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International Cross-listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis*

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Abstract

We examine a primary outcome of corporate governance, the ability to identify and terminate poorly performing CEOs, to test the effectiveness of U.S. investor protections in improving the corporate governance of cross-listed firms. We find that firms from weak investor protection regimes that are cross-listed on a major U.S. exchange are more likely to terminate poorly performing CEOs than non-cross-listed firms. Cross-listings on exchanges that do not require the adoption of the most stringent investor protections (OTC, private placements and London listings) are not associated with a higher propensity to shed poorly performing CEOs. Overall, our results provide direct support for the bonding hypothesis of Coffee (1999) and Stulz (1999), and suggest that the functional convergence of legal systems is indeed possible.

JEL classifications: G15, G30, G34, F30, M40, K22.

Keywords: Bonding hypothesis, CEO turnover, International cross listing, Corporate governance, Functional convergence.

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1. Introduction

Does cross-listing in the U.S. improve the corporate governance of foreign firms? The “Bonding Hypothesis” proposed by Coffee (1999, 2002) and Stulz (1999) predicts that after listing on a major U.S. stock exchange, foreign firms become subject to stringent U.S. investor protections which constrain insiders from expropriating minority shareholders. Because it has important implications for the effectiveness of U.S. laws and enforcement as well as the efficacy of market-based approaches in improving global corporate governance, the bonding hypothesis has attracted the recent attention of academics and practitioners alike.

To date, empirical support for the bonding hypothesis is principally drawn from the large literature that examines the economic consequences of cross-listing in the U.S.¹ However, as Leuz (2006) notes, the evidence contained in many of these studies is fairly indirect, as it is difficult to attribute the economic consequences of cross-listing directly to the bonding hypothesis because many theories of cross-listing have similar economic predictions.² Moreover, the validity of the bonding hypothesis has been called into question by a number of recent studies that document cross-listed firms’ lack of compliance with certain U.S. laws and the low number of enforcement actions by U.S. legal institutions (see, e.g., Siegel 2005 and Lang, Raedy and Wilson 2006). Therefore, whether U.S. securities laws and regulations improve the corporate governance of cross-listed firms is under debate as the nascent empirical evidence is predominantly indirect and yields mixed results.

In this paper, we pursue a different approach in testing the bonding hypothesis by examining a direct *outcome* of corporate governance: the propensity to replace poorly

¹ Karolyi (1996, 2006) and Benos and Weisbach (2004) provide comprehensive surveys. We also discuss the literature in section 2 of this paper.

² For further details on other theories that have been argued to generate similar predictions (e.g., market segmentation, investor recognition, increased liquidity, and better information) see the discussion in Doidge, Karolyi and Stulz (2004a) and Hail and Leuz (2004).

performing CEOs. We argue that if cross-listing actually results in increased shareholder protections, we should be able to observe specific outcomes that are consistent with improved corporate governance. We focus on the sensitivity of top executive turnover to performance since an extensive body of international research shows that a necessary component of effective corporate governance is the ability to identify and replace poorly performing CEOs (see, e.g., Kaplan 1994, Coffee 1999, Murphy 1999, Volpin 2002, Gibson 2003, DeFond and Hung 2004). We compile a database of 70,200 firm-year observations from 42 countries from 1992 to 2003 to test the hypothesis that CEOs of cross-listed firms are more likely to face termination when firm performance is poor. We find that the relation between CEO turnover and poor performance is stronger for cross-listed firms than non-cross-listed firms, and that the increased turnover to poor performance relation for cross-listed firms is concentrated in firms listed on major U.S. exchanges (e.g., level 2 and 3 ADRs). Firms that list in the over-the-counter market (level 1), conduct private placements (Rule 144a), or even list in London do not have a significantly different relation between CEO turnover and performance from non-cross-listed firms. Further, we find that the increased relation between CEO turnover and poor performance for cross-listed firms is strongest in countries with weak investor protections. Overall, our results are consistent with the hypothesis that U.S. securities laws and regulations improve the corporate governance of cross-listed firms.

We also investigate several alternative explanations for our results, including the potential endogeneities that arise in a study of cross-listing and governance due to the non-random nature of the decision to list in the United States. For example, we investigate if our results are due to the notion that better governed firms are the ones that self-select to cross-list. To do so, we examine several specifications that measure the sensitivity of CEO turnover to performance for cross-listed firms *prior* to cross-listing. These tests show that the relation of

turnover to performance is insignificant (significant) in the pre-cross-listed (post-cross-listed) period, which suggests that our results are not an artifact of the pre-cross-listed governance status of our sample firms. We also examine the potential impact of control changes around cross-listing on our results since cross-listed firms often sell control blocks during the listing year. We find our results are robust when these observations are omitted. Further, we examine if cross-listed firms terminate poorly performing management because they are able to access a more international pool of top management candidates by tracking the newly appointed CEOs' previous work experience. We find that the vast majority continue to come from the domestic labor market, which suggests our results are not driven by labor market shifts.

We subject our tests to a battery of firm and country level robustness tests as well. We find our results are robust to country, industry and year fixed effects in addition to controlling for the possible entrenchment effects of concentrated ownership structures. Our findings are also robust when we exclude countries that contain the largest portion of our sample, remove observations surrounding the Asian financial crises and omit financial and regulated industries. An important methodological note is that all of our analysis controls for the recently recognized difficulty in implementing and interpreting interaction effects in non-linear models (see, e.g., Ai and Norton, 2003).

Our results contribute to the literature in several ways. First, our findings add to the debate on whether U.S. securities laws and enforcement are effective in reaching non-U.S. firms. Our results suggest that firms from weak investor protection regimes that are cross-listed on a major U.S. exchange have outcomes that are consistent with better corporate governance, findings that support the major predictions of the bonding hypothesis. Further, by showing that CEOs of cross-listed firms are more likely to face termination when firm performance is poor, our findings also contribute to the literature by documenting a specific

channel in which cross-listing improves corporate behavior, something that is not well documented in the literature.³

Our findings also have implications for the growing literature that examines how global corporate governance can be improved (see, e.g., LaPorta et al. 2000 and Coffee 2002). This research stems from the large number of studies that show that the economic consequences for firms located in countries with poor investor protections are severe.⁴ Given the economic impact of poor investor protections and the corresponding difficulty in changing a country's legal structure (i.e., legal convergence), an important question is whether market based approaches (i.e., functional convergence), such as opting-in to a better legal system via cross-listing, can improve corporate governance. Our finding that cross-listing in the U.S. is associated with improved corporate governance is consistent with the hypothesis that the "functional convergence" of legal systems to a higher global standard is possible.

The remainder of the paper proceeds as follows. Section 2 discusses related literature. Section 3 describes the data. Section 4 presents the research design. Section 5 shows the results and section 6 presents robustness tests. Section 7 concludes.

2. Related Literature

The bonding hypothesis of Coffee (1999) and Stulz (1999) posits that firms cross-listed on a major U.S. stock exchange have better corporate governance than non-cross-listed firms from the same country, *ceteris paribus*, since cross-listed firms are subject to strong U.S. investor protections. These protections include mandated corporate disclosures, increased law

³ See, for example, the discussion in Leuz (2006).

⁴ See for example, LLSV (1997, 1998) as well as the survey by Beck and Levine (2004).

enforcement, and the heightened scrutiny of reputational intermediaries.⁵ For example, cross-listed firms on U.S. exchanges must adhere to U.S. disclosure practices, which require them to reconcile their net income and shareholder's equity to U.S. GAAP, disclose the identity of majority shareholders (10% or greater), and follow detailed procedures and disclosure during tender offers and going private transactions. Cross-listed firms are also subject to far reaching U.S. investor protection laws such as the Foreign Corrupt Practices Act and more recently, the Sarbanes Oxley Act. Cross-listed firms are subject to punishment by U.S. law enforcement, both by the SEC as well as private investor law suits. In addition, cross-listed firms are subject to increased scrutiny from intermediaries such as financial analysts and debt rating agencies.⁶ As a result, firms that cross-list bond themselves to a higher level of corporate governance, effectively "opting-in" to a more investor friendly legal system. In contrast, listing on the OTC market or conducting a private placement allows substantial exemptions from these laws and regulations.⁷ Specifically, the bonding hypothesis predicts that, *ceteris paribus*, (1) Cross-listed firms will have better corporate governance than non-cross-listed firms, (2) The difference in governance between cross-listed firms and non-cross-listed firms will be greatest in countries with weakest investor protections and (3) Cross-listings that require the most stringent U.S. investor protections (i.e., on the NYSE, AMEX or NASDAQ) will have the largest differences in corporate governance. In this way, cross-listing in the U.S. represents a market-based approach to increased investor protection.

While in theory a U.S. cross-listing should lead to more effective corporate governance, the ability of cross-listing to serve as a bonding mechanism is under debate. On the one hand,

⁵ It is important to note that while firms may choose to cross-list for a variety of reasons, once they are listed they become subject to U.S. laws and regulations.

⁶ Coffee (2002) calls these intermediaries "financial watchdogs".

⁷ For example, they are not required to register under the Exchange or Securities acts and are therefore exempt from most civil liability provisions and do not have to follow U.S. disclosure practices (Doidge 2004).

several empirical studies examine the economic impact of cross-listing in the U.S. and find evidence that is consistent with the bonding hypothesis. This line of research finds that cross-listed firms from weak investor protection countries have larger stock price reactions (Foerster and Karolyi 1999, Miller 1999), higher valuation (Mitton 2002, Doidge, Karolyi and Stulz 2004a), more scrutiny by financial analysts (Baker, Nofsinger and Weaver 2002, Lang, Lins and Miller 2003), lower cost of capital (Errunza and Miller 2000, Hail and Leuz 2004), better information environments (Bailey, Karolyi and Salva 2005), and more access to external finance (Reese and Weisbach 2002, Lins, Strickland and Zenner 2005). In addition, Doidge (2004) shows that cross-listed firms have lower voting premiums than non-cross-listed firms, which is consistent with cross-listing lowering the private benefits of control. However, ascribing the evidence contained in many of these studies directly to the bonding hypothesis is difficult given the well-known challenge in distinguishing among the various theories of cross-listing.

On the other hand, the evidence in several recent studies suggests bonding via cross-listing in the U.S. is ineffective. For example, Siegel (2005) finds that the SEC and minority shareholders have rarely enforced U.S. laws against cross-listed firms. He also documents instances where insiders from cross-listed firms exploited this weak legal enforcement with impunity.⁸ Consistent with this finding, Licht (2003) argues that for foreign issuers the SEC applies a lower standard of enforcement for corporate governance rules. Lang, Raedy and Wilson (2006) find that the accounting data of cross-listed firms from weak investor protection environments are of lower quality (i.e. show more evidence of earnings management) than data prepared by U.S. firms, even though cross-listed firms are required to follow nominally similar accounting standards as U.S. firms. However, these approaches are

⁸ Siegel (2006) suggests that a relational contract (for example, a joint venture) is a better commitment device than a U.S. cross-listing.

also not without their drawbacks. For example, Coffee (2002) and Benos and Weisbach (2004) suggest that measuring the incidence of legal actions may understate its benefit as a deterrent while Leuz (2006) argues that reporting quality differences between cross-listed and U.S. firms may not be clear evidence against bonding as cross-listed firms are allowed considerable discretion in preparing their financial statements to U.S. GAAP.

Another challenge researchers face when testing the bonding hypothesis is that it is often difficult to assess the *quality* of governance from observed *mechanisms* of governance. For example, recent studies show that firm-level ownership concentration and country-level investor protection laws are some of the more important mechanisms of international corporate governance (see, e.g., La Porta, Lopez-de-Silanes, and Shleifer 1999, Claessens, Djankov, Fan, and Lang 2002, Lins 2003, and Lemmon and Lins 2003). However, governance mechanisms often substitute or complement one another, a finding that Doidge, Karolyi and Stulz (2004b) emphasize is dependant on the extent of a country's investor protections. Further, this issue is likely to be exacerbated for cross-listed firms, given the many financial and regulatory changes that take place around listing. For example, Lang, Lins and Miller (2003, 2004) find that increased monitoring by financial analysts occurs around cross-listing, and this monitoring can offset the valuation discounts associated with high concentration of ownership. Therefore, using the mechanisms of governance to infer the effectiveness of a cross-listed firm's corporate governance system is not likely to be unambiguous.

In this paper, rather than calculating the stock price consequences, the incidents of legal enforcement, or changes in governance mechanisms around cross-listing to infer improvements in investor protections, we measure a direct outcome of corporate governance: the propensity to replace poorly performing CEOs. Why CEO turnover? Replacing poorly performing CEOs is argued to be a necessary condition for good corporate governance

(Macey 1997), a notion that is consistent with Jensen and Ruback (1983) and Shleifer and Vishny (1989, 1997) who contend that the most important form of expropriation of shareholder wealth is by poorly performing managers staying on the job when they are no longer qualified. Most importantly, the sensitivity of top executive turnover to performance as a measure of the quality of corporate governance has been supported by a large number of studies in the U.S. and abroad.⁹ Recent research by DeFond and Hung (2004), Gibson (2003), and Volpin (2002) employs CEO turnover to assess the effectiveness of international corporate governance systems and documents that the tendency to shed poorly performing CEOs is greatest in countries with strong shareholder protections. Dahya, McConnell and Travlos (2002) also exploit the relation of corporate performance to CEO turnover to study the introduction of the Cadbury Committee's *Code of Best Practice* and therefore we follow this literature and employ the sensitivity of top management turnover to firm performance in our investigation of how effective U.S. investor protections are in reaching cross-listed firms.¹⁰

3. Sample Selection and Descriptive Statistics

3.1 Sample Selection

We gather data on executive turnover and firm performance from the Worldscope database between 1992 and 2003.¹¹ The initial sample consists of approximately 38,000 firms from 59 countries. We exclude firms with missing firm-specific financial and executive data, firms with

⁹ In the US, see Hermalin and Weisbach (2003) and citations contained therein. For Japan, see Kaplan and Minton (1994) and Kang and Shivdasani (1995), for Germany, Kaplan (1994) and Franks and Mayer (2001), for the UK, Franks and Meyer (1996) and Franks, Mayer and Renneboog (2001).

¹⁰ In our context, increased transparency (e.g., more informative accounting numbers), better monitoring (e.g., larger analyst following, more institutional ownership), stronger laws (e.g., minority shareholder protections), and more stringent enforcement (e.g., class action law suits) should make it easier to detect poor firm performance as well as provide incentives to replace the top management.

¹¹ We use a total of 37 Worldscope CDROMs during our sample period. Because of delays by firms in releasing information and Worldscope's backfilling procedure, Worldscope indicated to us that multiple CDROMs from each year should be used as they often contain different numbers of firms.

no identifiable top manager, and firms located in countries with missing legal environment data. We also exclude U.S. firms as the bonding hypothesis predicts differences between cross-listed and non-cross-listed firms, rather than differences between cross-listed and U.S. firms (see, e.g., Leuz 2006). Finally, we exclude firms that are reported in the Worldscope database only once because we need at least two consecutive years of non-missing data on company officers and their titles to compute CEO turnover. The resulting sample includes 70,200 firm-year observations of 18,742 firms from 42 countries over 1992-2003. Every country except Zimbabwe in our final sample has at least one cross-listed firm in the U.S. A breakdown of the sample distribution across countries, cross-listing status, and over years is reported in Table 1.

We obtain the list of cross-listed firms using several sources including the Bank of New York, Citibank, the NYSE, and Nasdaq and verify the listing dates using Lexis-Nexis searches, Form 20-F, etc. Exchange traded cross-listings are denoted as *Level 2/3*, over-the-counter cross-listings as *Level 1* and private placements as *Rule 144a*. The dataset also takes into account ADR program upgrades such as from a Level 1 to a Level 2 program and delistings from the U.S. market. We also include direct listings. Most notably, Canadian firms list their shares on U.S. exchanges directly without issuing American Depository Receipts. Given the increased disclosure and securities law provisions required in listing on a major U.S. exchange are functionally equivalent for ADRs and direct listings, we classify Canadian firms that are traded on both a Canadian and a major U.S. exchange as Level 2/3 ADRs. However, the exclusion of Canadian firms from the sample does not change our conclusions.

We follow DeFond and Hung (2004) and use the titles CEO, Chief Executive Officer, and Chief Executive to identify the top manager in each firm. However, many countries use other titles for top managers, which vary across and within countries. We use two sources to determine the top manager in the rest of the sample. When available, we use the top manager

titles used by DeFond and Hung (2004) and Gibson (2003). For example, the titles CEO, Chief Executive Officer, Chief Executive, and President are used to identify the top manager in Argentina. We exclude firms in which the top manager title is shared by two officers to prevent a split turnover (Gibson 2003). For the remaining 10 countries not covered in DeFond and Hung (2004) or Gibson (2003) (3.63% of our sample), we use press accounts, country experts' opinions, and visual data inspections of manager titles in each country to determine the top manager title. A list of top manager titles used in each country is displayed in the Appendix.¹² After the top manager in the firm is identified, we first compare the last names and the first letter of first names of top managers of the firm over time to find out whether or not there was a top manager replacement in any given year. We next hand-check CEO turnovers for the entire sample given that Defond and Hung (2004) find that first names of managers do not consistently precede their last names in several Asian countries such as Korea and Japan, and that Worldscope infrequently contains typos on executive names for foreign firms.

As in DeFond and Hung (2004) and Gibson (2003), we do not know whether the CEO turnover is voluntary (e.g., due to retirement) or not because the Worldscope does not provide information on CEO age and tenure, and media coverage in English for the sample firms varies substantially across countries. Hermalin and Weisbach (2003) argue that voluntary turnovers are unlikely to be related to performance, therefore not distinguishing between voluntary and forced turnovers leads to additional noise in the dependent variable, which only affects standard errors. Consistent with their assertion, the empirical evidence suggests a similar or more sensitive relationship between CEO turnover and performance for involuntary

¹² We use the terms CEO turnover and top manager turnover interchangeably.

(forced) replacements (see, e.g., Huson et al. 2001 and Dahya et al. 2002). Therefore, we do not expect this data limitation to alter our conclusions.

3.2 Descriptive Statistics

Panel A of table 1 provides summary statistics for the sample based on a firm's country of domicile. Turnover ranges from a low of 4% in Venezuela to a high of 38.4% in Korea, with an average of 16.26%. Similar to other studies that employ the Worldscope database, there is a clustering of observations in Japan and United Kingdom. Although our analysis is based on fixed country effects to ensure we are comparing CEO turnover differences within countries, in robustness tests reported later in the paper in section 6.1 we remove observations from Japan and the United Kingdom and find that our conclusions are unaffected. Panel B of table 1 shows turnover by year, which ranges from a low of 11.54% in 1995 to a high of 23.18% in 2000. Panel C of table 1 presents turnover by cross-listing status. The panel indicates that cross-listed firms have higher CEO turnover than non-cross-listed firms (19.14% versus 16.03%). Of the cross-listed firms, CEO turnover is greatest for Level 2/3 firms, followed by Rule 144a and then Level 1 companies (21.66%, 16.83% and 19.90%, respectively).

Table 1 panel C shows that 1,318 foreign firms are identified as cross-listed in our sample, out of which 592 are exchange traded cross-listings (*Level 2/3*), 551 are OTC cross-listings (*Level 1*), and 175 are private placements via Rule 144A issuance (*Rule 144a*).

We consider various measures of firm performance, including both operating performance measures and stock price based measures. We do, however, expect the operating performance measures to be a better proxy in our international setting, as both Volpin (2002) and DeFond and Hung (2004) find that stock returns are not related to CEO turnover in countries whose

markets are characterized by high stock price synchronicity and illiquidity, attributes that make stock price based measures less informative.¹³

For our main tests, we focus on the ratio of accounting earnings before interest and taxes (EBIT) to book value of assets (*earnings ratio*) and the total stock returns in excess of the country average (*excess returns*). We follow De Fond and Hung (2004) and Volpin (2002) and use EBIT among accounting-based firm performance measures because it is not influenced by firms' capital structure policies or by differential country-level tax regimes. Similar forms of both variables are used extensively to proxy for firm performance in studies examining the sensitivity of CEO turnover to firm performance.¹⁴ We lag both performance variables by one year to prevent a possible overlap of the replaced CEO's performance with that of the new CEO. Panel D of Table 1 reports sample statistics of the main performance measures and shows that in firm-years with CEO turnover, the lagged performance measures are significantly lower than in non-turnover years.

We also use sales growth and the change in EBIT to total assets as alternative accounting-based measures of firm performance and obtain qualitatively similar results. In addition, we recompute our firm performance measures in which industry-adjusted performance is calculated as firm performance minus the median value of the corresponding two-digit SIC global industry and also obtain similar results.

4. Research Design

4.1 Empirical Model

¹³ Harvey (1995) shows that first order autocorrelations in emerging markets are positive and significant and Lesmond (2005) finds that liquidity-related transactions costs in countries with weak legal institutions are higher than markets with strong legal systems.

¹⁴ See Huson et al. (2001), Mikkelsen and Partch (1997), Gibson (2003), and Kang and Shivdasani (1995) for the accounting-based measure and Weisbach (1988), Kang and Shivdasani (1995), Defond and Hung (2004), Huson et al. (2001), and Hadlock and Lumer (1997) for the stock market-based measure.

Our empirical analysis is conducted in three main parts: first, we investigate whether the sensitivity of top executive turnover to poor firm performance is higher for cross-listed firms. An important component of these tests is to differentiate cross-listings by type in order to test whether cross-listings on major U.S. exchanges, which require the strongest governance provisions, have the largest effect. Second, we test if the effect of bonding is greatest for firms that are located in countries that have the weakest investor protection laws. We do this by examining the sensitivity of top executive turnover to poor firm performance across legal origins and investor protection laws. Finally, we conduct a battery of tests designed to gauge the robustness of our results by examining the sensitivity of top executive turnover to poor firm performance in the pre-cross-listing period, in addition to excluding turnover that occurs in the year of listing and examining where the replacement CEOs come from. We also re-run our tests excluding countries that contain the largest portion of our sample firms, omitting firms with large block ownership, removing observations surrounding the Asian financial crisis and excluding financial and regulated firms.

To test our hypothesis that CEO turnover is more sensitive to poor performance for exchange-traded cross-listed firms than non-cross-listed firms, we estimate a series of probit models in the form of:

$$\Pr(\textit{Turnover}) = \Phi [\alpha + \beta_1(\textit{FirmPerformance}) + \beta_2(L23) + \beta_{12}(L23 * \textit{FirmPerformance}) + \beta_3(L1) + \beta_{13}(L1 * \textit{FirmPerformance}) + \beta_4(R144A) + \beta_{14}(R144A * \textit{FirmPerformance}) + X\delta] \quad (1)$$

where Φ is the standard normal cumulative distribution, *L23* refers to exchange traded cross-listings, *L1* refers to OTC cross-listings, *R144A* refers to private placements, and $X\delta$ is a set of firm control variables, country controls, industry controls, and year controls. Note that the cross-listed dummies are time-varying.

We follow previous research and measure *turnover* as a binary variable that takes on the value one if the top manager is changed in that year. In addition to our operating and stock-priced-based firm performance measures, our tests include other firm and country level controls. We include firm size measured as the natural logarithm of the book value of total assets in millions of U.S. dollars. Inclusion of firm size prevents a potential omitted variable bias in our specification, as firm size may influence firm performance and therefore the propensity to replace the CEO.¹⁵ In the regression analysis, we winsorize the continuous variables at the one percent level for each country.

It is also important to note that throughout our analysis, we include country fixed-effects which ensure we are measuring the within-country differences between cross-listed and non-cross-listed firms as well as controlling for unobserved country effects. In addition, we include industry dummies at the two-digit SIC code to control for industry-wide factors that may affect CEO turnover and firm performance. Finally, our regressions include indicator variables for each year. Our regressions also correct the standard errors for possible serial correlation and heteroscedasticity by clustering at the firm level.

We test our second hypothesis, that the difference in the sensitivity of top management turnover to performance between cross-listed firms and non-cross-listed firms is largest in countries with the weakest corporate governance, by classifying countries into strong and weak investor protection regimes and comparing coefficients across samples. Alternatively, a random country effects specification could be employed with interaction effects, but in our sample this is inappropriate as it fails the Hausman specification test. We focus on three country-level measures of investor protection. The first measure, from LLSV (1997, 1998), is whether the home country has an English legal origin, which is an overall measure of strong

¹⁵ Murphy (1999) finds that the CEO age is a more important determinant of CEO turnover in large firms. Thus, firm size may also proxy for CEO age.

investor protections. From LLS (2006), we use the disclosure index, which is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. It measures how extensive disclosure requirements for firms are. Finally, from LLSV (1997, 1998), we employ the anti-director rights index that represents the degree of minority shareholder protection. Higher values of these country-level indices and common law correspond to better investor protection.¹⁶

4.2 Interpretation of Interactions in Probit Models

Recent research by Ai and Norton (2003) and Powers (2005) emphasizes the difficulty in interpreting interactions in non-linear models. Strikingly, the interaction effect cannot be evaluated by looking at the sign, magnitude or statistical significance of the coefficient on the interaction term produced by most common statistical software. Ai and Norton (2003) show that the interaction effect is conditional on the independent variable, and therefore both the magnitude and statistical significance of the interaction term can vary observation by observation. For example, in our probit specification the correct marginal effect of a change in the interaction variable between the L23 dummy and firm performance is

$$\frac{\Delta \frac{\partial F(u)}{\partial FirmPerformance}}{\Delta L23} = (\beta_1 + \beta_{12}) * \phi [(\beta_1 + \beta_{12}) * FirmPerformance + \beta_2 + X\delta] - \beta_1 * \phi [\beta_1 * FirmPerformance + X\delta] \quad (2)$$

where $F(u) = \Pr(Turnover)$ displayed in equation 1 and u denotes the index of the regression specification. Equation 2 shows that the marginal effect of the interaction variable may not be zero even when β_{12} is zero. Thus, the standard coefficient on the interaction term

¹⁶ We also examine other country level measures of investor protection from LLSV (1998) and LLS (2006), such as the rule of law, burden of proof, and private law enforcement indexes. In all instances, our results are consistent across every measure of high versus low investor protection.

may have an incorrect magnitude, standard error, and even an incorrect sign of the true interaction effect.

To ensure our inferences are correct, we use the methodology developed by Norton, Wang, and Ai (2004) to compute the correct marginal effect of a change in the interaction variable between the respective cross-listed dummy and firm performance. We report both the marginal effects and their standard errors and display the graphs of the distribution of marginal effects and the associated z-statistics over the entire range of predicted probabilities for our main models. In tests where our inferences are unambiguous, we also summarize the range of corrected interactions by the mean interaction effect and its significance.

5. The Effect of Cross-listing on CEO Turnover

5.1 By Cross-listing Type

Table 2 presents a series of probit regressions that include interactions between firm performance and cross-listing type to test the hypothesis that cross-listed firms have a higher performance to turnover sensitivity than non-cross-listed firms. All regression models include country, industry and year fixed effects as well as control for firm size. In all specifications, we find that firm size is positively related to CEO turnover.¹⁷ Firm performance (*lagged earnings ratio*) is negative yet statistically insignificant, a finding we show later is the result of pooling countries where firm performance is unlikely to be used to evaluate management.

Model 1 shows that after controlling for firm size as well as country, industry and year fixed-effects, the interaction between *Level 2/3* and *lagged earnings ratio* is negative and significant (-0.317, t-statistic=-1.98). This finding is consistent with the hypothesis that non-U.S. firms adopting the strongest U.S. governance and reporting requirements by cross-listing

¹⁷ DeFond and Hung (2004) also find that firm size is positively related to CEO turnover.

do indeed have outcomes consistent with improved governance over similar non-cross-listed firms. However, given the aforementioned problems with interpreting simple interaction terms in discrete choice models, we follow Ai and Norton (2003) and evaluate the corrected marginal effects and their significance at every predicted probability. Figure 1a shows the corrected interaction effects are overwhelmingly negative across the predicted probabilities, while figure 1b shows that these interaction effects are also significant for most probabilities. We summarize the corrected interactive effect and its significance in the last rows of table 2 by reporting the mean interaction effect and its significance (-0.081, t-statistic=-1.98).

We next examine cross-listings that do not require adherence to the most stringent U.S. governance and disclosure regulations. Model 2 of table 2 employs an indicator variable that equals one when the firm trades in the U.S. OTC market. The results suggest that firms with level 1 cross-listings do not have a significantly higher propensity to terminate poorly performing CEOs than non-cross-listed firms (interaction coefficient =-0.104, t-statistic=-0.387). The corrected interactive effects, presented in Figures 2a and 2b and summarized in the bottom rows of table 2, further confirm that the interaction effect is rarely significant across the range of predicted probabilities (the mean corrected effect is -0.026, t-statistic=-0.386).

Model 3 substitutes an indicator variable for firms with private placement cross-listings, which also do not require the U.S. governance provisions required of a major exchange cross-listing. Similar to the results for OTC cross-listings, we find no evidence that firms cross-listing in the U.S. via Rule 144a have a higher propensity to terminate poorly performing CEOs than similar non-cross-listed firms. The coefficient on the interaction term is insignificant (-0.332, t-statistic=-0.623), and inspection of the figures 3a and 3b suggest the corrected interactions are also rarely significant (the mean corrected interaction =-0.081, t-

statistic=-0.616). Finally, in model 4, we include all three cross-listing types and their interactions with firm performance together, and find similar results to models 1 – 3. Overall, the results contained in table 2 provide support for the hypothesis that cross-listing on a major U.S. exchange, which requires the adoption of stringent U.S. investor protection laws, results in a significantly higher propensity to terminate poorly performing CEOs than their non-cross-listed counterparts. In addition, firms that cross-list via level 1 or Rule 144a ADRs do not have an increased association between CEO turnover and poor firm performance.

Table 3 examines the sensitivity of CEO turnover to performance employing our alternative firm performance measure, one-year lagged excess stock market returns. Models 1-3 report interactions between each cross-listing type and stock market performance individually, while model 4 includes all cross-listings together. Across each specification, we find that the interaction between L2/3 and stock price based performance is negative and significant, while the interactions between L1 or R144a and stock price based performance measure are insignificant. Therefore, with this alternative performance measure we continue to find that cross-listed firms that are associated with the most stringent U.S. investor protections are more likely to terminate poorly performing CEOs.

In untabulated results, we also split our sample into countries with high and low stock price informativeness to examine if the CEO turnover to performance sensitivity is higher in countries where stock prices are more informative about firm specific performance. Prior research by DeFond and Hung (2004) and Volpin (2002) argues that only in countries where stock prices are informative is CEO turnover related to stock market performance.¹⁸ However, it is important to note that a significant relation between CEO turnover and performance in low informativeness countries is possible if stock prices become more informative about

¹⁸ Bushman, Piotroski, and Smith (2004) show that corporate transparency is low in poor investor protection countries.

performance due to cross-listing, something that Dasgupta et al. (2005) suggest occurs. Consistent with DeFond and Hung (2004) and Volpin (2002), we find that the interaction between cross-listing types and firm performance are insignificant in countries that have below median stock price informativeness, while in countries where stock prices are informative, cross-listing on a major U.S. exchange results in a higher propensity to shed poorly performing CEOs. These results also suggest that the increased CEO turnover to performance sensitivity for cross-listed firms is not driven purely by stock prices becoming more informative for cross-listed firms in certain countries.

Overall, the results in tables 2 and 3 provide support for the bonding hypothesis. We find that cross-listed firms do indeed have outcomes that are consistent with better corporate governance systems than similar non-cross-listed firms. Further, the findings suggest that governance outcome differences are only significant for those firms that adopt the strongest U.S. investor protections by listing on a major U.S. exchange, rather than an OTC listing or private placement. In this way, our results provide support for the hypothesis that by cross-listing in the U.S., firms are able to opt-in to superior corporate governance.

5.2 The Strength of Bonding for Firms in Low Investor Protection Countries

Tables 4 and 5 test the third prediction of the bonding hypothesis, that the effect of bonding will be greatest for firms domiciled in countries with the weakest investor protections. We test this hypothesis by splitting the sample by investor protection regimes and examining the interactions between cross-listing types and firm performance, for both accounting and stock market based performance measures.

The first two columns in panel A of table 4 split the sample by legal origin, a classification that proxies for the overall protection of minority shareholders in a country (see, e.g., LLSV 1998). Model 1 shows that in countries with Civil Law tradition, where investor protection is

weakest, the corrected interaction between *Level 2/3* and *Lagged Earnings Ratio* is negative and significant (-0.335, t-statistic=-3.272). Model 1 also shows that the corrected interactions between firm performance and *L1* or *R144a* are insignificant (-0.094, t-statistic=-0.706, and -0.169, t-statistic=-1.069, respectively). Therefore, in countries with poor investor protections, cross-listing on a major U.S. exchange is associated with an increased CEO turnover to poor firm performance sensitivity. In terms of economic significance, the probability of replacing the CEO increases by 4.27% for Level 2/3 ADRs when we move from the top quartile to the bottom quartile of firm performance measured in Civil Law countries.¹⁹

Model 2 presents the results for Common Law countries, where investor protection is strongest. In these countries, we find that all the interactions between cross-listing type and the *Lagged Earnings Ratio* are statistically insignificant. Further, the difference in the interaction terms between Civil and Common Law countries is significant (p-value of lower than 0.01). Therefore, the results indicate that the effect of U.S. investor protections is most significant when the firm's home country investor protections are weakest. We also find that *Lagged Earnings Ratio* coefficient is negative and significant which is consistent with previous research that finds it is used for managerial performance evaluation.

To further test if the extent of bonding is dependent on the category of protections investors are afforded in a particular country, we also investigate alternative investor protection indices from LLSV (1997, 1998) and LLS (2006). Their disclosure index measures the quality of disclosure laws and their anti-director rights index measures the degree of minority shareholder protection. Models 3 and 5 report results for countries classified as having poor disclosure laws and weak protection of minority shareholders. In both models, we

¹⁹ For comparison, Huson, Parrino, and Starks (2001) show that going from the top quartile to the lowest quartile in EBIT/TA ratio increases the probability of CEO turnover by 2%.

find the interactions (both standard and corrected) between *Level 2/3* and *Lagged Earnings Ratio* is negative and significant, indicating that in these low investor protection countries, cross-listing on a major U.S. exchange is associated with increased CEO turnover to firm performance sensitivity. Models 4 and 6 report results for the strong investor protection countries. In both these models, the interactions between cross-listing type (*Level 2/3*, *L1* or *R144a*) are insignificant, indicating no difference in the CEO turnover to firm performance relation in countries that have strong investor protection.²⁰

Table 5 provides the results for the stock price based firm performance measure. As in table 4, we find across all weak investor protection subsamples, the interaction between firm performance and *Level 2/3* is negative and significant. For example, the mean corrected interactive effect in Civil Law countries is -0.039 (t-statistic -2.72). For other cross-listing types, the interaction coefficients are insignificant. Further, models 2, 4 and 6 show that in strong investor protection countries, cross-listing does not increase the sensitivity of CEO turnover to poor firm performance.

Taken together, the results in Table 4 and 5 show that in countries where investor protections are weakest, adopting the strongest U.S. investor protection provisions results in significantly greater propensity to terminate poorly performing CEOs, while in countries that already have strong investor protections, cross-listing does not change the CEO turnover to performance sensitivity. Further, the results show that in weak investor protection countries, only cross-listings that require the most stringent of U.S. investor protections (exchange-listed

²⁰ Using alternative measures of investor protection laws from ILS (2006) and LLSV (1998), such as the burden of proof, investor protection, private law enforcement, and the rule of law indexes, produce similar conclusions. For example, the coefficient on the corrected interaction between *Level 2/3* and *Lagged Earnings Ratio* is negative and significant (-0.288, t-statistic=-2.48) in countries with low burden of proof and insignificant in countries with high burden of proof (-0.054, t-statistic= -1.02) where the sample median for the burden of proof index (lower than or equal to 0.554) is used to split the sample into high vs. low burden of proof subsamples.

cross-listings) are associated with better governance outcomes. Therefore, the results provide support for the second and third main predictions of the bonding hypothesis.

5.3 Sensitivity of CEO Turnover to Performance in the Pre-Cross-listing period

The previous analysis establishes that cross-listed firms on major U.S. exchanges have outcomes that are consistent with improved corporate governance over non-cross-listed firms. In this analysis, the comparison group is all non-cross-listed firms, which includes firms that may never cross-list as well as cross-listed firms in their pre-cross-listing period. However, an alternative explanation for our findings is that only the better governed firms choose to cross-list on a major U.S. exchange, which in turn drives our results. While our previous tests employed time varying cross-listing indicator variables that equaled one only *after* the firm cross-listed, we further examine this issue by performing two additional tests in which we examine the sensitivity of CEO turnover to performance in the pre-cross listing period. In the first, we examine how the sensitivity of CEO turnover to firm performance differs before and after cross-listing, where we restrict the sample to firms that already have, or will have a cross-listing of the same type during our sample period.²¹ The advantage of this experiment is that the non-cross-listed comparison group is firms that will have a cross-listing of a similar type during the sample period (that is, the pre-cross-listing period of the cross-listed firms). If firms that pursue exchange traded cross-listings have better governance before cross-listing, then we would expect to find little difference between cross-listed firms and “to-be” cross-listed firms. For space considerations, in this test we focus on the broad Civil versus Common Law classifications using the lagged earnings ratio performance measure, but other governance

²¹ We also examine the comparison groups together with indicator variables for cross-listing types (i.e., Level 2/3, Level 1, and Rule144a dummies together) and obtain similar results.

classifications and performance measures produce consistent results.²² Model 1 table 6 shows that the sensitivity of turnover to performance for exchange traded cross-listings is significantly larger than non-cross-listed firms that will eventually cross-list on a major exchange in low shareholder protection countries. Therefore, the results suggest that the difference in governance outcomes is driven by the post-cross-listing period of cross-listed firms. For Level 1 and Rule 144a cross-listings, the interactions between cross-listing type and firm performance are not significantly different between cross-listed and non-cross-listed firms.

The second way we test if the pre-cross-listing governance of our sample firms is driving our results is to exclude all observations for cross-listed firms following the cross-listing year and compare the interactions of “to-be” cross-listed firms’ performance to the full sample of non-cross-listed firms. If the pre-cross-listing status of cross-listed firms is driving our results, we might expect to see results in this analysis similar to our full sample tests presented earlier. An advantage of this test is that we are able to use the full sample of non-cross-listed firms. The disadvantage is that there are relatively few observations in the pre-listing period which is likely to lower the power of the test. Table 7 shows that when the post-cross-listing observations are excluded, we no longer find that cross-listed firms are more likely to terminate poorly performing CEOs.²³

Overall, the results in table 6 and 7 show that when compared to their pre-cross-listing status, cross-listing on a major U.S. exchange results in significantly higher CEO turnover to firm performance sensitivity. Therefore, the results indicate that it is not the pre-cross-listing

²² For example, using the excess returns measure, the interaction between performance and Level 2/3 is also statistically significant (insignificant) in Civil (Common) law, weak (strong) anti-director rights, and low (high) disclosure subsamples.

²³ We also estimated a two stage model for self-selection that controls for the decision to list in the first stage and find that our results are robust to this specification.

governance of firms that is driving the results. Taken together, the evidence in the preceding sections suggests that in countries with poor investor protections, cross-listing on a major U.S. exchange increases the likelihood that firms will have outcomes consistent with improved corporate governance systems.

5.4 London Listings

Listing in London is an often-cited alternative for firms that do not wish to subject themselves to the stringent U.S. listing requirements.²⁴ Consistent with the hypothesis that a London listing does not convey the same governance commitment as a U.S. listing, Doidge et al. (2006) find that firms with high private benefits of control are more likely to choose a London listing rather than a major U.S. exchange. Baker, Nofsinger and Weaver (2002) also find that monitoring by financial analysts is lower in London Stock Exchange (LSE) cross-listings versus U.S. cross-listings and Seetharaman et al. (2002) find that the U.K. auditors charge higher fees for client firms that are listed in the U.S. to compensate for the higher risk of litigation.

To test if cross-listing on the LSE also results in improved governance outcomes, we gather a sample of 905 firm-year observations (169 firms from 25 countries including 33 firms from the U.S.) that trade in London and re-run our models to examine the sensitivity of CEO turnover to performance between firms that cross-listed in London and those firms that did not.²⁵ Since we are examining London listings, we exclude observations from the U.K. and add observations from the U.S. in this analysis. Table 8 reports that the interaction between *LSE Listing* and firm performance is not significant in any specification. Therefore, unlike a major U.S. exchange cross-listing, we do not find that listing on the LSE is associated with better corporate governance outcomes.

²⁴ See, for example “London Calling” in *Forbes Magazine* May 8, 2006.

²⁵ A list of international firms trading on the LSE is available at www.londonstockexchange.com

5.5 Labor Market Effects: Where do the replacement CEOs come from?

One potential explanation for our results is that by cross-listing, firms are able to tap a more international pool of top management candidates. Therefore, CL firms may be more likely to terminate poorly performing management when the potential quality of the labor market is higher. To investigate this, we look into the newly appointed CEOs' previous work experience. Due to the labor intensity of this investigation, we examine a sub-sample of 150 CL firms that experienced a CEO turnover after cross-listing. These CEO turnovers are randomly drawn from sample firms, with an equal number for Level 2/3 ADRs, Level 1 ADRs, and private placements.

For the 127 turnovers that we are able to find information about the new CEO's previous work experience, only six CEOs are recruited from non-domestic labor market; three are recruited by firms with Level 2/3 ADRs and the other three by other CL firms.²⁶ The finding that most CL firms still recruit from the domestic labor market suggests that our results are not driven by the possibility that the propensity to terminate poorly performing CEOs in CL firms increases due to access to a new and more international labor market.

6. Robustness Tests

In this section, we perform variations of the tests we conduct in section 4. The purpose of this analysis is to gauge the sensitivity of our results to the exclusion or inclusion of certain observations and to alternative specifications of the tests. Where tabled, we report results for

²⁶ To be more specific, out of 42 newly appointed CEOs in firms with Level 2/3 ADRs, 39 are recruited from domestic firms, one from a U.S. firm, one from a British firm, and one from a Dutch firm. For firms with Level 1 ADRs, two out of 43 newly appointed CEOs are recruited from international firms (one U.S. and one French firm), and for firms with Rule 144A issues, only one CEO out of 42 newly appointed CEOs is recruited from international firms (a British firm).

the accounting based firm performance measure (*lagged earnings ratio*) and note that the results are robust in all cases for the stock price based measure (*lagged excess returns*).

6.1 *Exclusion of United Kingdom and Japan*

Given the U.K. and Japan are the two countries with the greatest number of observations in our sample, an obvious concern is that our results may be primarily or completely driven by observations in these countries. Table 9 presents results when we omit these observations. We find that the mean corrected interactive effect between *L2/3* and *Lagged Earnings Ratio* is negative and significant in low investor protection countries. We continue to find the interactions for other cross-listing types insignificant. Thus, our results are robust to the exclusion of observations from the U.K. and Japan.

6.2 *Exclusion of Observations during the cross-listing year*

Given that managers of cross-listed firms value control (see, e.g., Doidge et al. 2004a), it seems unlikely that managers would select to cross-list in order to make their positions more susceptible to termination. Consistent with this hypothesis, recent research by Doidge et al. (2006) shows that firms with high private benefits of control are less likely to cross-list on a major U.S. exchange. However, Doidge (2005) and Ayyagari (2004) find that cross-listed firms continue to have concentrated ownership after cross-listing, which suggests that ownership concentration diffusion after cross-listing is not driving our results. However, these studies do find that cross-listed firms often sell control blocks during the listing year. In order to make sure the turnover we document is not driven by changes in control around cross-listing, we re-examine our tests when observations of cross-listed firms in the year of cross-listing are omitted, and find similar results. For example, table 10 shows that mean corrected interactive effect between *L2/3* and *Lagged Earnings Ratio* is negative and significant in low investor protection countries. Table 10 also shows that the interactions for other cross-listing types are

insignificant. Therefore, CEO turnover changes in the cross-listing year do not explain our results. We also eliminate turnover in the two years surrounding cross-listing and obtain similar results.

6.3 Relative Industry Performance Measures

Morck et al. (1988), Gibbons and Murphy (1990) and Parrino (1997) suggest that internal monitors use relative industry performance measures to evaluate CEO performance. To examine the robustness of our results to this alternative definition of firm performance, we re-compute our firm performance measures in which industry-adjusted performance is calculated as firm performance minus the median value of the corresponding two-digit SIC global industry. Table 11 reports results for industry adjusted lagged earning ratio. We find that across all models, the corrected interaction effect between L2/3 and industry-adjusted firm performance is negative and statistically significant, while the interactions for OTC and private placements remain insignificant. In untabulated results, we find similar results for industry adjusted excess stock market returns. The findings indicate that our results are robust to this alternative definition of firm performance.

6.4 Exclusion of Firms with Large Blockholders

The corporate governance effects of large blockholders have been well-documented in the literature (see, e.g., LaPorta et al. 1999). Large blockholders could have a negative effect on corporate governance if they are aligned with management in non-value maximizing activities and insulate managers from being replaced. Gibson (2003) finds that the link between performance and top management turnover is weaker in emerging market firms with a large domestic shareholder. Further, Doidge et al. (2006) find that the control rights held by the largest blockholder are higher for firms not cross-listed on a U.S. exchange. This raises the

possibility that the relation between CEO turnover and performance may be impacted by the relative influence of large blockholders in cross-listed and non-cross-listed firms.

To investigate the role of large shareholders in our results, we collect data from Worldscope on the percentage of shares held by large shareholders (*closely held shares*) and exclude observations with large shareholders. We follow DeFond and Hung (2004) and exclude observations where blockholders have direct holdings greater than 20%.²⁷ The results of this test (untabulated) indicate that our previous results remain qualitatively unchanged. For example, the coefficient on the interaction between firm performance and Level 2/3 in model 1 and 2 of table 4 (Civil and Common Law) -2.138, t-statistic = -4.24 and -0.156, t-statistic = -0.76, respectively. Further, we also obtained similar results when the percentage of closely held shares is employed as a control variable in our full sample regressions. Therefore, our results continue to hold after excluding the influence of large blockholders.

6.5 Excluding Financial and Regulated Firms

In our previous analysis, we have examined the broadest possible sample of firms and included as part of our controls industry dummies. We are motivated by the fact that it is likely that across countries, the set of industries and firms that are controlled by government regulation differ substantially. However, to ensure our results are not being driven by the inclusion of financial and regulated firms, we omit firms with two-digit SIC codes of 60-69, 48, and 49. In untabulated results, we find that the results are robust to the exclusion of these firms.

6.6 Excluding the Asian Financial Crisis Period

To ensure our findings are not dependent on the inclusion of the firm-years surrounding the Asian financial crisis, we re-estimate our models excluding various windows of

²⁷ Because of data availability, we are not able to measure indirect ownership acquired along ownership chains.

observations surrounding the event, including (1) 1997 and 1998, (2) 1996, 1997, 1998, and (3) 1996, 1997, 1998, 1999. In untabulated results, we find our results robust to the exclusion of these years. For example, when we exclude the years 1996-1998, the interaction between firm performance and Level 2/3 in model 1 and 2 of table 4 (Civil and Common Law) are -1.349, t-statistics = -2.51 and -0.344, t-statistic = -0.18, respectively. We also estimate our models excluding years 2002 and 2003 to gauge the effect of Sarbanes-Oxley on our results. Our results are robust to excluding these observations.

6.7 Excluding Small Firms

While all our regressions control for firm size, we also conduct our tests in which we omit smaller firms and obtain similar results. For example, if we eliminate firms with total assets less than 15 million U.S. dollars, the interaction between *Level2/3* and *lagged earnings ratio* in model 1 and 2 of table 4 (Civil and Common Law) are -1.357, t-statistic = -3.28, and 0.303, t-statistic = 1.40, respectively.

7. Conclusions

Despite the large number of studies examining the costs and benefits of cross-listing in the U.S., the effectiveness of a U.S. cross-listing as a bonding mechanism is under debate, as it is often difficult to distinguish among the various theories for international cross-listings. In this paper, we argue that if cross-listing in the U.S. improves investor protections, then we should be able to detect *outcomes* that are consistent with improved corporate governance. We test our hypotheses by examining the relative propensity for cross-listed firms to terminate poorly performing CEOs. We construct a database of over 70,000 firm-year observations from 42 countries and find that cross-listed firms are more likely to shed poorly performing CEOs than non-cross-listed firms. Further, we find that this effect is concentrated in cross-listings

on major U.S. exchanges with the strongest investor protections, rather than OTC, private placement or London listings. Finally, we find that the difference between cross-listed and non-cross-listed firms in CEO turnover sensitivity to firm performance is greatest in countries with the weakest investor protections. Taken together, our results provide support for all of the major tenets of the bonding hypothesis, and suggest that the functional convergence of legal systems is indeed possible.

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Table 1. Descriptive Statistics

This table presents the distribution of the sample used in the regression analysis by countries, cross-listing status, and year, and descriptive statistics for the main firm-level variables. Panel A describes the number of observations, firms, and CEO turnover percentage across countries. Panel B shows the distribution of the sample over time. Panel C displays the distribution of the sample by cross-listing status. Panel D presents the summary statistics for the sample used in the regression analysis. The last column in panel D reports the median differences of the firm performance variables between the CEO turnover and non-turnover observations and the related results from a nonparametric test on the equality of medians. CL dummy is one if the firm cross-lists in the U.S., zero otherwise. Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets. Lagged Excess Returns is the one-year lagged total stock returns in excess of the country average. Total Assets is measured in million \$US.

Panel A. By Country

Country	# Obs.	# Firms	CEO Turnover %
Argentina	36	18	25.00
Australia	2,463	1,001	15.79
Austria	530	160	15.09
Belgium	711	187	14.21
Brazil	348	155	11.78
Canada	3,454	1,011	19.28
Chile	473	152	18.39
Colombia	3	3	33.33
Denmark	1,146	283	14.22
Finland	766	212	13.71
France	3,200	1,019	12.25
Germany	3,692	1,047	17.39
Greece	517	216	15.28
Hong Kong	2,027	797	16.18
India	1,268	358	13.17
Indonesia	1,090	324	24.13
Ireland	418	93	14.83
Israel	217	90	21.66
Italy	1,192	318	18.04
Japan	21,009	3,776	14.15
Korea	1,703	675	38.40
Malaysia	2,185	687	13.27
Mexico	304	117	17.76
Netherlands	1,034	305	19.05
New Zealand	294	90	18.71
Norway	356	110	18.82
Pakistan	459	111	12.64
Peru	87	43	24.14
Philippines	674	205	20.47
Portugal	152	62	9.21
Singapore	1,304	429	17.02
South Africa	1,210	450	16.28
Spain	590	163	16.95
Sri Lanka	37	14	8.11
Sweden	1,359	420	18.91

Switzerland	1,413	360	20.74
Taiwan	1,240	423	25.56
Thailand	898	269	18.04
Turkey	316	124	15.19
United Kingdom	9,980	2,448	14.59
Venezuela	25	11	4.00
Zimbabwe	20	6	25.00

Panel B. By Year

Year	# Obs.	# Firms	CEO Turnover %
1992	1,602	-	17.85
1993	4,080	-	17.75
1994	4,717	-	13.84
1995	5,338	-	11.54
1996	6,005	-	12.94
1997	6,700	-	13.82
1998	6,292	-	15.73
1999	6,842	-	14.75
2000	6,755	-	23.18
2001	7,582	-	19.88
2002	9,749	-	17.44
2003	4,538	-	14.63

Panel C. By Cross-listing Status

Cross-listing Status	# Obs.	# Firms	CEO Turnover %
Non-CL firms	64,923	17,424	16.03
CL firms	5,277	1,318	19.14
Level 2/3	2,036	592	21.66
Level 1	2,447	551	16.83
Rule 144A	764	175	19.90
Total	70,200	18,742	16.26

Panel D. Summary Statistics

	N	Mean	Median	5 th percentile	95 th percentile	Turnover vs. non-Turnover (medians)
Lagged Earnings Ratio	70,200	0.219	0.052	-0.133	0.202	-0.006***
Lagged Excess Returns	53,451	-0.029	-0.080	-0.709	0.846	-0.032***
Total Assets	70,200	259,292	372.653	15.534	494,929	-

Table 2. CEO Turnover and Cross-listing: One-year Lagged Earnings Ratio

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance measured by Lagged Earnings Ratio (one-year lagged ratio of earnings before interest and taxes to total assets). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)	(3)	(4)
Log Assets	0.024*** [10.142]	0.024*** [10.139]	0.024*** [10.284]	0.023*** [9.918]
Lagged Earnings Ratio	-0.002 [-1.475]	-0.002 [-1.402]	-0.002 [-1.462]	-0.002 [-1.570]
L2/3	0.083** [2.385]	-	-	0.085** [2.436]
L2/3 * Lagged Earnings Ratio	-0.317** [-1.982]	-	-	-0.316** [-1.977]
L1	-	0.038 [1.103]	-	0.041 [1.183]
L1 * Lagged Earnings Ratio	-	-0.104 [-0.387]	-	-0.104 [-0.387]
R144A	-	-	0.037 [0.529]	0.042 [0.593]
R144A * Lagged Earnings Ratio	-	-	-0.332 [-0.623]	-0.337 [-0.633]
Constant	-0.912*** [-3.266]	-0.873*** [-3.108]	-0.875*** [-3.119]	-0.908*** [-3.254]
Country Effects	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	70,200	70,200	70,200	70,200
Pseudo R-squared	0.026	0.026	0.026	0.026
<i>Mean Interaction Effect for L23*Lagged Earnings Ratio</i>	<i>-0.081** [-1.979]</i>	<i>-</i>	<i>-</i>	<i>-0.081** [-1.973]</i>
<i>Mean Interaction Effect for L1*Lagged Earnings Ratio</i>	<i>-</i>	<i>-0.026 [-0.386]</i>	<i>-</i>	<i>-0.026 [-0.387]</i>
<i>Mean Interaction Effect for R144 *Lagged Earnings Ratio</i>	<i>-</i>	<i>-</i>	<i>-0.081 [-0.616]</i>	<i>-0.082 [-0.626]</i>

Table 3. CEO Turnover and Cross-listing: One-year Lagged Excess Returns

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance measured by Lagged Excess Returns (one-year lagged total stock returns in excess of the country average returns). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)	(3)	(4)
Log Assets	0.026*** [9.929]	0.026*** [9.799]	0.027*** [10.183]	0.026*** [9.520]
Lagged Excess Returns	-0.020 [-1.500]	-0.024* [-1.649]	-0.023* [-1.661]	-0.022 [-1.514]
L2/3	0.046 [1.327]	-	-	0.052 [1.491]
L2/3 * Lagged Excess Returns	-0.091** [-2.013]	-	-	-0.088* [-1.933]
L1	-	0.072** [2.263]	-	0.076** [2.364]
L1 * Lagged Excess Returns	-	0.019 [1.165]	-	0.017 [1.031]
R144A	-	-	-0.017 [-0.261]	-0.008 [-0.128]
R144A * Lagged Excess Returns	-	-	0.042 [0.812]	0.039 [0.758]
Constant	-1.271*** [-3.667]	-1.228*** [-3.486]	-1.243*** [-3.530]	-1.258*** [-3.635]
Country Effects	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Observations	53,451	53,451	53,451	53,451
Pseudo R-squared	0.022	0.022	0.022	0.022
<i>Mean Interaction Effect for L23* Lagged Excess Returns</i>	<i>-0.023** [-2.014]</i>	<i>-</i>	<i>-</i>	<i>-0.022* [-1.944]</i>
<i>Mean Interaction Effect for L1* Lagged Excess Returns</i>	<i>-</i>	<i>0.004 [1.113]</i>	<i>-</i>	<i>0.004 [0.981]</i>
<i>Mean Interaction Effect for R144 * Lagged Excess Returns</i>	<i>-</i>	<i>-</i>	<i>0.010 [0.817]</i>	<i>0.009 [0.759]</i>

Table 4. CEO Turnover, Cross-listing, and Legal Environment: One-year Lagged Earnings Ratio

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance under various measures of country legal environment. The firm performance is measured by Lagged Earnings Ratio, which is the one-year lagged ratio of earnings before interest and taxes to total assets. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Civil Law	Common Law	Low Disclosure	High Disclosure	Low Anti Director Rights	High Anti Director Rights
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	0.020*** [6.733]	0.030*** [7.869]	0.022*** [7.740]	0.025*** [6.091]	0.020*** [7.241]	0.032*** [7.647]
Lagged Earnings Ratio	-0.001** [-2.408]	-0.254*** [-6.620]	-0.001* [-1.719]	-0.003 [-0.441]	-0.001** [-2.263]	-0.322*** [-6.613]
L2/3	0.078 [1.289]	0.092** [2.135]	0.061 [1.095]	0.116** [2.504]	0.044 [0.799]	0.118** [2.570]
L2/3 * Lagged Earnings Ratio	-1.378*** [-3.355]	0.097 [0.536]	-0.954*** [-2.660]	-0.143 [-0.785]	-0.991*** [-2.868]	0.148 [0.791]
L1	0.070 [1.622]	0.003 [0.053]	0.030 [0.803]	0.056 [0.851]	0.034 [0.908]	0.029 [0.387]
L1 * Lagged Earnings Ratio	-0.371 [-0.706]	0.170 [0.557]	-0.069 [-0.199]	-0.133 [-0.378]	-0.114 [-0.337]	0.184 [0.498]
R144A	0.043 [0.553]	-0.016 [-0.097]	0.072 [0.874]	-0.050 [-0.338]	0.058 [0.734]	-0.055 [-0.323]
R144A * Lagged Earnings Ratio	-0.696 [-1.072]	0.551 [0.494]	-0.493 [-0.774]	0.181 [0.175]	-0.650 [-0.998]	0.577 [0.511]
Constant	-0.857*** [-2.989]	-0.759** [-2.107]	-0.892*** [-3.077]	-1.106*** [-3.603]	-0.988*** [-3.462]	-0.909*** [-2.861]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	43,962	26,234	47,189	22,983	51,320	18,792
Pseudo R-squared	0.033	0.022	0.032	0.019	0.030	0.026
<i>Mean Interaction Effect for L23*Lagged Earnings Ratio</i>	<i>-0.335*** [-3.272]</i>	<i>0.019 [0.416]</i>	<i>-0.232** [-2.605]</i>	<i>-0.037 [-0.789]</i>	<i>-0.238*** [-2.816]</i>	<i>0.029 [0.607]</i>
<i>Mean Interaction Effect for L1*Lagged Earnings Ratio</i>	<i>-0.094 [-0.706]</i>	<i>0.040 [0.547]</i>	<i>-0.017 [-0.199]</i>	<i>-0.033 [-0.375]</i>	<i>-0.028 [-0.337]</i>	<i>0.042 [0.463]</i>
<i>Mean Interaction Effect for R144*Lagged Earnings Ratio</i>	<i>-0.169 [-1.069]</i>	<i>0.129 [0.503]</i>	<i>-0.116 [-0.789]</i>	<i>0.041 [0.177]</i>	<i>-0.160 [-0.994]</i>	<i>0.132 [0.529]</i>

Table 5. CEO Turnover, Cross-listing, and Legal Environment: One-year Lagged Excess Returns

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance under various measures of country legal environment. The firm performance is measured by Lagged Excess Returns, which is the one-year lagged total stock returns in excess of the country average returns. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Civil Law	Common Law	Low Disclosure	High Disclosure	Low Anti Director Rights	High Anti Director Rights
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	0.021*** [6.119]	0.034*** [7.582]	0.022*** [6.664]	0.033*** [7.046]	0.022*** [6.850]	0.035*** [7.094]
Lagged Excess Returns	-0.011 [-0.887]	-0.092*** [-3.784]	-0.013 [-1.029]	-0.081*** [-3.198]	-0.016 [-1.161]	-0.087*** [-2.910]
L2/3	-0.014 [-0.242]	0.083* [1.845]	0.001 [0.023]	0.105** [2.142]	-0.014 [-0.272]	0.111** [2.281]
L2/3 * Lagged Excess Returns	-0.167*** [-2.825]	0.045 [0.643]	-0.139** [-2.440]	0.033 [0.445]	-0.138** [-2.407]	0.032 [0.420]
L1	0.039 [0.899]	0.114** [2.367]	0.045 [1.151]	0.129** [2.331]	0.033 [0.884]	0.156*** [2.601]
L1 * Lagged Excess Returns	0.007 [0.503]	0.089 [1.038]	0.005 [0.344]	0.121 [1.321]	0.012 [0.811]	0.050 [0.482]
R144A	-0.028 [-0.323]	0.013 [0.139]	0.004 [0.042]	-0.039 [-0.396]	-0.014 [-0.162]	-0.002 [-0.022]
R144A * Lagged Excess Returns	0.015 [0.283]	0.208 [1.480]	0.026 [0.493]	0.131 [0.958]	0.029 [0.551]	0.130 [0.854]
Constant	-1.120*** [-3.122]	-1.996*** [-3.742]	-1.192*** [-3.306]	-1.095*** [-3.129]	-1.313*** [-3.618]	-1.265*** [-3.691]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	34,177	19,270	36,403	17,039	39,219	14,180
Pseudo R-squared	0.024	0.026	0.025	0.024	0.024	0.028
<i>Mean Interaction Effect for L23 *Lagged Excess Returns</i>	<i>-0.039*** [-2.720]</i>	<i>0.009 [0.545]</i>	<i>-0.033** [-2.378]</i>	<i>0.006 [0.342]</i>	<i>-0.032** [-2.345]</i>	<i>0.006 [0.309]</i>
<i>Mean Interaction Effect for L1 *Lagged Excess Returns</i>	<i>0.002 [0.485]</i>	<i>0.020 [0.930]</i>	<i>0.001 [0.313]</i>	<i>0.029 [1.220]</i>	<i>0.003 [0.809]</i>	<i>0.010 [0.371]</i>
<i>Mean Interaction Effect for R144 *Lagged Excess Returns</i>	<i>0.003 [0.288]</i>	<i>0.047 [1.476]</i>	<i>0.006 [0.491]</i>	<i>0.029 [0.931]</i>	<i>0.007 [0.551]</i>	<i>0.029 [0.852]</i>

Table 6. CEO Turnover and Cross-listing: Firms with a Cross-Listing of Same Type

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance for firms that have or will have a similar type of ADR program during the sample period. The sample in columns 1-4 is limited to firms that have or will have listed on a major U.S. exchange during our sample period. Similarly, the samples in columns 5-8 and 9-12 restrict the sample to firms that list on the OTC market and issue private placements via Rule 144a anytime during our sample period, respectively. Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. This classification of legal regimes is obtained from LLSV (1997, 1998). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Exchange-Traded ADRs		OTC-Traded ADRs		Private Placements	
	Civil Law	Common Law	Civil Law	Common Law	Civil Law	Common Law
	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	-0.012 [-0.585]	0.023 [1.497]	-0.002 [-0.092]	0.025* [1.658]	0.146*** [3.093]	0.122** [2.299]
Lagged Earnings Ratio	1.556 [1.054]	-0.150 [-0.575]	-0.022 [-0.744]	-0.145 [-0.999]	-0.856 [-0.686]	-2.495 [-0.668]
L2/3	0.652*** [3.502]	0.048 [0.503]	-	-	-	-
L2/3 * Lagged Earnings Ratio	-3.223** [-2.123]	0.064 [0.204]	-	-	-	-
L1	-	-	0.196 [1.619]	0.013 [0.130]	-	-
L1 * Lagged Earnings Ratio	-	-	-0.157 [-0.282]	0.196 [0.541]	-	-
R144A	-	-	-	-	0.190 [0.873]	-0.714 [-1.575]
R144A * Lagged Earnings Ratio	-	-	-	-	0.456 [0.296]	3.144 [0.796]
Constant	-0.012 [-0.585]	0.023 [1.497]	-0.002 [-0.092]	0.025* [1.658]	0.146*** [3.093]	0.122** [2.299]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	782	1,676	1,676	1,859	551	367
Pseudo R-squared	0.145	0.057	0.053	0.065	0.237	0.171
<i>Mean Interaction Effect</i>	<i>-0.674*</i> <i>[-1.861]</i>	<i>0.017</i> <i>[0.189]</i>	<i>-0.039</i> <i>[-0.288]</i>	<i>0.048</i> <i>[0.528]</i>	<i>0.087</i> <i>[0.189]</i>	<i>0.819</i> <i>[0.748]</i>

Table 7. CEO Turnover Prior to Cross-Listing

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance under various legal environments prior to cross-listing. Observations for cross-listed firms from the cross-listing year on are excluded. Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Civil Law	Common Law	Low Disclosure	High Disclosure	Low Anti Director Rights	High Anti Director Rights
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	0.022*** [7.072]	0.029*** [7.227]	0.024*** [7.965]	0.023*** [5.443]	0.021*** [7.371]	0.032*** [7.045]
Lagged Earnings Ratio	-0.001** [-2.296]	-0.263*** [-6.558]	-0.001* [-1.748]	-0.003 [-0.502]	-0.001** [-2.226]	-0.347*** [-6.713]
Before L2/3	-0.315 [-1.571]	0.042 [0.487]	-0.276 [-1.569]	0.068 [0.792]	-0.326* [-1.808]	0.082 [0.968]
Before L2/3 * Lagged Earnings Ratio	2.749 [1.495]	0.014 [0.054]	1.386 [0.832]	-0.075 [-0.292]	1.517 [0.877]	0.123 [0.463]
Before L1	-0.166 [-1.376]	-0.040 [-0.598]	-0.024 [-0.212]	-0.068 [-1.012]	-0.006 [-0.057]	-0.100 [-1.447]
Before L1 * Lagged Earnings Ratio	0.046** [2.437]	0.114 [0.818]	-0.001 [-0.023]	-0.114 [-0.712]	-0.006 [-0.123]	0.155 [0.944]
Before R144A	-0.294* [-1.862]	0.351 [1.121]	-0.241 [-1.587]	0.123 [0.388]	-0.245 [-1.628]	0.145 [0.415]
Before R144A * Lagged Earnings Ratio	-0.001 [-1.126]	-1.160 [-0.478]	-0.001 [-0.565]	-0.607 [-0.302]	-0.001 [-0.947]	0.243 [0.106]
Constant	-0.929** [-2.029]	-1.543*** [-2.889]	-0.971** [-2.096]	-0.801** [-2.467]	-1.052** [-2.299]	-0.942*** [-2.889]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	41,500	23,406	44,310	20,572	48,253	16,573
Pseudo R-squared	0.033	0.021	0.032	0.018	0.030	0.025
<i>Mean Interaction Effect for Before L23*Lagged Earnings Ratio</i>	<i>0.546 [1.467]</i>	<i>0.001 [0.012]</i>	<i>0.246 [0.891]</i>	<i>-0.019 [-0.294]</i>	<i>0.276 [0.860]</i>	<i>0.024 [0.359]</i>
<i>Mean Interaction Effect for Before L1*Lagged Earnings Ratio</i>	<i>0.009*** [2.794]</i>	<i>0.028 [0.895]</i>	<i>-0.0003 [-0.022]</i>	<i>-0.024 [-0.717]</i>	<i>-0.001 [-0.123]</i>	<i>0.040 [1.162]</i>
<i>Mean Interaction Effect for Before R144 *Lagged Earnings Ratio</i>	<i>-0.0001 [-0.362]</i>	<i>-0.350 [-0.486]</i>	<i>-0.00002 [-0.092]</i>	<i>-0.154 [-0.291]</i>	<i>-0.0001 [-0.336]</i>	<i>0.067 [0.132]</i>

Table 8. CEO Turnover and Cross-listing on the London Stock Exchange

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance under various legal environments for non-UK firms cross-listed in the London Stock Exchange. The U.K. firms are excluded from the sample. The sample includes firms listed on the LSE, including 1 from Argentina, 3 from Australia, 8 from Canada, 1 from Denmark, 2 from France, 7 from Germany, 7 from Greece, 5 from Hong Kong, 13 from India, 2 from Indonesia, 26 from Ireland, 7 from Israel, 19 from Japan, 2 from Korea, 1 from Malaysia, 3 from Netherlands, 2 from Norway, 7 from South Africa, 2 from Spain, 4 from Sweden, 2 from Switzerland, 7 from Taiwan, 4 from Turkey, 33 from the United States, and 1 from Zimbabwe for a total of 905 firm-year observations. LSE Listing dummy is one if the firm's shares are traded on the London Stock Exchange. Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Log Assets is the natural log of total assets measured in million \$U.S. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Full Sample (1)	Civil Law (2)	Common Law (3)	Low Disclosure (4)	High Disclosure (5)	Low Anti Director Rights (6)	High Anti Director Rights (7)
Log Assets	0.021*** [9.849]	0.020*** [6.837]	0.023*** [7.653]	0.022*** [7.885]	0.018*** [5.845]	0.020*** [7.330]	0.023*** [7.091]
Lagged Earnings Ratio	-0.002 [-1.256]	-0.001** [-2.257]	-0.213*** [-6.602]	-0.002 [-1.564]	-0.004 [-0.538]	-0.001** [-2.111]	-0.238*** [-6.332]
LSE Listing	0.022 [0.318]	0.153 [1.161]	-0.034 [-0.404]	0.095 [0.927]	-0.031 [-0.322]	0.095 [0.925]	-0.049 [-0.513]
LSE Listing * Lagged Earnings Ratio	-0.249 [-0.661]	-0.893 [-0.673]	-0.018 [-0.048]	-0.544 [-0.701]	-0.124 [-0.340]	-0.520 [-0.673]	0.084 [0.228]
Constant	-1.027*** [-3.809]	-0.787*** [-2.704]	-1.060*** [-3.536]	-0.854*** [-2.921]	-1.202*** [-5.232]	-0.959*** [-3.335]	-1.303*** [-5.419]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	82,909	43,962	38,941	47,189	35,707	51,320	31,579
Pseudo R-squared	0.027	0.033	0.023	0.032	0.020	0.030	0.022
<i>Mean Interaction Effect</i>	<i>-0.065</i> <i>[-0.527]</i>	<i>-0.237</i> <i>[-0.197]</i>	<i>-0.003</i> <i>[-0.104]</i>	<i>-0.139</i> <i>[-0.293]</i>	<i>-0.034</i> <i>[-0.474]</i>	<i>-0.032</i> <i>[-0.187]</i>	<i>-0.019</i> <i>[-0.343]</i>

Table 9. CEO Turnover and Cross-listing: Excluding the U.K. and Japan

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance under various legal environments. Firms located in Japan and the United Kingdom are excluded. Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Civil Law	Common Law	Low Disclosure	High Disclosure	Low Anti Director Rights	High Anti Director Rights
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	0.022*** [5.447]	0.026*** [5.073]	0.025*** [6.627]	0.019*** [3.175]	0.021*** [5.914]	0.030*** [4.558]
Lagged Earnings Ratio	-0.001** [-2.212]	-0.225*** [-4.683]	-0.001* [-1.746]	-0.0003 [0.053]	-0.001** [-2.174]	-0.332*** [-4.311]
L2/3	0.079 [1.155]	0.041 [0.807]	0.059 [0.959]	0.048 [0.844]	0.038 [0.621]	0.067 [1.194]
L2/3 * Lagged Earnings Ratio	-1.326*** [-3.280]	-0.007 [-0.034]	-0.914** [-2.537]	-0.246 [-1.230]	-0.948*** [-2.741]	0.050 [0.238]
L1	-0.031 [-0.363]	-0.049 [-0.777]	-0.078 [-1.263]	-0.011 [-0.138]	-0.054 [-0.923]	-0.070 [-0.729]
L1 * Lagged Earnings Ratio	-0.127 [-0.201]	0.396 [1.168]	0.019 [0.049]	0.303 [0.664]	-0.025 [-0.069]	0.661 [1.325]
R144A	0.046 [0.583]	-0.026 [-0.148]	0.069 [0.827]	-0.042 [-0.274]	0.059 [0.743]	-0.079 [-0.432]
R144A * Lagged Earnings Ratio	-0.631 [-0.979]	-0.176 [-0.137]	-0.415 [-0.653]	-0.965 [-0.867]	-0.590 [-0.915]	-0.160 [-0.130]
Constant	-0.782* [-1.929]	-1.493*** [-2.988]	-0.925** [-2.326]	-0.936** [-2.384]	-1.143*** [-2.832]	-0.500 [-1.204]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,944	16,245	26,170	13,009	30,305	8,822
Pseudo R-squared	0.050	0.024	0.048	0.023	0.042	0.035
<i>Mean Interaction Effect for L23 *Lagged Earnings Ratio</i>	<i>-0.492*** [-2.982]</i>	<i>-0.004 [-0.082]</i>	<i>-0.233** [-2.479]</i>	<i>-0.062 [-1.240]</i>	<i>-0.236*** [-2.682]</i>	<i>0.008 [0.148]</i>
<i>Mean Interaction Effect for L1 *Lagged Earnings Ratio</i>	<i>-0.048 [-0.203]</i>	<i>0.094 [1.190]</i>	<i>0.005 [0.055]</i>	<i>0.074 [0.667]</i>	<i>-0.007 [-0.071]</i>	<i>0.158 [1.328]</i>
<i>Mean Interaction Effect for R144 *Lagged Earnings Ratio</i>	<i>-0.237 [-0.979]</i>	<i>-0.039 [-0.127]</i>	<i>-0.109 [-0.649]</i>	<i>-0.214 [-0.833]</i>	<i>-0.145 [-0.942]</i>	<i>-0.029 [-0.103]</i>

Table 10. CEO Turnover and Cross-listing: Excluding the Cross-listing Year

This table presents the Probit estimates of the relationship between the probability of CEO turnover and firm performance under various legal environments. The cross-listing year observations of cross-listed firms are excluded. Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Civil Law	Common Law	Low Disclosure	High Disclosure	Low Anti Director Rights	High Anti Director Rights
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	0.021*** [6.852]	0.030*** [7.865]	0.023*** [7.855]	0.025*** [6.097]	0.021*** [7.369]	0.032*** [7.640]
Lagged Earnings Ratio	-0.001** [-2.400]	-0.255*** [-6.646]	-0.001* [-1.708]	-0.003 [0.460]	-0.001** [-2.255]	-0.323*** [-6.634]
L2/3	0.051 [0.829]	0.103** [2.327]	0.043 [0.747]	0.127*** [2.689]	0.025 [0.430]	0.129*** [2.773]
L2/3 * Lagged Earnings Ratio	-1.377*** [-3.282]	0.114 [0.620]	-0.938** [-2.576]	-0.124 [-0.667]	-0.982*** [-2.808]	0.169 [0.881]
L1	0.076* [1.724]	-0.021 [-0.365]	0.034 [0.871]	0.030 [0.445]	0.037 [0.986]	-0.006 [-0.083]
L1 * Lagged Earnings Ratio	-0.374 [-0.688]	0.240 [0.818]	-0.099 [-0.281]	-0.018 [-0.049]	-0.162 [-0.469]	0.323 [0.847]
R144A	0.063 [0.772]	-0.023 [-0.135]	0.099 [1.156]	-0.074 [-0.480]	0.082 [1.011]	-0.079 [-0.446]
R144A * Lagged Earnings Ratio	-0.797 [-1.365]	0.873 [0.726]	-0.624 [-1.067]	0.651 [0.593]	-0.752 [-1.274]	0.987 [0.818]
Constant	-0.831*** [-2.865]	-0.755** [-2.091]	-0.931*** [-3.241]	-1.113*** [-3.623]	-0.988*** [-3.460]	-1.176*** [-3.805]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	43,832	26,060	47,041	22,827	51,160	18,649
Pseudo R-squared	0.033	0.022	0.032	0.019	0.030	0.026
<i>Mean Interaction Effect for L23 *Lagged Earnings Ratio</i>	<i>-0.327*** [-3.206]</i>	<i>0.023 [0.489]</i>	<i>-0.225** [-2.528]</i>	<i>-0.033 [-0.673]</i>	<i>-0.231*** [-2.750]</i>	<i>0.034 [0.680]</i>
<i>Mean Interaction Effect for L1 *Lagged Earnings Ratio</i>	<i>-0.095 [-0.688]</i>	<i>0.055 [0.821]</i>	<i>-0.025 [-0.287]</i>	<i>-0.004 [-0.047]</i>	<i>-0.040 [-0.471]</i>	<i>0.076 [0.864]</i>
<i>Mean Interaction Effect for R144 *Lagged Earnings Ratio</i>	<i>-0.196 [-1.352]</i>	<i>0.205 [0.745]</i>	<i>-0.159 [-1.046]</i>	<i>0.146 [0.608]</i>	<i>-0.189 [-1.268]</i>	<i>0.225 [0.856]</i>

Table 11. CEO Turnover and Cross-listing: Relative Industry Performance

This table presents the Probit estimates of the relationship between the probability of CEO turnover and industry-adjusted firm performance under various legal environments. Adjusted Lagged Earnings Ratio is the one-year lagged ratio of earnings before interest and taxes to total assets minus the median value of the corresponding two-digit SIC global industry. Civil Law sample includes firms located in countries with a French, German, or Scandinavian legal system. Common Law sample refers to firms located in countries with the English legal origin. Disclosure is an index of disclosure requirements regarding director compensation policy, ownership structure, and prospectus disclosures for security listing, transactions with related parties, and contracts outside the normal course of business. Anti-director rights index measures the degree of minority shareholder protection. All these country-level indices are obtained from LLSV (1997, 1998) and LLS (2006). The sample medians of 0.75 for disclosure index and 4 for antidirector rights are used to group firms into high vs. low investor protection regimes (lower than or equal to the median refers to low governance subsamples). Level 2/3 dummy is one if the firm has a Level 2 or Level 3 ADR program, zero otherwise. Level 1 dummy is one if the firm has a Level 1 ADR program, zero otherwise. Rule 144A dummy is one if the firm has a Rule 144A issuance, zero otherwise. Log Assets is the natural log of total assets measured in million \$US. The continuous variables are winsorized at the one percent level for each country. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy using the methodology of Norton, Wang, and Ai (2004). The z-statistics appear in parentheses below parameter estimates. Robust standard errors are estimated using Rogers method of clustering by firm. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Civil Law	Common Law	Low Disclosure	High Disclosure	Low Anti Director Rights	High Anti Director Rights
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Assets	0.021*** [7.557]	0.026*** [7.269]	0.022*** [8.351]	0.021*** [5.506]	0.021*** [7.998]	0.028*** [6.893]
Adjusted Lagged Earnings Ratio	-0.001** [-2.442]	-0.282*** [-7.354]	-0.001* [-1.740]	-0.004 [-0.509]	-0.001** [-2.224]	-0.347*** [-7.208]
L2/3	0.058 [1.007]	0.149*** [3.403]	0.059 [1.122]	0.156*** [3.319]	0.045 [0.835]	0.168*** [3.636]
L2/3 * Adjusted Lagged Earnings Ratio	-1.545*** [-3.728]	0.105 [0.575]	-1.073*** [-3.001]	-0.178 [-0.969]	-1.125*** [-3.247]	0.152 [0.799]
L1	0.049 [1.256]	0.035 [0.667]	0.036 [0.984]	0.057 [0.928]	0.035 [0.989]	0.064 [0.937]
L1 * Adjusted Lagged Earnings Ratio	-0.398 [-0.746]	0.264 [0.782]	-0.067 [-0.187]	-0.063 [-0.166]	-0.110 [-0.313]	0.273 [0.687]
R144A	0.021 [0.288]	0.014 [0.119]	0.063 [0.861]	-0.036 [-0.329]	0.041 [0.570]	-0.046 [-0.385]
R144A * Adjusted Lagged Earnings Ratio	-0.676 [-1.006]	0.692 [0.573]	-0.556 [-0.838]	0.302 [0.264]	-0.716 [-1.064]	1.101 [0.907]
Constant	-0.822*** [-3.484]	-1.523*** [-4.387]	-0.822*** [-3.515]	-1.074*** [-11.311]	-0.821*** [-3.519]	-1.131*** [-10.597]
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects (Two-digit SIC)	No	No	No	No	No	No
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	43,972	26,237	47,206	23,003	51,335	18,874
Pseudo R-squared	0.030	0.015	0.029	0.012	0.027	0.018
<i>Mean Interaction Effect for L23*Adjusted Lagged Earnings Ratio</i>	<i>-0.395*** [-3.692]</i>	<i>0.018 [0.025]</i>	<i>-0.274*** [-2.978]</i>	<i>-0.049 [-0.149]</i>	<i>-0.284*** [-3.227]</i>	<i>0.028 [0.549]</i>
<i>Mean Interaction Effect for L1*Adjusted Lagged Earnings Ratio</i>	<i>-0.101 [-0.748]</i>	<i>0.064 [0.790]</i>	<i>-0.017 [-0.191]</i>	<i>-0.016 [-0.168]</i>	<i>-0.027 [-0.307]</i>	<i>0.067 [0.691]</i>
<i>Mean Interaction Effect for R144*Adjusted Lagged Earnings Ratio</i>	<i>-0.167 [-1.006]</i>	<i>0.162 [0.585]</i>	<i>-0.142 [-0.835]</i>	<i>0.068 [0.087]</i>	<i>-0.180 [-1.065]</i>	<i>0.247 [0.950]</i>

Figure 1. The Economic Significance of the Impact of Cross-listing on the Relationship between CEO Turnover and Firm Performance

The following graphs display the interaction effects and corresponding z-statistics on the interaction variable between the respective cross-listed dummy and firm performance measure reported in Tables 2 and 3, columns 1-3, respectively, estimated using Norton, Wang, and Ai (2004). The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the respective cross-listed dummy. Panel A plots the graphs associated with the Lagged Earnings ratio measure and Panel B shows the graphs for the Lagged Excess Returns measure. The red lines on the figures located on the left side represent the five percent significance levels (± 1.96).

Panel A. Lagged Earnings Ratio

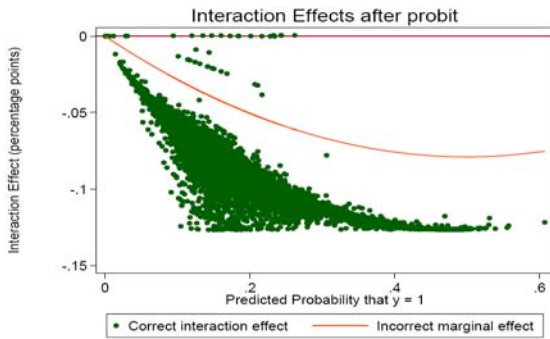


Figure a. L 2/3 * Lagged Earnings Ratio

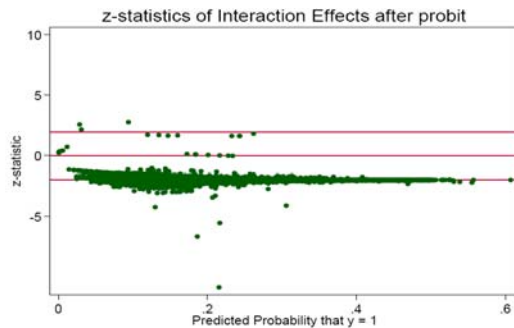


Figure b. L2/3 * Lagged Earnings Ratio

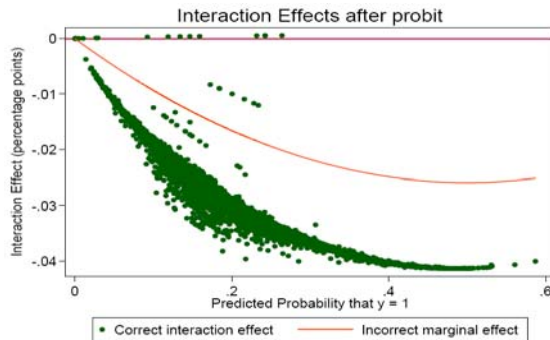


Figure c. L 1 * Lagged Earnings Ratio

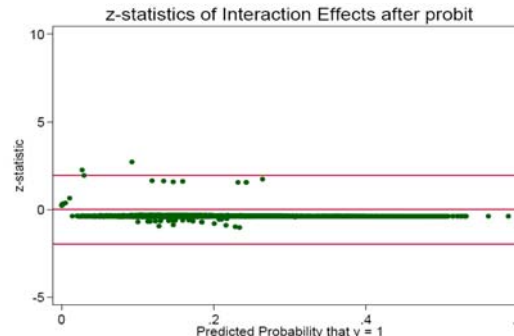


Figure d. L 1 * Lagged Earnings Ratio

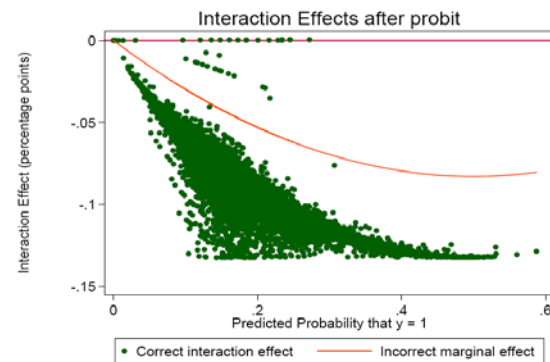


Figure e. R144A * Lagged Earnings Ratio

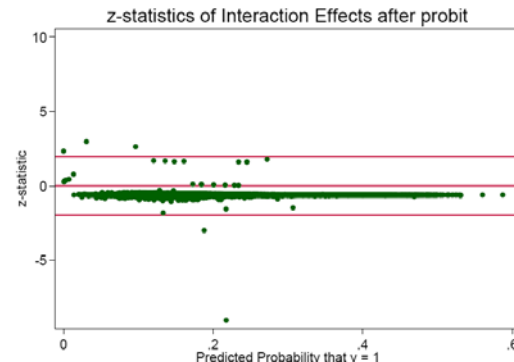


Figure f. R144A * Lagged Earnings Ratio

Panel B. Lagged Excess Returns

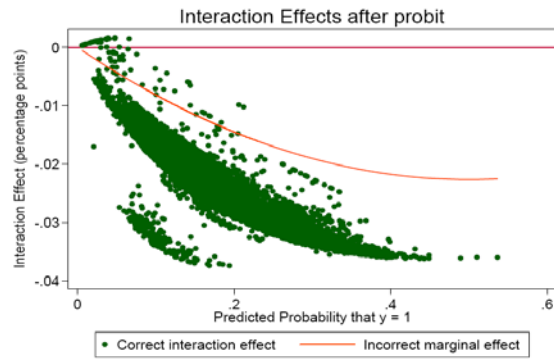


Figure a. L 2/3 * Lagged Excess Returns

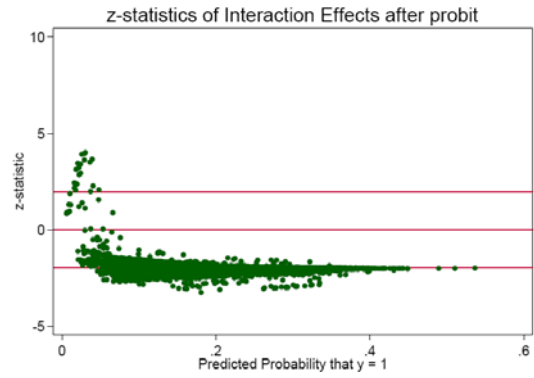


Figure b. L 2/3 * Lagged Excess Returns

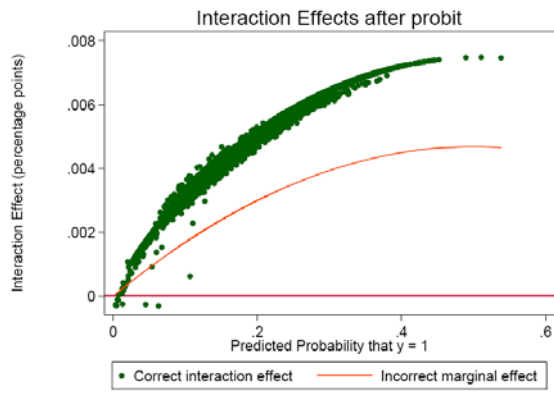


Figure c. L 1 * Lagged Excess Returns

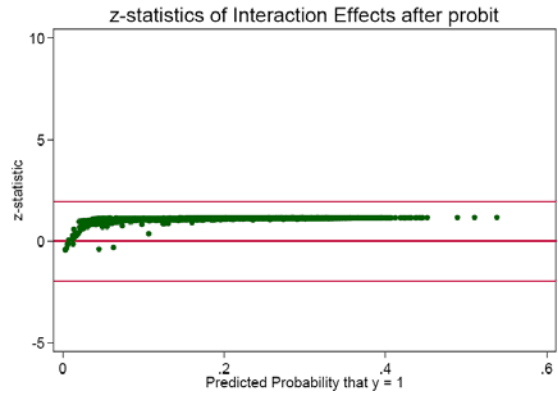


Figure d. L 1 * Lagged Excess Returns

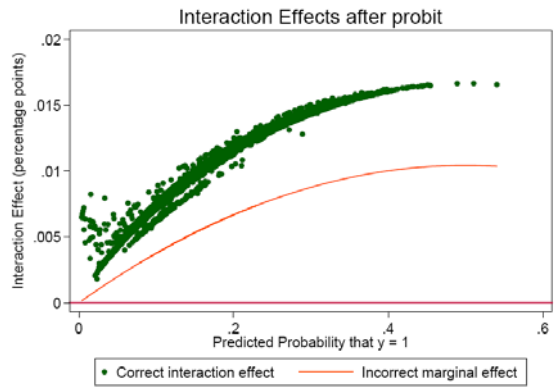


Figure e. R144A * Lagged Excess Returns

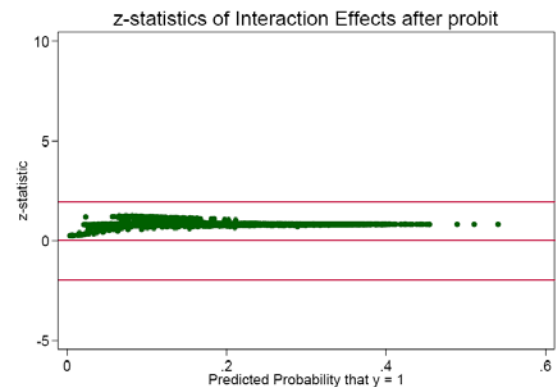


Figure f. R144A * Lagged Excess Returns

Appendix 1. Titles Used to Identify the Top Manager in Addition to Chief Executive Officer

This table presents the top manager title for each country in the sample other than “CEO”, “Chief Executive Officer”, and “Chief Executive”. When available, we use the top manager titles used by DeFond and Hung (2004) and Gibson (2003) to identify the top manager. For the remaining countries, we use press accounts, country experts’ opinions, and also visually inspect executive titles of firms in each country to determine the top manager title. We exclude the top manager titles that contain deputy, vice, or assistant. † refers to the top manager title classification in either DeFond and Hung (2004) or Gibson (2003).

Country	Top Manager Title
Argentina	President
Australia	Managing Director†
Austria	Chairman, Board of Management†
Belgium	Managing Director†
Brazil	President†
Canada	None†
Chile	General Manager†
Colombia	General Manager
Denmark	Managing Director†
Finland	Managing Director†
France	None†
Germany	Chairman, Board of Management†
Greece	Managing Director†
Hong Kong	Managing Director†
India	Managing Director†
Indonesia	President Director†
Ireland	Managing Director
Israel	President
Italy	Managing Director†
Japan	President†
Korea	President†
Malaysia	Managing Director†
Mexico	President†
Netherlands	Chairman, Board of Management†
New Zealand	Managing Director
Norway	President†
Pakistan	Managing Director†
Peru	General Manager
Philippines	President†
Portugal	President†
Singapore	Managing Director†
South Africa	Managing Director†
Spain	Managing Director†
Sri Lanka	Managing Director
Sweden	Managing Director†
Switzerland	President
Taiwan	President†
Thailand	President†
Turkey	General Manager†
United Kingdom	Managing Director†
United States	None†
Venezuela	President
Zimbabwe	Managing Director

Appendix 2. Country-Level Data Used in the Analysis

Country	Common Law	Anti-Director Rights	Disclosure Index
Argentina	0	4	0.500
Australia	1	4	0.750
Austria	0	2	0.250
Belgium	0	0	0.417
Brazil	0	3	0.250
Canada	1	5	0.917
Chile	0	5	0.583
Colombia	0	3	0.417
Denmark	0	2	0.583
Finland	0	3	0.500
France	0	3	0.750
Germany	0	1	0.417
Greece	0	2	0.333
Hong Kong	1	5	0.917
India	1	5	0.917
Indonesia	0	2	0.500
Ireland	1	4	0.667
Israel	1	3	0.667
Italy	0	1	0.667
Japan	0	4	0.750
Korea	0	2	0.750
Malaysia	1	4	0.917
Mexico	0	1	0.583
Netherlands	0	2	0.500
New Zealand	1	4	0.667
Norway	0	4	0.583
Pakistan	1	5	0.583
Peru	0	3	0.333
Philippines	0	3	0.833
Portugal	0	3	0.417
Singapore	1	4	1.000
South Africa	1	5	0.833
Spain	0	4	0.500
Sri Lanka	1	3	0.750
Sweden	0	3	0.583
Switzerland	0	2	0.667
Taiwan	0	3	0.750
Thailand	1	2	0.917
Turkey	0	2	0.500
United Kingdom	1	5	0.833
United States	1	5	1.000
Venezuela	0	1	0.167
Zimbabwe	1	3	0.500