms) because some target firms are delisted in the domestic market.

Finally, Table 2 shows the differences between the firms in the two subsamples. We obtain accounting information from Worldscope, and we report in the table results of a nonparametric Wilcoxon test for the differences between firms in the same pair. These differences are reported in the year of the acquisition announcement as well as one year before and one year after. We report total assets,¹⁸ Tobin's Q , sales to total assets, return on assets, cash flow to sales, and investment to assets. Tobin's Q is computed as the book value of total assets, minus the book value of the common equity, plus the market value of the common equity, divided by the book value of total assets.

Most of our targets (84 out of 506, or 17%) and most of our acquirors (139 out of 506, or 27%) come from the United States. We have 8 targets from Africa, 104 from Asia, 48 from Latin America, 133 from North America, 43 from Oceania, and 170 from Western Europe. Similarly, our sample includes 8 acquirors from Africa, 54 from Asia, 5 from Latin America, 169 from North America, 30 from Oceania, and 240 from Western Europe. Most of the mergers are friendly (99%) and "nonhorizontal" (68%). We define an acquisition as horizontal when the main four-digit SIC code of the target and the acquiror coincide. Consequently, nonhorizontal acquisitions include both vertical and conglomerate mergers. Additionally, 72% of our acquisitions use cash as the only means of payment (see Appendix, Table A).

3. The Quality of Investor Protection

In this section, we assemble country- and firm-specific corporate governance indices. Our starting point is the indices on shareholder rights and accounting

¹⁸ Total Assets in Table 1 are the latest total assets reported by firms prior to the acquisition announcement, obtained from SDC. In most cases, they correspond to the end-of-year value the year before the acquisition announcement. In Table 2, Total Assets are from Worldscope, and measure the end-of-year value of total assets in the year of the acquisition announcement. This explains the differences both in sample size and in value between Tables 1 and 2.

standards, and the efficiency of the legal system, from LLSV.¹⁹ The shareholder index is multiplied by the efficiency of the legal system to obtain the index of shareholder protection. All variables used in the paper are described in Table B in the Appendix.

Ideally, we would like to have firm-specific measures of investor protection. The LLSV indices give us the system of protection *by default*, which is the one we use. Fortunately, Worldscoop provides information on the accounting standards followed by individual firms, specifying whether the firm follows local IAS, US GAAP, or EU standards. We combine this information with the LLSV index of accounting standards in the following way: When a firm follows local standards, we assign that firm the value of the LLSV index. When the firm follows any international standard, we assign that firm an index of accounting standards of 83. This is the maximum value of the LLSV index, corresponding to Sweden. When the firm follows US GAAP, we assign that firm an index of accounting standards of 71 (this is the value of the LLSV index for the United States). Finally, even when Worldscoop reports that a firm follows local standards, we assign a value of 71 if the firm is listed in the United States through an ADR or a direct listing. Consequently, the index of shareholder protection is constant over time and country-specific, but the index of accounting standards is time-varying and firm-specific.

Moreover, Worldscoop reports, for each firm, the consolidation rules that apply in case of an acquisition and in particular, the minimum ownership threshold above which the target is consolidated into the parent. These thresholds match essentially our description in Section 1. Therefore, in addition to the information above, we characterize each merger, depending on how much of the target the acquiror buys, with the resulting accounting standards, which we code according to the criteria in the previous paragraph. For instance, if an acquiring company that follows US GAAP buys 60% of a company in Sweden, the resulting firm has an index of accounting standards of 71. The difference in accounting standards acquiror-minus-target is then $71 - 83 = -12$. The difference will be -12 as well if the acquiror buys 40% of the target, but consolidation will not be effective. Therefore, in our multivariate regressions, we separate out both acquisitions with a dummy variable that equals one whenever there is accounting consolidation, and zero otherwise. The dummy equals zero in 100% acquisitions as well, since we capture the effect of 100% mergers with another dummy variable.

Each acquisition in our sample is then characterized by four indices: shareholder protection and accounting standards for the acquiring firm, and the analogous indices for the target firm. The difference of the corresponding indices

¹⁹ In earlier versions, we have also analyzed measures of creditor protection and corruption. Consistent with the international doctrine, we do not find any significant impact of differences in those on the value effect of the merger. As Section 1 explains, creditor protection is the one given in the jurisdiction where the assets are located and, consequently, does not change with a change in control. Moreover, corruption is inherent to the country(s) where the firm operates. These results are available from the authors upon request.

between the two companies provides an indication of the potential *corporate governance quality transfer* that results from the cross-border merger. To illustrate this point, suppose that a UK firm acquires a Greek firm. Since the shareholder protection index in Greece is 14, and the shareholder protection index in the United Kingdom is 50, the acquisition serves as a way of contractual transfer of corporate governance practices from the United Kingdom to Greece. The magnitude of such transfer is $50 - 14 = 36$.²⁰

4. Measuring the Merger Premium

Data on merger premia are not available for many acquisitions in our sample. Therefore, we proxy merger premium with the abnormal return at the announcement of the acquisition. In this section, we describe how we measure the abnormal return and show that, for the subsample of firms for which premia are readily available, buy-and-hold abnormal returns are a very satisfactory proxy. Schwert (2000) computes the merger premium as the total abnormal returns in the target firm from day $t = -42$ to day $t = +126$ relative to the tender offer announcement. In a regression of the bid premium on the stock price run-up (the abnormal return from day $t = -42$ to day $t = 0$), he finds an average coefficient of 1.1 for a sample of around 1800 acquisitions in the United States. Schwert's results suggest that the announcement effect of a tender offer is mostly a reflection of the premium paid by the acquiror.

4.1 Computation of buy-and-hold abnormal returns

We measure the market impact of each acquisition by calculating buy-and-hold cumulative abnormal returns (BHCAR). We first estimate a market model regression of dollar-denominated daily returns on the corresponding dollar-denominated market return and the MSCI world index. Return data are obtained from Datastream. Abnormal returns are calculated for a window around the tender offer announcement for all the firms for which daily data are available. Market model regressions are performed in the following way:

$$R_{ijt} = \alpha_i + \beta_i^m R_{mjt} + \beta_i^w R_{wt} + \epsilon_{it} \quad t = -260, \dots, -100, \quad (1)$$

where R_{ijt} refers to the daily stock return for either the target or the acquiring firm i in country j , R_{mjt} is the market return in country j , and R_{wt} is the world

²⁰ Alternatively, and given that the La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) indices have different ranges and it is difficult to draw comparisons in absolute terms, we could classify countries into two groups for each index depending on whether the corporate governance indicator for a country is above or below the median. We could then assign a value of one to the corresponding index when the country of nationality of the firm has an index above the median, and zero otherwise. See our work in Bris and Cabolis (2004). Our results are robust to this alternative specification. The methodology employed in this paper implicitly weights equally acquisitions between firms with very different levels of investor protection.

index.²¹ The residual ϵ_{it} defines the excess return for each firm and day. Days are, for the remainder of the paper, trading days.²² We then compute abnormal returns and accumulate them over four different subperiods: $(-100, -3)$, $(-2, +2)$, $(0, +10)$, and $(0, +100)$. BHCAR in period (T_1, T_2) for firm i is computed as

$$BHCAR_i^{(T_1, T_2)} = \prod_{t=T_1}^{t=T_2} (1 + \hat{\epsilon}_{it}) - 1. \quad (2)$$

During the five days surrounding an acquisition announcement, target firms experience a 14.20% abnormal return (significant at the 1% level), and acquirors experience negative returns of -1.12% (significant at the 5% level). Over the period of 100 days following the acquisition announcements, target shareholders realize a 33.98% abnormal return, and acquirors' return is -5.36% (both significant at the 1% level). There is no significant price run-up in days $(-100, -3)$ for targets, but a negative and significant abnormal return (-0.09%) for acquirors.

4.2 Matching-acquisition-adjusted abnormal returns

In this paper, we use the *BHCAR* in days $t = -2$ to $t = +2$ as a proxy for the merger premium. Merger premia are determined by specific characteristics of the country where the acquisition takes place. In particular, market liquidity, regulation, and financial development determine a bidder's willingness to pay. The existing literature documents a significant relationship between financial and economic development (La Porta et al., 2000). Thus, we expect a positive yet spurious relationship between the quality of the investor protection in the target country, and the announcement effect of acquisitions in that country.

We try to isolate the pure corporate governance effects by adjusting premia relative to similar domestic acquisitions. Therefore, we compute for each cross-border merger in our sample, matching-acquisition-adjusted BHCARs (MABHCAR) for both target and acquiring firms, in the following way:

$$MABHCAR_i = BHCAR_i^{CB} - BHCAR_i^{DOM}, \quad (3)$$

where $BHCAR_i^{CB}$ is the cumulative buy-and-hold return for the cross-border acquisition i in days $t = -2$ to $t = +2$, and $BHCAR_i^{DOM}$ is the cumulative

²¹ The market index is the corresponding market index in the country of nationality of the target and the acquiring firm, respectively. Abnormal returns are winsorized at the 1% probability level.

²² While in the United States lack of data for a particular stock in a given day is not an issue, in emerging markets it is. Sometimes trading is suspended for a particular stock during a short period. Therefore, when the price information is missing for a given stock in a given day, one does not know whether it is due to non-trading or data unavailability (this is especially true in Datastream). A window of 30 trading days prior to the announcement of an acquisition may mean six weeks for one stock, and three months for another.

Table 3
Merger premiums and abnormal returns

	Buy-and-hold abnormal returns			Merger premium		
	Mean	Median	Number of acquisitions	Mean	Median	Number of acquisitions
Unadjusted	14.2%***	8.41%***	506	15.16%***	8.28%***	208
Acquiror-matched	-3.70%**	3.19%**	297	-1.61%***	-0.51%	115
Target-matched	0.26%	-0.34%	506	-0.03%*	-2.69%	199

Unadjusted and matching-acquisition-adjusted CARs and merger premiums. Unadjusted merger premium is the difference between the price paid in the acquisition, relative to the stock price of the target one week prior to the announcement. Acquiror-matched relative premium is the difference between the merger premium and the premium in a matching, domestic acquisition in the country of the acquiror by a company similar to the acquiror. Target-matched relative premium is the difference between the merger premium and the premium in a matching, domestic acquisition in the country of the target by a company similar to the target. The sample contains all cross-border mergers with information available in the Securities Data Corporation Database. *P*-values for means are based on a *t*-test. *P*-values for medians are based on a nonparametric Wilcoxon sign-rank test.

buy-and-hold return for the domestic acquisition that matches acquisition *i*, selected as described in Section 2.2.

Because the two target firms in each pair are from the same country, matching-acquisition-adjusted BHCARs measure the incremental announcement effect of the cross-border acquisition that is driven by the foreign nationality of the acquiror.

4.3 Abnormal returns measure the merger premium

Let us first show that matching-acquisition abnormal returns are a good proxy for the merger premium. For the observations for which these data are available, we compute merger premium as the percentage difference between the value of the consideration offered to the target shareholders (the bid price), and the target company's stock price 10 days prior to announcement in domestic currency. The value of the consideration offered to target shareholders depends on whether the merger is cash- or stock-financed. In stock-for-stock mergers, the bid price is computed as the exchange ratio times the stock price of the acquiror as of the day of the announcement in the domestic currency of the target firm.

We then calculate the difference between the merger premium and the premium paid in the matching, domestic transaction for each cross-border merger. Similarly, we compute the premium relative to a matching-acquisition with a similar acquiror (see Section 6.6.2 for a description of the acquiror-matched sample).

In Table 3, we report the median premium for the sample of cross-border mergers with available data (208), as well as the acquiror- and target-adjusted premia. With respect to the target price 10 days before the announcement, the median premium cross-border acquirors pay 8.28%. This is very similar to the 8.41% CAR calculated over a period of five days around the

announcement. Relative to acquisitions with comparable targets, premia in cross-border mergers are not significantly different in median, although they are significantly lower in mean (-0.03% target-matched premium). With respect to domestic acquisitions with similar acquirors, premiums in cross-border mergers are not different either.²³

4.4 Merger premium and investor protection

In Table 4, we classify countries relative to the medians of the investor protection indices and a proxy for economic development, OECD membership.²⁴ We then classify the cross-border mergers in the sample depending on the country of nationality of the acquiror and the target. We report both adjusted and unadjusted abnormal returns.

The first panel of Table 4 shows that, after adjusting by a matching acquisition, adjusted premia are larger when the target firm is a nonmember (*MABHARs* are significantly positive for nonmembers, and insignificant for members, although their difference is insignificant).

The second panel in Table 4 shows that the previous also holds when we look at differences in shareholder protection. In fact, the average acquisition where the acquiror comes from an above-median shareholder protection country, and the target comes from a below-median shareholder protection country, results in abnormal matching-acquisition-adjusted announcement returns of 5.78% (significant at the 5% level). Abnormal returns in the opposite case are -13.41% (significant at the 1% level). Therefore, for target firms, it is the difference in shareholder protection in the acquiring firm that determines abnormal returns. The results for accounting standards mirror our findings for shareholder protection. This is not surprising, given the high correlation between the shareholder protection and accounting standards indices, and measures of economic development (see Table C in the Appendix, and La Porta et al., 2000). However, these univariate results are driven by many other factors that one needs to account for. This is what we do in the next section, by means of multivariate fixed-effect regressions.²⁵

²³ We have also confirmed the relationship between abnormal returns and premia in a multivariate analysis (not reported). We regress merger premia on abnormal returns and several controls, including firm- and country-specific characteristics, as well as country- and year-fixed effects. A one-standard-deviation increase in the *MABHAR* of the target is associated with an increase in the unadjusted premium of 0.38 standard deviations and an increase in the target-matched relative premium of 0.68 standard deviations. With respect to the acquiror, we only find that a one-standard deviation increase in the *MABHAR* of the acquiror is associated with a reduction in the target-matched relative premium of 0.23 standard deviations.

²⁴ There are 23 out of 39 target countries in our sample that are OECD members.

²⁵ Our analysis (not reported) shows that differences in corruption or creditor protection are indeed unrelated to premiums. This is consistent with the discussion in Section 1.

Table 4
Announcement CARs for target firms and investor protection

OECD membership—acquirer									
Non-member			Member			All		Difference (<i>p</i> -value)	
	<i>N</i>	CAR	Matching- acquisition- adjusted CAR	<i>N</i>	CAR	Matching- acquisition- adjusted CAR	<i>N</i>	CAR	Matching- acquisition- adjusted CAR
OECD membership—target	Nonmember	6	-0.18%	85	15.08%***	9.65%**	91	7.12%***	6.27%**
	Member	9	7.86%***	406	14.75%***	0.74%	415	14.76%***	0.09%
	All	15	7.12%***	491	14.76%***	0.92%	506	14.20%***	0.26%
	Difference (<i>p</i> -value)		(0.0557)		(0.9538)	(0.1742)		(0.0105)	(0.1422)
Shareholder protection—acquirer									
Below median			Above median			All		Difference (<i>p</i> -value)	
	<i>N</i>	CAR	Matching- acquisition- adjusted CAR	<i>N</i>	CAR	Matching- acquisition- adjusted CAR	<i>N</i>	CAR	Matching- acquisition- adjusted CAR
Shareholder protection—target	Below median	110	13.92%***	107	18.70%***	5.78%**	217	14.18%***	0.74%
	Above median	151	5.52%***	138	21.68%***	1.31%	289	14.41%***	-5.13%**
	All	261	13.59%***	245	20.10%***	3.64%*	506	14.20%***	0.26%
	Difference (<i>p</i> -value)		(0.0013)		(0.6288)	(0.3698)		(0.0879)	(0.0879)
Accounting standards—acquirer									
Below median			Above median			All		Difference (<i>p</i> -value)	
	<i>N</i>	CAR	Matching- acquisition- adjusted CAR	<i>N</i>	CAR	Matching- acquisition- adjusted CAR	<i>N</i>	CAR	Matching- acquisition- adjusted CAR
Accounting standards—target	Below median	197	13.03%***	39	15.30%***	2.36%	226	13.12%***	0.06%
	Above median	173	11.43%***	97	21.69%***	6.52%**	270	17.33%***	3.00%
	All	370	12.98%***	136	18.43%***	4.35%*	506	13.40%***	0.26%
	Difference (<i>p</i> -value)		(0.5610)		(0.0046)	(0.1008)		(0.0028)	(0.0546)

The table shows CARs and matching-acquisition-adjusted buy-and-hold CARs for the target company at the announcement of cross-border mergers. We calculate buy-and-hold abnormal returns on days $t = -1$ to $t = +1$ from a market model estimated using daily firm and market returns over the period $t = -260$ to $t = +100$ trading days relative to the announcement day of the acquisition. Returns are in dollars. We compute CARs for both the original sample and the matching sample, and calculate matching-acquisition-adjusted BHCARs as $[BHCAR_{i,t} - BHCAR_{i,t}^{dem}]$, where $BHCAR_{i,t}$ corresponds to the cross-border merger, and $BHCAR_{i,t}^{dem}$ corresponds to the matching domestic acquisition. Abnormal returns are winsorized at the 1% probability level. We then classify deals depending on the indices of investor protection in the country of origin of both the target and the acquiring firm. Market data are from Datastream. Univariate tests of significance are based on cross-sectional t -statistics. Tests of differences are based on a nonparametric Kruskal-Wallis test, with the null hypothesis that the two samples are from the same population. *P*-values are in parentheses.

5. Multivariate Analyses

5.1 Econometric specification and controls

In this section, we explore the determinants of adjusted premium as a function of country-, industry-, and firm-specific characteristics. We specify fixed-effect regressions, with $MABHCAR$ as endogenous variable, in the following way:

$$MABHCAR_{it}^{jk} = \alpha_j + d_t + \Phi \cdot C_{jt} + \Psi \cdot \Delta GDP_{jkt} + \mathbf{B} \cdot \mathbf{G}_{jk} + \Gamma \cdot \mathbf{Z}_i + \varepsilon_i, \quad (4)$$

for cross-border acquisition i happening in year t , such that the target firm is a national of country j and the acquiror is a national of country k . In other words, we estimate a cross-sectional regression with target country-fixed effects, and year-fixed effects.²⁶ Because acquisitions are matched by the industry of the target firm, industry controls are not necessary. Moreover, we control for certain characteristics of the two countries that are time-varying, like the exchange rate between the domestic currency and the US dollar, C_{jt} , and the difference in GDP per capita (in logs) between the acquiring and target countries. This last measure tries to capture differences in economic development, and therefore, in the broader governance environment, which are also correlated with legal protections.

We also control for other characteristics like broader governance environment in the target country. The regulatory environment—information disclosures, requirements for merger approval, etc.—shapes the market for corporate control in a country. A reliable regulatory system also spurs competition in the market for corporate control. In some countries, antitrust laws and merger controls pose strong restrictions to acquirors, which can determine certain characteristics of the deals that take place. We collect information on the date of enactment or the latest amendment of antitrust and merger control laws for our sample of countries, from the White and Case (2003) survey *Worldwide Antitrust Merger Notification Requirements*. This publication also provides information on the main provisions of the laws. Additionally, Dyck and Zingales (2004) collect information on the legal requirements that make the purchase of additional shares mandatory once a certain threshold has been reached. We summarize all this information in an index of merger law quality that ranges from zero to six. The index is the sum of six indicators: (i) whether there exists mandatory merger notification in the country; (ii) whether the lack of merger notification involves penalties; (iii) whether penalties are proportional to the size of the deal; (iv) whether the penalties are above the median across all countries; (v) whether the law requires the mandatory purchase of additional shares above a certain threshold; and (vi) whether the shareholding that triggers mandatory purchase of shares is below 50%. Countries without merger or takeover laws are assigned a value of zero. The merger law index is time-varying because

²⁶ In some specifications, we estimate target-country random effects.

it equals zero before a country enacts any type of merger law. In our sample of 506 cross-border deals, 35 (7%) happen in countries without any type of merger control. Moreover, we take into account amendments to the original merger law that improve the index. For our cross-sectional regressions, we additionally construct a dummy variable that equals one when the country has merger control laws in place in the year of announcement of the corresponding cross-border merger, and equals zero otherwise. Except for five countries,²⁷ antitrust laws and merger control laws are enacted or amended at the same time. As a result, we cannot estimate the effect of antitrust laws alone, which is highly correlated with the effect of merger laws.

We construct a proxy for competition in the market for corporate control with the overall frequency of mergers in the target country.²⁸ This proxy is computed as the number of completed acquisitions of domestic public firms in a given year, divided by the total number of publicly listed firms in the country.²⁹ We measure the frequency of all mergers as well as the frequency of cross-border mergers only.³⁰

We also control for characteristics of the acquisition itself, denoted by $\mathbf{Z}_i$. In particular, we construct dummy variables that equal one when: (i) the acquisition is nonhorizontal; (ii) target shareholders are paid only with cash; or (iii) the acquisition is hostile. Vertical and conglomerate mergers have different wealth effects than horizontal acquisitions. Differentiating between all-cash mergers and the rest is also important. Starks and Wei (2004) analyze the impact of cross-border acquisitions of US targets on returns to the acquiring firms. They find that only in stock-for-stock offers does the abnormal return to the acquiror depend on the investor protection levels in the United States. They argue that in cash offers, target firm shareholders cash out and are not facing different corporate governance regimes. Moreover, Eckbo, Giammarino, and Heinkel (1990) find that abnormal returns to target firms are significantly larger for all-stock mergers, compared to cash-and-stock and all-cash acquisitions. Schwert (2000) presents some mixed evidence relating the attitude of the bidder—hostile or friendly—to stock price run-up prior to acquisition announcements and merger premia. We additionally control for the percentage of the target shares sought by the acquiror.

The vector $\mathbf{G}_{jk}$ includes measures of investor protection in the target and the acquiror, as well as differences between them. These are the variables that we construct in Section 3.

²⁷ Finland, Peru, Turkey, Switzerland, and Argentina. See a listing of enactment dates in Table A in the Appendix.

²⁸ An alternative measure of competition is the bidder's abnormal returns. However, they are not useful in the multivariate regression, because of endogeneity problems. See Section 6.6.3.

²⁹ The number of publicly listed firms in the country is from the World Bank Development Indicators.

³⁰ We have alternatively estimated our regressions with a measure of the frequency of acquisitions, which are industry- and year-specific. There is no quantitative change in our results. We prefer the country measure, because otherwise there are too many zeros.

We take into account the possibility that the merging firms list in the United States, either through a direct listing or an ADR. Firms that list in the United States are subject to the SEC reporting requirements, and usually commit to higher levels of investor protection. We construct two dummies that equal one when the target (acquiring) firm has an ADR listed at the time of the merger announcement. We do not control for other target firm characteristics because our matching procedure cancels out the effect of those variables on matching-acquisition-adjusted abnormal returns. In some specifications, we also include the difference in market capitalization to GDP between the acquiring and the target countries as a measure of financial development. Finally, Φ , Ψ , $\mathbf{B}$, and Γ are sets of parameters to be estimated.

As we discuss above, international law prescribes that cross-border mergers entail a change in the law applicable to the target firm when the acquisition is for 100% of the target's shares. Therefore, we specify an alternative model where we interact a dummy variable D^{100} that equals one for 100% acquisitions and zero otherwise, with the corporate governance indices, to estimate the following regression:

$$MABHCA_{it}^{jk} = \alpha_j + d_t + \Phi \cdot C_{jt} + \Psi \cdot GDP_{\xi t} + \mathbf{B}^0 \cdot \mathbf{G}_{jk} + \mathbf{B}^1 \cdot D_i^{100} \cdot \mathbf{G}_{jk} + \Gamma \cdot \mathbf{Z}_i + \varepsilon_i. \quad (5)$$

We expect the coefficients in $\mathbf{B}^0$ to be different from the coefficients in $\mathbf{B}^1$.

5.2 Results

In Table 5, we report results for the estimation of Equations (4) and (5). Because the subsequent tables are similar, we will discuss the format in some detail here. The first column shows the “economic significance” of the variables that are statistically significant in at least one of the econometric models we specify.³¹ Economic significance is measured in units of standard deviations of the endogenous variable per one standard deviation change in the corresponding exogenous variable. All but one of our regressions use year and target country-fixed effects: In model (1), we include target country-specific corporate governance variables, so random-country effects are a natural alternative. The table also reports three *R*-squared coefficients: “*R*-squared within” measures the explanatory power of our regressions within each target country, “*R*-squared between” measures the explanatory power across target countries, and “*R*-squared overall” is the combination of the two.

We have data on all variables available for matching pairs from 31 countries, and a total of 241 observations. Among the acquisition-specific variables (not reported) that determine abnormal returns, hostility shows a significant

³¹ When the coefficient is significant in two or more models, the reported economic significance is the average of the models where the coefficient is significant.

coefficient with the expected positive sign. A one-standard-deviation increase in the probability of an acquisition being hostile increases the incremental announcement effect of a cross-border merger by 0.412 standard deviations. When the acquiror has an ADR listed in the United States, the announcement effect of the acquisition is 0.21 standard deviations higher. The acquisition frequency in the target country has the expected negative impact on the announcement effect of the cross-border mergers in our sample. A one-standard-deviation increase in the percentage of domestic firms acquired in the country reduces the *MABHCAR* of the cross-border mergers in our sample by -0.26 standard deviations.

Model (1) reports the effect of the investor protection quality of the target and the acquiring firms separately. All coefficients are insignificant. Instead, it is the difference in shareholder protection and accounting standards between the two countries involved that explains merger premia (models 2 and 3). In 100% mergers, a one-standard-deviation increase in the difference in shareholder protection results in 0.22 standard deviations increase in the adjusted premium. This result is consistent with the provisions of international law, which prescribes that only 100% acquisitions effectively change the nationality of the target firm.

In models (4)–(5) in Table 5, we split the corporate governance index differences into positive and negative values. Our objective is to test for any asymmetries in corporate governance transfers. We find that the adjusted premium is related to shareholder protection only when the acquiring firm comes from a country with better shareholder protection. When a target firm is 100% acquired by a firm from a country with a one-standard-deviation higher shareholder protection index than its own, target shareholders receive a premium that is 0.37 standard deviations higher relative to shareholders of a comparable target firm that is acquired by a domestic firm. Note that this result is not driven by a larger fraction of the target shares being bought, since the coefficient of the “Percentage of Shares Sought by Acquiror” is neither statistical nor economically significant.

Interestingly, the asymmetry in the effect implies that shareholders of a target firm that is acquired by a firm from a weaker shareholder protection environment do not receive a significantly lower premium. This result is consistent with three alternative explanations. First, firms may overcome the reduction in investor protection induced by these deals by means of private contracts—for which we do not have sufficient data. Second, the insignificant effect of legal rules is consistent with Doidge, Karolyi, and Stulz (2007), who find that firm characteristics explain governance in more financially developed countries, while country characteristics explain governance in less developed countries. Consequently, in a merger where the target is from a more protective country, firm-specific provisions are more important. Third, the market does not value reductions in investment protection. With our current dataset, we are unable to disentangle them.

Table 5
Panel regressions. Matching-acquisition-adjusted CAR for target firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Shareholder protection: acquiror	0.232 [0.42]										
Shareholder protection: target	-0.695 [1.18]										
Shareholder protection difference: acquiror minus target		0.407 [1.24]	-0.168 [0.43]							0.141 [0.31]	
Shareholder protection difference, 100% acquisitions			1.350*** [2.65]							0.821 [1.23]	
Shareholder protection difference, only positive				1.088** [2.12]	0.085 [0.16]						
Shareholder protection difference, only negative				-0.236 [0.48]	-0.27 [0.37]						
Shareholder prot. diff., only positive, 100% acquisitions					4.320*** [4.85]						
Shareholder prot. diff., only negative, 100% acquisitions					-0.163 [0.19]						
Accounting standards: target	0.507 [0.62]										
Accounting standards: acquiror	0.283 [0.24]										
Accounting standards difference: acquiror minus target						-0.399 [0.63]	-1.293* [1.78]			-1.268 [1.49]	
Acc. st. diff. x acc. consolidation acquiror						2.592** [2.15]	2.474** [2.08]			2.389** [1.97]	
Accounting standards difference, 100% acquisitions							2.568** [2.40]			1.254 [0.89]	
Accounting standards difference, only positive								-1.517 [1.54]	-2.839* [1.84]		

Table 5
Continued

	Accounting st. diff., only positive x accounting consolidation	30.4%	6.013***	4.364***	
Accounting standards difference, only negative			[3.51]	[2.75]	
			1.479	0.163	
Accounting st. diff., only negative x accounting consolidation			[1.09]	[0.09]	
			-4.752	-4.324	
			[1.61]	[1.53]	
Accounting st. diff., only positive, 100% acquisitions	14.7%		3.173*		
			[1.83]		
Accounting st. diff., only negative, 100% acquisitions			0.515		
			[0.32]		
MarkCap to GDP: acquirer minus target country					0.049
					[0.60]
Log (GDP per capita): acquirer minus target			-2.799	-8.014	
			[0.40]	[1.15]	
Observations			241	241	241
Number of countries			31	31	31
R-squared within			0.21	0.24	0.21
R-squared between			0.08	0.07	0.06
R-squared total			0.22	0.25	0.22
Deal characteristics			✓	✓	✓
Target and acquiring firm controls			✓	✓	✓
Target and acquiring country controls			✓	✓	✓
Year effects	Fixed	Fixed	Fixed	Fixed	Fixed
Target country effects	Random	Random	Random	Random	Random

* significant at 10%; ** significant at 5%; *** significant at 1%

We calculate buy-and-hold abnormal returns on days $t = -1$ to $t = +1$ from a market model estimated using daily firm and market returns over the period $t = -260$ to $t = -100$ trading days relative to the announcement day of the acquisition. Returns are in dollars. We compute CARs for both the original sample and the matching sample, and calculate matching-characteristics-adjusted CARs as $[CAR_{\text{acq}} - CAR_{\text{dom}}]$, where CAR_{acq} corresponds to domestic acquisition. Variable definitions are in Appendix A. Robust t -statistics (absolute values) are characteristics-adjusted CARs (Y/N) , Hostile Acquisition (Y/N) , Cash Payment (Y/N) , and the characteristics (Target Company has ADR listed, Acquiring Company has ADR listed); and target Country, GDP per Capita of Acquiring Country, # Listed Firms in Target Country, # Cross-Border Acquisitions / # Listed Firms in Target Country, Change in Exchange Rate [Local Currency – Acquirer, per \$], Change in Exchange Rate [Local Currency – Target, Mergers & Acquisitions, per \$], Merger Control (Y/N – Target, Mergers & Acquisitions, per \$), Change in Exchange Rate [Local Currency – Acquirer, per \$], Change in Exchange Rate [Local Currency – Target, Mergers & Acquisitions, per \$]. Variable definitions are in Appendix, Table B.

With respect to accounting standards, we classify cross-border mergers into three groups: (i) the group of mergers that do not result in accounting consolidation; (ii) those mergers where accounting consolidation happens automatically because the acquiror buys 100% of the target; and (iii) those mergers where accounting consolidation happens based on the provisions set by the acquiring firm. We test the impact of a one-standard-deviation change in the difference in accounting standards acquiror-minus-target, and we report the results in models (6)–(9). In the absence of consolidation being acquired by a firm with higher accounting standards, it has a significantly negative effect on the premium (–0.17 standard deviations from model (7)). This means that acquirors penalize the weak accounting standards of the target in the premia they pay. But in case of accounting consolidation, we find a very significant impact of differences in accounting standards. When accounting standards change because of the firm-specific consolidation rules, a one-standard-deviation increase in the difference in the accounting standards quality index between the acquiror and the target results in a merger premium that is about 0.3 standard deviations higher. When accounting standards change automatically because it is a 100% merger, the economic significance is 0.15 standard deviations. That is, firm-specific accounting provisions are economically more significant than accounting legal rules.

In a horse race between legal variables and firm-specific accounting provisions (model (10)), accounting consolidation rules become more important at explaining the merger premium, and indeed, differences in legal protection are now insignificant. The result challenges the simple law and finance view and shows that legal reform may be ineffective when firms can overcome the effects of the law with individual provisions.

The effect of legal protections must be distinguished from the effect of the broader legal environment. As Table 4 shows, differences in legal protections can be explained by differences in economic development. In the multivariate regressions, we find that differences in GDP per capita between the acquiring and target countries cannot explain the merger premium. In all regressions, this coefficient is negative but insignificant. The negative sign is consistent with Starks and Wei (2004); and Kuipers, Miller, and Patel (2003), who show that when the acquiror comes from a less protective country (less economically developed), US targets receive a lower premium.³²

To summarize, our analysis of cross-border mergers shows that legal protections are valued by the market only when legal rules improve protection. Additionally, changes in corporate governance at the firm level, irrespective of the broader legal system, have a significant value effect. In particular, improvements in accounting standards induced by consolidation in cross-border

³² In non-reported analyses, we also find that, when we split the GDP per capita differences into positive and negative values, both coefficients are negative, but insignificant. This result holds irrespective of whether we control for differences in legal protections.

mergers are associated to larger premia. However, we do not have evidence on the opposite effect: when legal protection deteriorates, or firms choose weaker standards, shareholders do not suffer.

6. Why is Legal Protection Valuable? Alternative Explanations

In the simple law and finance interpretation, an improvement in investor protection triggered by a cross-border merger is valued by the target investors through the premium they require. Better investment protection reduces the amount of expropriation by controlling shareholders and hence increases firm value. As a result, under new management, target firms are worth more if the acquiror comes from a more protective country. If the merger premium incorporates (even if only partly) the value of the target firm under the new controlling shareholders, then the premium will be a function of the improvement in investor protection caused by the cross-border merger. In that sense, our results are fully consistent with the theoretical model of investor protection in La Porta et al. (2002).

There are, however, many other factors that determine premia, and this paper is therefore an attempt to isolate the part of the premium driven by improvements in investor protection. First and foremost, how much an acquiror pays for a target depends on how much value the merger creates, which in turn is a function of the intrinsic quality of the two firms, the new management ability, and the extent of expropriation by the former and the new controlling shareholders. The second factor that determines the merger premium is the parties' bargaining power and competition in the market for corporate control: acquirors will pay higher prices for their targets when there are competing bidders. The natural question that arises is why acquirors from more protective countries pay higher premia. In the next section, we propose and test several possible explanations. Our strategy will be to show that proxies for the factors above are not correlated with differences in investor protection.

6.1 Explanation 1: Foreign acquirors are better acquirors

First, a higher premium can reflect the gains from the acquisition due to the more efficient management of resources or superior ability. It is reasonable to expect managerial quality to be higher in high shareholder protection countries, because in less protective countries, it is harder to remove less efficient managers. Our multivariate analysis adopts the identification assumption that differences in ability are small relative to differences in governance, and that managerial ability and differences in governance are uncorrelated. In this section, we test whether this assumption is reasonable.

As a consequence, we analyze *ex ante* measures of ability for the acquirors in our sample. We compute Tobin's Q as the market value of common equity, plus the book value of total assets, minus the book value of common equity, all divided by the book value of assets (see the Appendix, Table B, for details).

Tobin's Q is a typical measure of managerial ability.³³ We compare Tobin's Q one year before the merger announcement depending on the measures of investor protection. We also compare the Tobin's Q of our sample of cross-border mergers with the corresponding matching domestic acquisition.

The median Q for the 490 cross-border acquirors with data available is 1.56, which is significantly larger at the 1% level than for domestic acquirors (median Q of 1.40). We split the firms into acquirors in cross-border mergers with positive and negative shareholder protection difference. Although differences in Tobin's Q are not significant, we find that the median Q is actually larger in mergers where the shareholder protection index difference is negative. Intuitively, this result suggests that for an acquiror in a weak governance environment to make a successful acquisition in a more protective environment, it must be a high-ability acquiror. Therefore, differences in investor protection are not correlated with differences in the managerial ability of the acquiror—as long as Tobin's Q appropriately measures managerial ability.

We then consider 100% acquisitions. We find that acquirors in 100% mergers who come from more protective legal environments than their targets have a median Tobin's Q of 1.95. This is consistent with better legal protections being correlated with higher ability. However, the Tobin's Q of the cross-border acquirors in this category is not significantly different from the Tobin's Q of the matching domestic acquirors. Consequently, if a higher Tobin's Q explains a higher premium, this effect cancels out when we adjust the cross-border merger premium with the premium in a domestic acquisition. Moreover, it is in 100% cross-border mergers where the shareholder protection difference is negative, and the Tobin's Q of the acquiror is significantly larger than in the corresponding domestic merger. This result could also explain the lack of negative returns associated with declines in investor protection. Overall, all these findings confirm that, while there is correlation between differences in legal protection and differences in ability, the correlation goes in the opposite direction to what it should be in order to explain the results in Section 5.

6.2 Explanation 2: Foreign acquirors in cross-border mergers suffer more from agency problems

In countries with better investor protection, corporate ownership is more dispersed (La Porta et al., 1999). In widely held corporations when free cash flows are available, agency conflicts cause managers to make value-reducing decisions at the expense of shareholders (Jensen and Meckling, 1976). Among these strategies, managers will likely make unprofitable acquisitions and will overpay for the targets they acquire. As a result, in acquisitions where the difference in shareholder protection acquiror-minus-target is positive, cross-border acquirors display more dispersed ownership relative to domestic acquirors.

³³ We could alternatively look at executive compensation measures, if one believes that compensation rewards ability, but these data are unfortunately not available.

Table 6
Acquiror Tobin's *Q* in cross-border and matching domestic mergers, one year before the merger announcement

Cross-border mergers					
	All observations	Shareholder protection difference > 0	Shareholder protection difference ≤ 0	Shareholder protection difference > 0, 100% acquisition	Shareholder protection difference ≤ 0, 100% acquisition
		Difference (<i>P</i> -value)	Difference (<i>P</i> -value)		Difference (<i>P</i> -value)
Number of firms	490	294	196	47	94
Acquiror's Tobin's <i>Q</i> (median)	1.56	1.56	1.62	1.95	1.77
Matching sample of domestic mergers					
	All observations	Shareholder protection difference > 0	Shareholder protection difference ≤ 0	Shareholder protection difference > 0, 100% acquisition	Shareholder protection difference ≤ 0, 100% acquisition
		Difference (<i>P</i> -value)	Difference (<i>P</i> -value)		Difference (<i>P</i> -value)
Number of firms	466	279	187	47	89
Acquiror's Tobin's <i>Q</i> (median)	1.40	1.44	1.37	1.85	1.38
Difference (<i>P</i> -value)	(0.0003)	(0.0699)	(0.0003)	(0.6587)	(0.0020)

We compute the Tobin's *Q* for the acquirors in our sample of cross-border mergers as well as for the acquirors in the sample of matching domestic acquisitions. The definition of Tobin's *Q* is in the Appendix, Table B. Tests of differences between cross-border and domestic mergers are based on a two-sided Wilcoxon ranked-sum test. Tests of differences by shareholder protection are based on Kruskal-Wallis tests.

Moreover, this hypothesis implies that if cross-border acquirors have more dispersed ownership, they overpay relative to domestic acquirors. In order to test this hypothesis, we need to compare cross-border acquirors to similar domestic acquirors. Unfortunately, our matching sample is of no use here, since we match by target firm, not by acquiring firm. Therefore, we need to analyze the difference in ownership concentration and in merger premia for the sample of cross-border mergers, relative to an acquiror-matched sample of domestic mergers.

Hence, we construct a second sample of matching acquisitions similar to the one described in Section 2.2.2. For each of the 506 cross-border mergers in our final sample, we identify in the country of nationality of the acquiring firm a domestic merger that meets the following criteria: (i) it is announced in the same year as the cross-border merger; (ii) the acquiring firm belongs to the same country and industry (2-digit SIC code) as the acquiring firm of the cross-border merger; (iii) the acquiring company is different from the acquiring company of the cross-border merger; (iv) the percentage of the target's shares sought by the acquiror is below 50% if the percentage sought in the cross-border merger is below 50%, and vice versa; and (v) the acquiring firm is the closest in terms of total assets to the acquiring of the corresponding cross-border merger. Out of 506 acquisitions, we were able to match 297 deals with available return information in Datastream both by target and acquiring firm.

We obtain data from *Worldscope* on the percentage of closely held shares for the cross-border acquiring firms as well as for the acquirors in the acquiror-matched sample. "Closely held shares" are defined as the percentage of shares held by insiders, which includes shares held by officers, directors, and their immediate families; shares held in trust; shares of the company held by any other corporation; shares held by pension/benefit plans; and shares held by individuals who hold 5% or more of the outstanding shares. (See Appendix, Table B, for a detailed description of this variable.) Closely held shares are a good proxy for ownership concentration, and they are exactly what the α parameter in Jensen and Meckling (1976) measures.

We then compute the mean and median differences in inside ownership between acquirors in cross-border mergers and matching acquirors, and compute such differences depending on the shareholder protection difference between the acquiror and the target country. Results are in Table 7.

The average percentage of closely held shares is 9.7% higher in domestic acquisitions and the difference is significant at the 1% level. In the average cross-border merger, 25.8% of the shares of the acquiror are held by insiders. In domestic acquisitions with comparable acquirors, 34.6% of the shares are closely held. Therefore, cross-border acquirors are more likely to be firms with more dispersed ownership.

There is no significant difference between acquisitions where the shareholder protection difference is positive and the rest. More importantly, there

Table 7
Ownership concentration and shareholder protection

	%Closely-held shares — Acquiror		Difference	
	In cross-border merger		Value	P-value
	Mean	In Acquiror-matched domestic merger		
Total sample (N = 238)	Mean Median	25.8 19.4	34.6 35.0	-9.7*** -11.1*** (0.0000) (0.0000)
Shareholder protection difference > 0 (N = 153)	Mean Median	26.4 21.0	36.4 38.1	-12.3*** -14.5*** (0.0000) (0.0000)
Shareholder protection difference <= 0 (N = 85)	Mean Median	24.8 18.9	31.3 23.8	-5.1*** -6.2*** (0.0002) (0.0003)
Kruskal-Wallis test of differences (p-value)			(0.3430)	(0.1099)
Shareholder protection difference > 0, 100% acquisition (N = 24)	Mean Median	18.6 14.7	34.7 36.8	-18.7*** -20.3*** (0.0013) (0.0017)
Shareholder protection difference <= 0, 100% acquisition (N = 37)	Mean Median	21.1 14.5	30.6 21.5	-9.2*** -10.0*** (0.0002) (0.0005)
Kruskal-Wallis test of differences (p-value)		(0.5648)	(0.1564)	

* Significant at 10%; ** significant at 5%; *** significant at 1%
We report Mean Median Percent of Closely-held shares in the acquiring company for the sample of cross-border merger, and for the matching sample of domestic mergers constructed in the following way. For each of the 506 cross-border mergers in our final sample, we identify, in the country of nationality of the acquiring firm, a domestic merger which meets the following criteria: (i) it is announced in the same year as the cross-border merger; (ii) the acquiring firm belongs in the same country and industry (2-digit SIC code) as the acquiring firm of the cross-border merger; (iii) the acquiring company is different from the acquiring company of the cross-border merger; (iv) the percentage of the target's shares sought by the acquiror is below 50% if the percentage sought in the cross-border merger is below 50%, and vice versa; and (v) the acquiring firm is the closest in terms of total assets to the acquiring of the corresponding cross-border merger. The sample contains all cross-border mergers with information available in the Securities Data Corporation Database. All accounting information is from Worldscope. P-values for means are based on a t-test. P-values for medians are based on a nonparametric Wilcoxon sign-rank test.

Table 8
Merger premia and shareholder protection

	Premium		Acquiror-matched relative premium			Target-matched relative premium		
	<i>N</i>	Median	<i>N</i>	Median	<i>P</i> -value	<i>N</i>	Median	<i>P</i> -value
All firms	208	8.28%	115	−0.51%	(0.1680)	199	−2.69%	(0.2986)
Shareholder protection difference > 0	125	15.12%	67	−7.44%**	(0.0185)	80	6.40%*	(0.0809)
Shareholder protection difference ≤ 0	83	6.42%	48	0.31	(0.7120)	119	−8.23%***	(0.0005)
Shareholder protection difference > 0, 100% Acquisition	30	26.65%	17	8.50%	(0.2811)	47	7.54%***	(0.0063)
Shareholder protection difference ≤ 0, 100% Acquisition	48	15.97%	31	1.03%	(0.5862)	30	2.84%	(0.9099)

We report Median Tender Offer Premiums for the cross-border acquisitions in the sample. Merger premium is the difference between the price paid in the acquisition, relative to the stock price of the target one week prior to the announcement. We then compute the relative premium as merger premium, minus premium in a matching acquisition. Acquiror-matched relative premiums are computed relative to the premium in a domestic merger where the acquiror is from the same country as the acquiror in the cross-border merger. Target-matched relative premiums are computed relative to the premium in a domestic merger where the target is from the same country as the target in the cross-border merger. The sample contains all cross-border mergers with information available in the Securities Data Corporation Database. All accounting information is from Worldscope. *P*-values are based on a nonparametric Wilcoxon sign-rank test.

is no significant difference in 100% acquisitions either. Although ownership concentration is higher in cross-border acquirors than in domestic acquirors, the difference between these two is not larger when the shareholder protection difference is positive (*p*-value for the difference, .1564).

Table 8 reports unadjusted merger premia as well as premia adjusted by both acquiror-matched domestic acquisition and target-matched domestic acquisition. The target-matched relative premium is significantly positive (*p*-value of .0809) when the shareholder protection difference is positive and especially in 100% acquisitions (7.54%, significant at the 1% level). These results are consistent with Table 5. The reported acquiror-matched relative premia are not consistent with the agency cost hypothesis. While Table 7 reports that cross-border acquirors in cross-border mergers, where the shareholder protection index difference is positive, have more dispersed ownership than domestic acquirors, Table 8 shows that they, indeed, pay lower premia (the relative premium is −7.44%, which is significantly different from zero at the 5% level). Among acquisitions with negative shareholder protection index difference, ownership concentration is lower in cross-border mergers in Table 7 (24.8% of shares closely held versus 31.3% in domestic mergers), but merger premia are not significantly different (*p*-value of .7120).

In conclusion, we do not find a significant relationship between investor protection and proxies for agency costs. While we do not rule out that measures of ownership concentration affect the merger premium, we have shown that, at least, they are not correlated with the indices of investor protection.

6.3 Explanation 3: Auctions for control are more competitive when acquirors are from countries with better protection

A larger cross-border merger premium relative to a domestic acquisition can be explained by more competition among foreign acquirors. This presumes that for competition to have an effect, it must be the case that the cross-border merger market is more competitive than the domestic market, since the effect of competition will cancel out when computing *MABHCARs*.

The literature has not agreed on a good proxy for competition. Moeller, Schlingemann, and Stulz (2004) use the number of competing bids. However, they recognize that a successful acquiror can preempt otherwise competing bidders with a very high merger premium. Dyck and Zingales (2004) use the acquiror's return as a proxy for the buyer's bargaining power. If the acquiror faces strong competition (whether explicit or potential), it will be reflected in lower returns. We choose the latter proxy because the number of competing bids in a country depends to a great extent on takeover rules. Consequently, we compute acquiror abnormal returns for several windows around the announcement date of the acquisition. We then classify acquisitions depending on the shareholder protection index difference, and report annualized CARs in Table 9.

While the valuation effect of the acquisition should be reflected in the abnormal returns for the period $t = -2$ to $t = +2$, the effects of competition should be reflected earlier. Table 9 shows that the CAR in days $t = -100$ to $t = +2$ is -1.37% , which is significant at the 1% level. However, the negative return is not related to differences in investor protection. The acquiror's return is -1.05% in mergers with positive shareholder protection difference, and -1.79% otherwise. The difference between these two returns is not significant (the p -value based on a Kruskal-Wallis test is .31). Not surprisingly, the CAR is more negative in 100% acquisitions (because the premium is paid for more shares), but differences depending on shareholder protection are again insignificant. This happens for all time windows we consider. Therefore, if acquirors' returns are an acceptable proxy of competition, our results are not driven by the market for corporate control being more competitive in the more protective countries.

7. Robustness Tests

7.1 Endogeneity issues

In this section, we want to ensure the accuracy of our methodology. For instance, if differences in valuation are systematically related to unobservable firm characteristics, it is possible to find a significant, yet spurious, relationship between corporate governance and firm valuation.

Starks and Wei (2004) find that acquirors from countries with better corporate governance are more likely to finance acquisitions of US firms with stock. Because Eckbo, Giammarino, and Heinkel (1990) find that stock mergers result in larger abnormal announcement effects for targets, this effect alone can

Table 9
Competition in the market for corporate control and shareholder protection

	N	Acquiror's CAR					
		from $t = -100$ to $t = -3$		from $t = -2$ to $t = +2$		from $t = -100$ to $t = +2$	
		Mean	p-value	Mean	p-value	Mean	p-value
All Firms	356	-0.09%***	(0.0000)	-1.12%**	(0.0323)	-1.37%***	(0.0002)
Shareholder protection difference > 0	191	-0.09%***	(0.0003)	-0.96%*	(0.0619)	-1.05%***	(0.0484)
Shareholder protection difference ≤ 0	165	-0.08%***	(0.0029)	-1.71%***	(0.0006)	-1.79%***	(0.0004)
Kruskal-Wallis test of differences (p-value)		(0.6637)		(0.3060)		(0.3127)	
Shareholder protection difference > 0 , 100% acquisition	38	-0.11%***	(0.0001)	-2.51%*	(0.0513)	-2.63%***	(0.0391)
Shareholder protection difference ≤ 0 , 100% acquisition	92	-0.10%***	(0.0169)	-2.14%***	(0.0040)	-2.24%***	(0.0030)
Kruskal-Wallis test of differences (p-value)		(0.4471)		(0.9306)		(0.8438)	
						-5.44%***	(0.0001)
						-5.21%***	(0.0032)
						-5.70%***	(0.0053)
						(0.9562)	
						-11.21%***	(0.0002)
						-8.38%*	(0.0521)
						(0.1458)	

We report acquiror's cumulative abnormal returns (annualized) around the announcement date of the acquisition. The sample contains all cross-border mergers with information available in the Securities Data Corporation Database. All accounting information is from Worldscope. P-values are based on a nonparametric Wilcoxon sign-rank test.

explain our findings in the previous sections, even though we control for the means of payment in our regressions.

The endogeneity problem can be addressed by using a two-step estimation method. There are three explanatory variables in our regressions that can potentially be affected by corporate governance characteristics: the means of payment, whether the acquisition is vertical or not, and the percentage sought in the transaction.³⁴ In unreported probit regressions, we find that measures of investor protection are significantly related to the probability that the acquisition is financed with cash. However, there is no relationship between investor protection and the other two variables.³⁵

To control for the endogenous choice of a cash merger, we have estimated treatment effect regressions similar to Table 5 where the variable “Cash Merger (Y/N)” is instrumented, using the corporate governance indices as explanatory variables.³⁶ We do not find any qualitative change in our results.

7.2 Change of nationality or change in control?

The previous results are consistent with a positive valuation effect of a change in control for the target firm. Chari, Ouimet, and Tesar (2004) document larger abnormal returns to acquiring firms in emerging markets, when the acquiror is a firm from a more developed country. We consider that an acquisition entails a change of nationality of the target firm when the acquiror buys 100% of the target. In turn, a 100% acquisition results automatically in a change in control as well. As a result, to the extent that 100% mergers are a subset of mergers where control changes, our effects can be driven by changes of control, and not by changes in investor protection.

We separate out the two hypotheses by interacting with two dummy variables in multivariate regressions similar to Equation (5): D^{100} , described in Section 5.5.1, and a dummy variable D^{50} that equals one when the percentage of shares acquired in the transaction is larger than 50%. Consequently, for an acquisition where both control and nationality change, the dummy variables equal $\{D^{100} = 1, D^{50} = 1\}$. However, when an acquisition changes the control but not the nationality of the target firm, the dummy variables equal $\{D^{100} = 0, D^{50} = 1\}$.

Our results (not reported) show that there is no change in the economic and statistical significance of the interaction between D^{100} and the investor protection indices. Moreover, D^{50} is not significant at explaining the premium,

³⁴ It can also be argued that the attitude of the acquiror is linked to regulatory variables specific to the target and acquiring country. However, the number of hostile bids in our sample is so small that such analysis is difficult.

³⁵ Regarding the relationship between the probability of an acquisition being financed with cash and shareholder protection, we find results different from Starks and Wei (2004). That is, the higher the difference in protection between the acquiror and the target, the more likely it is that the acquisition is financed with cash, and only in 100% acquisitions. One possible explanation for the differential results is that we control for the acquiror having an ADR listed in the United States, which is negatively related to the probability of paying with cash.

³⁶ These results are available from the authors upon request.

especially when we interact D^{50} with a dummy for accounting consolidation. Therefore, it seems more plausible that changes in control proxy for changes in nationality, rather than the opposite.

7.3 Alternative measures of protection

The indices of investor protection that we use are institutional variables correlated with other measures of financial development. An alternative proxy for investor protection is the value of private benefits of control calculated in Nenova (2003) and Dyck and Zingales (2004). Dyck and Zingales find a negative relationship between the antidirector rights index in the acquiring country and the value of private benefits of control, which suggests that private benefits reflect the incidence of institutional variables on expropriation. They compute the value of control as the difference between the price of a control block and the stock price on the exchange. Nenova (2003) calculates the value of control as the difference in price between voting and nonvoting shares. The advantage of this approach is that it provides an index of investor protection, which is based on market valuations.

As a robustness check, we have used Nenova's (2003) and Dyck and Zingales's (2004) measures of private benefits of control as an alternative proxy for investor protection. For each acquisition in our sample, we compute the value of control in the country of nationality of the acquiror, minus the value of control in the country of nationality of the target. We then estimate multivariate regressions similar to those in Table 5, with merger premium ($MABHCARs$) as the dependent variable. We find (results are not reported here) that, consistent with Dyck and Zingales, there is a negative relationship between the difference in private benefits using their measure and the adjusted merger premium, indicating that in countries with less ability to extract private benefits, acquirors pay less; however, this result is not statistically significant. In fact, when we differentiate between 100% acquisitions and the rest, we find that the control premium difference is positively related to the merger premium, which is indeed consistent with a positive valuation of investor protection.

We also use the value of corporate control computed by Nenova (2003) and find similar results: a one-standard-deviation increase in the value of control increases the premium paid in a 100% cross-border merger by 0.266 standard deviations. Moreover, when we interact either proxy of private benefits with the difference in shareholder protection acquiror-minus-target, this variable remains significant, although a one-standard-deviation increase in the difference in investor protection results in a merger premium, which is 0.262 standard deviations higher in 100% acquisitions.

8. Conclusion

This paper presents evidence showing that improvements in accountability and transparency are positively valued by the market. We consider the changes in

corporate governance induced by cross-border mergers. For around 500 acquisitions, in 39 different countries, and in the period 1989–2002, we construct measures of the corporate governance quality of the deal by taking differences in the indices of investor protection in the countries of the acquiror and the target. We investigate the relationship between corporate governance quality changes and the merger premium. In order to isolate the pure corporate governance effects, we measure the premium relative to a matching domestic acquisition with similar characteristics.

We undertake a simple and intuitive experiment. By using a sample of cross-border mergers and matching domestic acquisitions, we are able to isolate the direct relationship between corporate governance and premia. Our study does not claim that countries or firms that better protect their shareholders are more valuable. Instead, we show that changes in corporate governance within a firm have value implications. Unlike country-specific studies, our paper provides a setting where corporate governance quality improves as often as it worsens. In fact, we find that opting into a more protective regime is sometimes not the opposite of opting into a less protective one. Our first important result is that acquisitions of firms in weaker shareholder protection countries by firms in stronger protective regimes results in a higher premium, relative to a similar target in a domestic acquisition. This result is robust to country, year, and industry characteristics. Our second important result is that firm-specific provisions—specifically accounting rules—are very valuable, and their improvement resulting from the merger is also priced in the merger premium.

Rossi and Volpin (2004) show that firms in less protective countries are more likely to be targets of cross-border mergers than targets of domestic mergers. Our paper complements their research and shows that corporate governance can be a motive for cross-border acquisitions. We model theoretically, and show empirically, that merger premia in cross-border mergers are larger than in domestic acquisitions when the foreign acquiror comes from a country with better investor protection. To conclude that the improvement in investor protection is a driver of the decision to sell to a foreigner requires us to show that the deal is mutually beneficial. This paper does not study the gains to the acquiror, but the evidence in Tables 3 and 8 seems to suggest that foreign acquirors also prefer to buy abroad, since they pay higher premia at home when they come from countries that are more protective. As a result, corporate governance needs to be considered when analyzing the reasons why companies choose their targets in certain countries.³⁷

An area for future research is the study of the specific characteristics of cross-border mergers that affect firm value. In our paper, we control for the frequency

³⁷ As Alexander (2000) indicates, there can be several reasons why firms undertake cross-border mergers: intensive consolidation or preempting restructuring, battle for scale driven by structural pressures, response to technological changes, increases in scale to market, the need to advertise globally, exhaustion of the domestic merger route, and the opportunity to gain a foothold in new markets. See also Caves (1996), who provides an economic analysis of the existence and consequences of multinational firms.

Table A
Description of the sample

Merger Control Law				By nationality of the target firm										By nationality of the acquiring firm										
N	Year enacted	Antitrust Law	Year enacted	Total assets acquirer	Total assets target	Tobin's Q — acquirer	Tobin's Q — target	Return on assets target	% Acquired	% Vertical	% Hostile	% Cash	N	Total assets acquirer	Total assets target	Tobin's Q acquirer	Tobin's Q target	Return on assets acquirer	Return on assets target	% Acquired	% Vertical	% Hostile	% Cash	
6	Before 1989	Argentina	1999	192,000,000	7,725,769	1.14	1.10	5.95	1.10	37.50	50%	0%	21	3,138,117	256,173	1.19	1.22	6.19	5.00	55.25	74%	4%	65%	
29	Before 1989	Australia	Before 1989	2,519,156	286,747	1.17	1.44	8.04	5.70	12.57	68%	3%	0%	2	83,345	38,027	0.87	0.92	-4.06	0.43	12.70	0%	0%	50%
6	Before 1989	Austria	Before 1989	14,400,000	2,815,742	1.43	1.23	4.50	4.28	15.00	67%	0%	0%	2	83,345	38,027	0.87	0.92	-4.06	0.43	12.70	0%	0%	50%
3	1991	Brazil	1991	15,900,000	2,106,984	1.19	1.11	0.11	7.95	33.60	100%	0%	100%	3	3,247,509	3,174,231	1.04	1.22	10.30	5.37	7.50	0%	0%	80%
16	Before 1989	Brazil	Before 1989	26,600,000	1,404,123	1.68	1.08	6.00	8.18	33.60	82%	0%	82%	3	4,457,000	7,519,408	1.17	1.02	13.42	-5.10	48.05	100%	0%	67%
49	Before 1989	Canada	Before 1989	6,821,683	204,171	1.48	2.11	4.50	3.16	10,000	56%	0%	89%	30	1,987,161	209,699	1.38	1.04	5.61	4.98	100.00	74%	0%	58%
4	Before 1989	Chile	Before 1989	21,000,000	459,287	1.33	1.27	7.88	4.88	10.00	56%	0%	89%	30	1,987,161	209,699	1.38	1.04	5.61	4.98	100.00	74%	0%	58%
4	Before 1989	Colombia	Before 1989	302,000,000	2,717,292	1.11	1.05	1.98	-0.95	21.99	100%	0%	100%	2	6,158,412	1,033,130	1.03	0.93	8.01	8.67	3.56	100%	0%	100%
2	1997	Denmark	2007	39,100,000	80,497	2.81	10.40	10.40	100.00	100%	100%	0%	50%	2	4,653,651	678,687	1.28	1.79	7.78	2.72	32.45	100%	0%	100%
29	Before 1989	France	1998	103,000,000	468,494	1.57	1.68	3.27	30.81	100%	100%	0%	100%	33	19,700,000	5,679,565	2.25	2.23	5.09	8.98	38.60	66%	0%	71%
27	Before 1989	Germany	Before 1989	3,262,597	79,986	1.57	1.37	3.84	3.62	30.47	65%	0%	88%	33	19,700,000	5,679,565	2.25	2.23	5.09	8.98	38.60	66%	0%	71%
3	Before 1989	Greece	Before 1989	5,722,084	146,585	1.74	1.23	3.43	3.55	26.45	45%	3%	58%	41	99,200,000	742,782	1.07	1.26	2.45	2.44	51.00	76%	2%	73%
9	Before 1989	Hong Kong	Before 1989	3,112,448	80,886	1.28	0.93	6.19	-1.12	9.96	86%	0%	86%	13	4,512,538	651,945	1.21	1.32	3.18	7.82	11.22	64%	0%	79%
8	Before 1989	India	Before 1989	10,700,000	94,466	1.75	1.41	10.06	5.80	20.80	89%	0%	75%	13	4,512,538	651,945	1.21	1.32	3.18	7.82	11.22	64%	0%	79%
8	Before 1989	Indonesia	Before 1989	6,145,176	1,069,849	1.24	1.28	2.54	7.95	19.59	38%	0%	75%	1	2,958,258	134,600	1.60	1.08	10.45	3.62		0%	0%	100%
16	Before 1989	Ireland	1991	22,800,000	1,117,051	1.67	1.32	9.28	6.05	9.03	38%	0%	94%	1	2,958,258	134,600	1.60	1.08	10.45	3.62		0%	0%	100%
8	1990	Israel	Before 1989	311,000,000	2,020,792	1.47	1.43	1.12	3.29	30.00	50%	10%	30%	9	5,232,840	103,039	1.68	1.27	3.45	-8.19	39.46	60%	0%	40%
12	Before 1989	Japan	Before 1989	24,800,000	7,257,947	1.35	1.09	1.80	3.35	15.12	93%	0%	100%	26	29,000,000	879,281	1.17	1.08	1.75	7.10	20.28	49%	0%	77%
7	Before 1989	Malaysia	Before 1989	6,911,803	217,926	1.41	1.46	2.63	4.70	15.90	63%	0%	63%	5	16,900,000	2,549,962	1.20	0.96	5.26	1.72	30.50	50%	0%	100%
8	1992	Mexico	1992	10,300,000	1,994,442	2.15	2.13	10.37	12.19	18.50	75%	0%	100%	18	24,700,000	379,761	1.76	1.48	6.85	1.84	98.67	100%	5%	89%
18	1997	Netherlands	Before 1989	19,700,000	5,679,565	2.88	2.23	5.53	39.61	8.40	67%	0%	78%	18	24,700,000	379,761	1.76	1.48	6.85	1.84	98.67	100%	5%	89%
14	Before 1989	New Zealand	Before 1989	1,841,674	287,498	1.42	1.21	9.38	9.10	16.29	73%	7%	73%	9	2,519,156	287,991	1.40	1.63	16.00	5.72	8.00	100%	10%	100%
6	1993	Norway	1993	10,300,000	671,068	1.19	1.29	2.15	-5.46	17.06	17%	0%	50%	9	741,927	213,618	1.55	1.79	12.40	6.57	12.48	100%	0%	56%
10	Before 1989	Philippines	Before 1989	47,600,000	1,035,130	1.08	0.95	7.18	8.67	3.73	75%	0%	75%	8	1,400,684	287,032	1.37	1.25	8.77	5.93	62.50	67%	0%	56%
7	Before 1989	Portugal	Before 1989	22,800,000	4,152,492	1.19	1.07	3.76	3.00	3.00	75%	0%	63%	9	741,927	213,618	1.55	1.79	12.40	6.57	12.48	100%	0%	56%
6	Before 1989	South Africa	Before 1989	3,489,487	379,488	1.72	1.44	7.31	10.20	26.20	50%	0%	83%	8	1,400,684	287,032	1.37	1.25	8.77	5.93	62.50	67%	0%	56%
16	Before 1989	South Korea	Before 1989	35,600,000	6,566,175	1.25	1.01	1.81	3.74	10.25	63%	0%	88%	19	89,100,000	2,744,606	1.23	1.11	5.26	5.77	26.26	81%	0%	71%
5	1989	Spain	1989	22,400,000	610,590	1.47	1.29	5.57	3.19	19.44	63%	0%	75%	8	1,400,684	287,032	1.37	1.25	8.77	5.93	62.50	67%	0%	56%
5	1993	Sweden	1993	7,864,595	195,672	1.32	3.46	6.55	-42.20	20.00	60%	0%	100%	19	89,100,000	2,744,606	1.23	1.11	5.26	5.77	26.26	81%	0%	71%
8	1995	Switzerland	1995	5,671,645	228,676	2.51	1.09	6.89	5.81	30.63	60%	0%	70%	21	21,900,000	276,353	1.92	2.58	9.61	6.07	25.50	59%	0%	91%
2	1991	Taiwan	1991	156,000,000	1,321,068	1.39	1.03	3.64	8.36		50%	0%	50%	1	3,210,228		2.98		7.69			100%	0%	100%
9	1999	Thailand	1999	4,512,538	145,610	1.06	0.88	3.18	7.54	25.00	78%	0%	78%	80	4,534,946	200,914	1.62	1.43	8.56	5.08	53.70	71%	2%	80%
2	1994	Turkey	1994	8,688,461	106,986	1.56	2.58	8.03	0.05	46.51	100%	0%	100%	80	4,534,946	200,914	1.62	1.43	8.56	5.08	53.70	71%	2%	80%
84	Before 1989	United Kingdom	Before 1989	6,794,279	497,705	1.51	1.30	6.18	5.04	100.00	73%	3%	83%	139	9,602,793	348,592	1.70	1.35	6.69	3.16	28	64%	1%	64%
2	1992	United States	1992	21,800,000	5,066,285	1.67	0.67	8.30	11.35	44.00	100%	50%	100%	139	9,602,793	348,592	1.70	1.35	6.69	3.16	28	64%	1%	64%
2	1992	Venezuela	1992	21,800,000	5,066,285	1.67	0.67	8.30	11.35	44.00	100%	50%	100%	139	9,602,793	348,592	1.70	1.35	6.69	3.16	28	64%	1%	64%
506		Total		7,724,915	379,488	1.45	1.30	5.52	4.90	34.20	68%	1%	72%	506	7,724,915	379,488	1.45	1.30	5.52	4.90	34.20	68%	1%	72%

Description of the sample of cross-border mergers. The sample contains all cross-border mergers with information available in the Securities Data Corporation Database for which a matching domestic merger with available data in Worldscope could be identified. All numbers are medians, except for the columns “% Non Horizontal,” “% Hostile,” and “% Cash,” which are medians. All accounting information is from Worldscope, and merger characteristics are from SDC.

Table B
Appendix variable definitions

Variable	Definition	Source
Shareholder protection index	Like LLSV (1998).	LLSV (1998)
Accounting standards index	By default, the index of accounting standards in LLSV (1998). We assign a value of 83 (the maximum value of the LLSV index) if a firm follows IAS or EU standards. We assign a value of 71 (the value of the LLSV index for the US) if the firm follows GAAP, or if the firm is reported to have an ADR listed in the United States. Information of Accounting Standards followed by a firm is from <i>Worldscope</i> (Data Item #WC07536).	Worldscope, LLSV (1998)
Accounting consolidation	Accounting Method for Long-Term Investments $\geq 50\%$	Worldscope
Merger Quality Index	The index measures the quality of the national merger law. It ranges from 0 to 6, and it is the sum of four indicators: (i) the national merger law contemplates some form of mandatory merger notification (Y/N); (ii) lack of merger notification involves penalties (Y/N); (iii) penalties are proportional to the size of the deal; (iv) penalties are above the median across all countries; (v) the law requires the mandatory purchase of additional shares above certain threshold; (vi) the shareholding that triggers mandatory purchase of shares is below 50%; and (vii) countries without Merger or Takeover laws are assigned a value of zero.	Worldwide Antitrust Merger Notification Requirements, White & Case 2003-2004 Edition, ISSA Handbook, several editions. Dyck and Zingales (2004)
Merger laws existence (Y/N)	The existence ($=1$) or lack of existence ($=0$) of Merger - Takeover regulations in the country, in a specific year.	Worldwide Antitrust Merger Notification Requirements, White & Case 2003-2004 Edition, ISSA Handbook, several editions, Securities Data Corporation and World Bank Development Indicators
Merger intensity indicators, total and cross-border	Two indices of merger intensity from the total sample of acquisitions of targets in the corresponding country, from the Securities Data Corporation M&A database. We compute, for every year, the number of (cross-border) mergers, and divide this number by the number of publicly listed firms in the country	World Bank Development Indicators
GDP per capita	GDP per capita is in constant 1995 USD.	World Bank Development Indicators
Exchange rates	Change in Exchange Rate (Local Currency - Target, per \$), and Change in Exchange Rate (Local Currency - Acquirer, per \$).	DataStream

Table B
Continued

Variable	Definition	Source
Target (acquiring) firm has an ADR listed	A dummy variable that equals one when the target (acquiring) firm in the acquisition has an ADR listing by the time the tender offer is announced. Information is collected from NYSE and Nasdaq websites, the Bank of New York, and the Foreign Listing Department of the NYSE. Also from Worldscope (data item #WC11496, "ADR indicator").	NYSE, Nasdaq, BONY websites, NYSE Foreign Listing Department, Worldscope.
Merger premium	Premium of offer price to target trading price one week prior to the original announcement date, expressed as a percentage. In a stock-by-stock merger, the consideration offered is based on the stock price of the acquirer on the day of the announcement in domestic currency.	Securities Data Corporation
Closely held shares	Worldscope item #WC05475. It represents shares held by insiders. For Japanese firms, it represents the holdings of the 10 largest shareholders. For companies with more than one class of common stock, closely held shares for each class are added together. It includes but is not restricted to: shares held by officers, directors, and their immediate families; shares held in trust; shares of the company held by any other corporation; shares held by pension/benefit plans; shares held by individuals who hold 5% or more of the outstanding shares. It excludes: shares under option exercisable within 60 days; shares held in a fiduciary capacity; preferred stock or debentures that are convertible into common shares.	Worldscope
Total assets	Worldscope item #WC02999.	Worldscope
Tobin's Q	[Market value of common equity (item #WC08001) + Total assets (item #WC02999) – Book value of common equity (item #WC03501)]/Total assets (item #WC02999).	Worldscope
Sales to total assets	Net Sales (Worldscope item #WC01001) divided by Total Assets (Worldscope item #WC02999).	Worldscope
Return on assets	Worldscope item #WC8326.	Worldscope
Cash flow to sales	Funds from operations (Worldscope item #WC04651) divided by Net sales (item #WC01001).	Worldscope
Investment to assets	total investments (Worldscope item #WC02255) divided by total assets (Worldscope item #WC02999).	Worldscope

Definitions and source of some of the variables in the paper

Table C
Correlation among investor protection indices

	Shareholder protection difference: Acquiror minus target	Creditor protection difference: Acquiror minus target	Accounting standards difference: Acquiror minus target	Corruption index difference: Acquiror minus target	Country Market capitalization difference: Acquiror minus target	GDP per capita difference: Acquiror minus target
Creditor protection difference:						
Acquiror minus target	0.1210*** (0.0051)	1				
Accounting standards difference:						
Acquiror minus target	0.5086*** (0.0000)	0.1616*** (0.0002)	1			
Corruption index difference:						
Acquiror minus target	0.1177*** (0.0084)	0.05 (0.2649)	0.2211*** (0.0000)	1		
Country market capitalization difference:						
Acquiror minus target	0.4883*** (0.0000)	0.1061* (0.0222)	0.3867*** (0.0000)	0.1458*** (0.0019)	1	
GDP per capita difference:						
Acquiror minus target	0.2275*** (0.0000)	0.044 (0.3440)	0.3051*** (0.0000)	0.5652*** (0.0000)	0.2916*** (0.0000)	1

*significant at 10%; **significant at 5%; ***significant at 1%

The table shows the Pearson correlation (*p*-value) matrix of investor protection indices, and GDP per capita difference.

of domestic and cross-border acquisitions affecting a particular country and show that these ratios are significantly related to the market's reaction to the announcement of a cross-border merger. Exploring the factors behind these costs and benefits, and documenting the differences between domestic and cross-border mergers, deserves future work.

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