Explaining top management turnover in private corporations: The role of cross-country legal institutions and capital market forces

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Abstract

We investigate private firms' ability to identify and replace poorly performing managers. We document three main findings. First, private firms are more likely to retain poorly performing managers in countries where legal institutions that protect minority investors are weak. Second, private firms are more likely to retain poorly performing managers than public firms in countries where governance mechanisms inherent in public equity markets limit managerial entrenchment in public firms. Moreover, private firm managers are equally immune from replacement for poor performance as public firm managers in countries where governance mechanisms inherent in public equity markets are weak. Third, private firm managers are less likely to be replaced even when poor performance continues for relatively long horizon. Overall, our findings support theoretical predictions that top managers of private firms are often entrenched and provide new evidence on the potential vulnerability of minority investors in private firms.

The ability to identify and replace poorly performing managers is a cornerstone of good corporate governance. For public firms, a large international literature shows that top management turnover is less likely to be associated with poor performance in countries with weak legal institutions (see, e.g., Volpin, 2002; Gibson, 2003; DeFond and Hung, 2003; Lel and Miller, 2008; Aggarwal, Erel, Ferreira, and Matos 2011). These findings underscore the role that weak legal institutions play in allowing entrenched managers to extract private benefits from minority shareholders and thus shape the quality of corporate governance of public firms. For private firms, however, little is known about their ability to identify and replace poorly performing managers in general and, to the best of our knowledge, no prior evidence exists on whether legal institutions impact top management turnover.[1] This deficiency in the literature is economically important, since private firms make up the vast majority of corporations in both strong and weak investor protection countries.[2]

In this paper, we attempt to fill the gap in the literature by addressing two important unanswered questions on potential managerial entrenchment in private firms: First, do legal institutions that protect minority shareholders impact the ability of private firms to identify and replace poorly performing managers? The answer to this question is not obvious. Since at least Berle and Means (1932), private firms have been viewed by some to have optimal corporate governance because of the perceived lack of separation of ownership and control that is common in public firms. Thus, legal institutions may have no impact on managerial turnover in private firms.[3] However, recent evidence shows that, in fact, private firms rely significantly on minority

[1] We follow existing literature and define poorly performing managers as those following non-profit maximizing objectives.
[2] The only published study that we are aware of is limited to U.S. firms (Gao, Harford and Li (2015)), whose findings we discuss on page 8.
[3] Section 1 of the paper details the role of legal institutions in explaining top management turnover in private firms.

investment from both institutional and individual investors who lack control rights.[4] This has led both theoreticians as well as legal scholars to argue that minority investors in private firms are vulnerable to expropriation by entrenched managers acting in controlling shareholders' interests (e.g., O'Neal,1987; Pagano and Roell, 1998; Nagar, Petroni, and Wolfenzon, 2011). Thus, legal institutions that protect minority investors may play a role in limiting managerial entrenchment in private firms. The potential vulnerability of minority investors in private firms has also been recognized by policy makers and intragovernmental organizations. For example, the Secretary-General of the OECD recently commissioned a report that notes (1) many corporate governance issues concerning non-listed companies remain unresolved and (2) more research is needed about the circumstances in which legal and regulatory mechanisms impact corporate governance in private firms. [5]

The second question we investigate is how top management turnover in private firms differs from top management turnover in public firms. This analysis is motivated by research that implies that private firms may be at a disadvantage to public firms in identifying and replacing poorly performing mangers since private firms are not subject to the capital market forces exerted by public equity markets that act as good governance mechanisms. For example, public equity markets can provide an assessment of managerial decisions through stock prices, thus disciplining value-destroying managers in public firms but not in private firms (Fama, 1980; Holmstrom and Tirole, 1993; Dow and Gorton, 1997; Subrahmanyam and Titman, 1999 and Edmans, 2009). In addition, public equity markets can provide managerial discipline by creating the danger of hostile

[4] For example, in 2013, over €53 billion was invested in European unlisted companies, with contributions by pension funds (40%), individuals (23%), sovereign wealth funds (11%) and insurance companies (11%) (Report of European Private Equity and Venture Capital Association, 2013). Nielsen (2008) also shows that institutional investors take significant minority positions in European unlisted companies. In the U.S., direct investment, rather than VC funding, also makes up the bulk of minority investment in private firms (Moskowitz and Vissing-Jørgensen, 2002).
[5] OECD,"Corporate Governance of Non-listed Companies in Emerging Markets", OECD Publishing (2006), Paris.

takeovers for public firms but not for private firms (e.g., Manne, 1965; Jensen, 1993 and Lel and Miller, 2015). Therefore, we investigate whether the cross-country variation in ability of public markets to incorporate firm specific information and facilitate takeovers can explain why top management turnover differs between private and public firms.

To answer these questions, we exploit the fact that across the European Union, unlisted firms face similar reporting requirements as listed firms (Burgstahler, Hail and Leuz, 2006). The requirement to report accounting statements and names of top managers allows us to construct a novel cross-country panel dataset of top management turnover for thousands of private firms as well as their public counterparts. Because basic financial data on private companies are largely unobservable in many countries, prior studies on top management turnover in private firms were limited to a single country (the U.S.) using atypical samples of private firms that are required to disclose, such as private firms that issue public bonds. Further, our tests take advantage of cross-country variations in the legal protection of minority investors, the strength of the takeover markets and the informativeness of equity prices.

Our first finding documents significant differences in ability of private firms to identify and replace poorly performing managers across countries. We further show that the strength of countries' legal institutions that protect minority shareholders explains these differences. For example, the sensitivity of top management turnover to performance is greatest in countries with English legal origin and in countries with strong laws that prevent self-dealing. Using a new index that measures the strength of the laws that require corporate transparency in private firms, we find greater transparency significantly increase sensitivity of top management turnover to performance. Taken together, the evidence shows that private firms are most likely to retain poorly performing

mangers when legal institutions that protect minority investors are the weakest, which provides new evidence on managerial entrenchment in private firms.

We next compare top management turnover of private firms to that of their public counterparts. We find private firms are equally likely to retain poorly performing managers as public firms in countries where governance mechanisms inherent in public equity markets are weak and public firm managers are entrenched. In contrast, in countries where public equity markets incorporate firm specific information and facilitate takeovers, private firms are more likely to retain poorly performing managers than public firms. These findings suggest that private firms are more likely to retain poorly performing managers than public firms because they are not exposed to the governance forces inherent in public equity markets. In addition, we find that the low turnover to performance sensitivity in private firms continues when performance measures are lagged up to three years, suggesting private firms retain poorly performing managers even at relatively long horizons. We also show the difference in top management turnover between public and private firms is unlikely to be due to selection of well-governed firms to go public or differences in earnings quality. These results provide further evidence that the low turnover to performance sensitivity in private firms is indicative of managerial entrenchment and minority shareholders in private firms are vulnerable to expropriation.

Our study makes several contributions to the literature. First, we contribute to the nascent literature that examines governance problems in private corporations (e.g. O'Neal, 1987; Pagano and Roell, 1998; Nielsen, 2008; Nagar, Petroni, and Wolfenzon, 2011). This literature suggests that minority shareholders in private firms may be especially vulnerable to expropriation since they lack both the power to oppose as well as the venue to liquidate their shares if they are negatively affected. Consistent with this literature, our results show that top management turnover

in private firms is more likely to be associated with poor performance in countries with strong legal institutions that protect minority investors. Further, by benchmarking the governance outcomes of private firms to their public counterparts, we are able to provide the first large sample cross-country evidence on differences in governance outcomes between the two dominant forms for organizing corporate investment around the world. This evidence establishes a new and important economic insight: Among public and private firms around the world, minority shareholders in private corporations are not necessarily better off than minority shareholders in public corporations. Moreover, this finding is not necessarily expected given the Berle and Means (1932) predictions.

Second, we contribute to the literature that examines the effect of cross-country institutional factors on top management turnover but is limited to public firms (e.g., Dahya, McConnell, and Travlos, 2002; Volpin, 2002; Gibson, 2003; DeFond and Hung, 2003; Lel and Miller, 2008; Aggarwal, Erel, Ferreira, and Matos (2011). By examining a large sample of private firms from many countries, we show that strong laws also serve to protect minority investors in private firms that often are the most economically important form of corporate investments in the economy. Our findings also extend the literature on the effects of better laws and institutions (e.g. La Porta et al., 1998) by showing their effects may be stronger than previously anticipated as they lead to improvements in the corporate governance practices of not only public but also private firms.

Our paper is also related to Gao, Harford and Li (2015) who examine top management turnover in the subset of large U.S. private firms that choose to disclose financial information.[6]

[6] For example, some large U.S. firms with unlisted equity choose to issue bonds in public markets. These hybrid firms with private equity and public debt must follow SEC rules and disclose in a similar fashion to U.S. public equity firms. See also Coles, Lemmon and Naveen (2003).

Gao, Harford and Li (2015) find U.S. public firms display a higher sensitivity of top manager turnover to performance than private firms. They interpret the lower sensitivity of top manager turnover to performance as evidence that private firms follow optimal profit-maximizing corporate policy and conclude that public firms replace managers too quickly. In contrast, our cross-country evidence provides a set of results that cast doubt on the assumption that private firms follow optimal corporate policy when replacing top managers. In particular, private firms are more likely to retain poorly performing managers in countries where minority-shareholder protections are the weakest and trail their public firm counterparts in countries where equity markets limit managerial entrenchment in public firms. Further, private firms are less likely to replace managers even when poor performance continues at relatively long horizons. Overall, our evidence suggests that top managers of private firms, like their public firm counterparts, are often entrenched.

Fourth, our paper contributes to the literature on the real effects of financial markets. For example, Burgstahler, Hail, and Leuz (2006) show that public equity markets exert a positive force on firms' reporting incentives and accounting quality. Edmans, Goldstein, and Jiang (2012) empirically identify a strong effect of market prices on takeover activity, thus showing that the market is not a sideshow but rather exerts a powerful disciplinary effect on management. We add to this literature by demonstrating that capital markets also exert forces that can explain why, in certain countries, private firms are less likely to replace poorly performing managers than public firms. Our results suggest that governance mechanisms inherent in public equity markets provide some assurance that minority shareholders get a fair return on their investments.

Finally, and more broadly, our results contribute to the growing literature that examines various aspects of corporate policy across private and public firms (e.g., Giannetti, 2003; Brav, 2009; Edgerton, 2012; Michaely and Roberts, 2012). Giannetti (2003), for instance, compares the

capital structure of public and private European firms and Michaely and Roberts (2012) investigate the dividend policy of public and private firms in the UK.

1. Legal Institutions, Capital Market Forces and Top Management Turnover

In public firms, the well-studied governance problem is that of entrenched managers following non-profit maximizing objectives, consuming private benefits of control and maximizing their own utility at the expense of dispersed minority shareholders (e.g., Berle and Means, 1932). In private firms, the issue of governance problems is often overlooked. While in some private firms there is no separation between ownership and control and thus there is no governance problems, these firms are most often small partnerships. In contrast, a significant group of private firms are larger in size, including private investor-owned companies, group-owned companies and family-owned companies (OECD). This group of firms, which form the basis of our study, receive significant minority investment from institutional and individual investors and in many countries often account for the largest share of employment and economic activity (OECD). One example of such private firms is Greenenergy International Ltd, which is an average U.K private company in terms of total assets in our sample. The company reports at least thirteen shareholders as of 2008.[7] The largest shareholder (Alexandra J. Lewis) owns about 30% of the company. The managing director (Andrew Owens), who is also a founder, owns about 3.5% of the company and the company has multiple minority shareholders.

Recent theoretical research argues that minority investors in private firms are vulnerable to expropriation by controlling shareholders and mangers consuming private benefits of control

[7] These detailed ownership data come from a web search as BvD *Amadeus* database only compiles information on the largest shareholder(s) when available.

and maximizing their own utility (Pagano and Roell, 1998; Nagar, Petroni, and Wolfenzon, 2011). Legal scholars similarly argue that expropriation of minority investors in private firms is widespread, as they are frequently deprived of income from the corporations, not allowed effective voice in business decisions and denied information about corporate affairs (see, for example, O'Neal, 1987). Further, controlling shareholders and managers in private firms wishing to leave a legacy for their heirs may also pursue non-profit maximizing behavior at the expense of minority investors (James, 1999). Overall, these arguments imply that the strength of legal institutions that protect minority investors should apply not only to public but also to private firms and, in-turn, provide incentives to replace poorly performing managers.

How exactly legal institutions impact top management turnover in private firms is not yet known, since, to the best of our knowledge, our study is the first to perform this analysis. If private firms face governance problems, then top management turnover in private firms is more likely to be associated with poor performance in countries with strong legal institutions that protect minority investors. In this case, country-level legal institutions act as external governance mechanisms that curtail insider expropriation of minority shareholders and, in-turn, reduce the incentives of controllers of private firms to retain poorly performing managers. However, if private firms have strong internal governance mechanisms in place, then country-level governance mechanisms may have little marginal impact on top management turnover.

1.1 Explaining the Difference between Private and Public firms: Capital Market Forces

A critical difference between private and public firms is that public firms, which have listed shares, are exposed to the governance forces inherent in public equity markets. One such force exerted on public firms is the market for corporate control. Manne (1965) and Jensen (1993),

among others, emphasize the importance of the market for corporate control in disciplining managers in public corporations. For example, Manne (1965) states that only the takeover market provides some assurance of competitive efficiency among corporate managers and thereby affords strong protections to the interests of non-controlling shareholders. By contrast, private firms do not have an active market for their shares and prior research shows concentrated ownership in private firms makes companies impervious to takeovers (Pagano and Roell, 1998).

Another capital market force exerted on public companies is the scrutiny of public equity markets. The information production and monitoring role of the stock market in alleviating governance problems in public corporations has been emphasized in a number of studies including Fama (1980), Holmstrom and Tirole (1993), Dow and Gorton (1997), Subrahmanyam and Titman (1999), and Edmans (2009). These studies suggest that different groups of market participants, including not only current investors but also potential investors and financial analysts, collect a variety of information about public firms. Stock markets can aggregate this diverse information across different investors. These arguments suggest that stock markets provide a useful signal that could be used to discipline managers which could not have been obtained if the firm was privately financed.

Overall, the above arguments suggests that the intensity of the market for corporate control and the degree of scrutiny of public equity markets are key forces that lead to the ability of public firms to identify and replace poorly performing managers. Therefore, the market for corporate control and the degree of scrutiny of public equity markets may explain why public and private firms differ in this regard. As Pagano, Panetta, and Zingales (1998) posit "The stock market … provides a managerial discipline device, both by creating the danger of hostile takeovers and by exposing the market's assessment of managerial decisions." Moreover, public equity markets allow

shareholders to "vote with their feet", thus creating incentives for public firms to replace value destroying managers. By contrast, minority shareholders in private firms may be more vulnerable to expropriation since they lack the venue to liquidate their shares if they are negatively affected (O'Neal, 1987).

We do recognize, however, there are other potential mechanisms that could mitigate the impact of capital market forces on public firms. For example, notwithstanding the recent theoretical arguments for severe governance problems in private firms, a long-standing argument in the literature is that the separation between ownership and control in public firms predicts greater managerial entrenchment in such firms (Berle and Means, 1932). Given the paucity of evidence on the role of capital market forces in shaping the difference in top management turnover between private and public firms, we ultimately view this as an important unanswered empirical question.

2. Data and Descriptive Statistics

2.1. Firm Financial Data

We employ two different datasets from Bureau van Dijk (BvD). The first is the BvD *Amadeus* database, accessed through WRDS, which provides firm financial information from the balance sheet and profit and loss statement. An important advantage of *Amadeus* is that it includes financial data for both listed and unlisted firms in the European Union (EU). *Amadeus* has been used in a number of recent studies, including Burgstahler et al (2006), Mihail et al. (2016), Renneboog et al. (2017). The data are collected from each national official public body in charge of collecting the annual accounts in its country, and always come from the officially filed and audited accounts. This is made possible in part because, in Europe, the Member States of the EU

must implement EU law adopted in the form of Directives. Specifically, the First Company Law Directive requires that every company with limited liability, independent of its listing status, files accounting and financial statements with an official public body. This allows for a uniform system of minimum disclosure requirements across all listed and unlisted companies with limited liability in EU. In our analysis, we focus on the countries that joined European Union prior to 1999, the start date of our sample, to ensure that disclosure standards have been formally harmonized for many years across firms in our sample.

2.2 Top Management Data

One important limitation of *Amadeus* is it does not contain historical information on the identity of firms' top managers and thus does not have the required information to conduct a study of top management turnover in private firms. To address this limitation, we construct a second dataset from a series of archival year-by-year DVDs obtained from BvD that have thorough data on top managers. The data coverage on the historical DVDs starts in 1999 and ends in 2010 and allows us to construct a comprehensive dataset that tracks managers over time.

For top executives, the dataset reports names and positions within a company starting in 1999. For many countries, these data are typically available on an annual basis except for Italy, Luxembourg and Netherlands where there are more than two-year gaps in reporting. For this reason, we exclude these countries from our analysis.[8] For many unlisted companies in Europe, all top managers are often classified as managing directors (rather than CEO or CFO). Given the difficulty in identifying the sole top executive in a firm in the BvD dataset, we follow previous research that computes turnover statistics for the entire top management team (see, e.g., Mikkelson

[8] Our results are robust to including these countries.

and Partch 1997, Denis and Denis 1985, Mork, Shelifer and Vishny 1989, Volpin 2002, among others). For example, Volpin (2002) defines a top executive turnover change when at least half of the top executives are replaced. Similarly, Mikkelson and Partch (1997) measure management turnover as a change if the CEO, president, and the chairman are replaced in their time period. Mork, Shelifer and Vishny (1989) argue that turnover of the team rather than just the CEO is more indicative of a disciplinary management change. Moreover, an advantage of using the top management team is that even European public firms often have multiple top managers and/or co-CEOs who share responsibility in running the firm. For example, French corporate law states that the chairman of the board of directors with two managing directors assume the task of general management ('doit assumer la direction générale de la société') (see, e.g. Dherment-Ferere and Renneboog 2002).

After we identify the top management team in each firm, we create an indicator variable to measure a turnover event, which takes on the value of one whenever at least half of the top management team is turned over. Similar to prior international studies (e.g., Dahya, McConnell, and Travlos, 2002; Volpin, 2002; Gibson, 2003; DeFond and Hung, 2003; Lel and Miller, 2008; Aggarwal, Erel, Ferreira, and Matos 2011), we do not know if top management turnover is forced or voluntary. This is because top managers are rarely openly fired from their positions which makes knowing with certainty the reason for top manager dismissals impossible for the vast majority of cases (Weisbach (1988)). While some U.S. focused turnover research attempts to overcome this shortcoming with classification schemes based on top manager characteristics and press articles (e.g., Parrino (1997)), these schemes generally cannot be employed in non-U.S. based studies as top managers' age and tenure are not required disclosures and media coverage in English varies substantially across countries. However, we do not expect this to adversely impact inferences, as

recent research by Jenter and Lewellen (2017) suggests that these commonly used algorithms do a poor job classifying turnover and instead argue that conditioning on poor performance is the most relevant aspect of top manager turnover, which we do. Further, as Hermalin and Weisbach (2003) argue, voluntary turnover is unlikely to be related to performance and hence not distinguishing between voluntary and forced turnovers events 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 top manager turnover and performance for involuntary (forced) replacements (see, for example, Huson, Parrino, and Starks (2001), Dahya et al. (2002), and Kaplan and Minton (1994)). Therefore, we do not expect this data limitation to alter our conclusions.

The data from historical DVDs also allows us to track (and exploit) firms' listing status over time and construct a limited dataset of historical ownership data.[9] Firms can stay publicly traded throughout the sample period or go private (i.e., become unlisted) and vice versa over time. We classify listed and unlisted firms using the data field *quoted company* in BvD that identifies firms that are listed on a main stock exchange in the country.[10]

It is important to note that the BvD ownership data has several significant limitations. First, this data field is often missing (roughly missing for ½ of our matched sample, which we describe in the next sub-section). Second, when present, it only contains ownership of the largest shareholders, which is in some cases reported on the aggregate basis (per group of shareholders not per shareholder). Given these inherent data limitations, we only use ownership data in limited robustness tests.

[9] Both listing status and ownerships data are static in Amadeus.
[10] We use words *public* and *listed* as well as *private* and *unlisted* interchangeably.

2.3 Sample Selection

We begin by using the field *legal form* to exclude unlimited partnerships, sole proprietorships, cooperatives, foreign companies, foundations, and government enterprises. We next exclude observations with missing manager names or titles from our sample. We also drop years in which the size of the entire management team changes by at least 50% within a year to reduce the likelihood that our turnover variables are simply picking up any potential reporting errors in the BvD database and for potential M&As where the larger (smaller) target team is replaced with the smaller (larger) acquirer team.

Since there are significantly more unlisted firms than listed firms in the world's economy (listed firms make up about 4% of our sample), we use a matched sample of listed and unlisted firms in our main analysis to make the sample sizes more comparable. We match the listed firms to unlisted firms based on the country, industry (1-digit SIC) and as close as possible on size measured by total assets.[11] We keep our matching criteria simple to allow for comparison between listed and unlisted firms across multiple characteristics. We later employ propensity score matching that controls for differences across listed and unlisted firms on multiple dimensions.

2.4 Country level Institutional Variables

We use a number of indexes that measure the development of countries' institutions. Appendix B provides a full description of each index. These include legal origin (English versus Common law), a summary measure of minority investor protection emanating from both laws and enforcement intuitions, which is taken from LaPorta et al. (1998). We proxy for laws and enforcement separately using both the anti-self- dealing index from Djankov et al. (2008) and the

[11] We excluded largest unlisted companies from our sample prior to matching as these companies might be subject to governance mechanisms of international financial markets.

index LEGAL. LEGAL is the average score across three proxies from La Porta et al. (1998): (1) an index of the judicial system's efficiency, (2) an index of the rule of law, and (3) the level of corruption. We use the antitakeover provision index from Nenova (2006) to measure the extent of anti-takeover regulations across countries. To proxy for the scrutiny of public equity markets, we employ the level of stock price synchronicity (R-squared) across countries from Jin and Myers (2006). High stock price synchronicity (high R-squared) is present in opaque markets where prices incorporate low level of firm-specific information.[12] To proxy for the level of transparency in private firms that should aid the identification and replacement of poorly performing managers, we employ a new corporate transparency index developed by the World Bank's *2015 Doing Business Report*. To investigate alternative channels for our results, we also employ the Uncertainty Avoidance and Individualism indexes from Hofstede (1980, 2001).

2.5 Descriptive Statistics

Panel A of Table 1 shows that on average private firms experience less turnover events than public firms, 0.09 versus 0.11. These statistics suggest that on average every 11 (9) years, the private (public) firms experience a turnover event where at least half of the top managers are turned over. The average private corporation in our sample has $1.1 billion in assets, 1,637 employees, is 24 years old with 2.76 top managers. The average public firm has $1.99 billon in assets, 4,833 employees, is 31 years old and has 3.49 top managers. In terms of the smallest firms in our sample (untablulated), the bottom quartile of private corporations have $10.1 Million in assets, 108 employees, are 17 years old with 2.19 top managers. The bottom quartile public firm has $15.2 Million in assets, 89 employees, is 19 years old and has 2.4 top managers.

[12] See, for example, Morck, Yeung and Yu (2000), Durnev, Morck, Yeung, and Zarowin (2003), Jin and Meyers (2006) and Hutton, Marcus and Tehranian (2009).

Panel B presents pairwise correlations of the main variables used together in our models. Panel C presents the number of observations for private and public firms across the 12 countries in our sample and the scores for the new corporate transparence index in private firms. Panel D summarizes sample statistics for public and private firms combined.

3. Turnover Analysis in Private Firms: Protection of Minority Investors

3.1. Empirical Specification

To test the hypothesis that the sensitivity of top management turnover to poor performance in private firms differs across legal and financial institutions, we estimate a series of probit models that take the following form:

$$Management\ Turnover_{i,t} = \beta_1 * Index_{i,t} + \beta_2 * Index_{i,t} * Firm\ Performance_{i,t-1} + \beta_3 * Firm\ Performance_{i,t-1} + \delta X_{i,t} + \varepsilon_{it}$$

where *Management Turnover* is an indicator variable that takes on the value of one whenever at least half of the top management team is turned over, and *Index* is an indicator variable that takes on the value of one when a country index of investor protection is above the median. Our specification follows previous research such as DeFond and Hung (2004) and Volpin (2002) and defines *Firm Performance* as the one-year lagged ratio of earnings before interest, taxes and depreciation to total assets and includes a set of control variables (δX).[13]

[13] It is important to note that the large literature that analyzes sensitivity of management turnover to firm performance in public firms relies on accounting based measures of firm performance, e.g. Kang and Shivdasani (1995), Mikkelson and Partch (1997), Huson et al. (2001), Dahya, McConnell, and Travlos (2002), Volpin (2002), Gibson (2003), DeFond and Hung (2004), Lel and Miller (2008).

We include country dummies to control for unobserved country effects.[14] To address the concern that top managers might be replaced after bad firm performance caused by factors beyond their control (see, Jenter and Kanaan, 2015), we include industry dummies in our tests and evaluate firm performance relative to industry peers. We also include year dummies to control for time trends that may affect top management turnover. We include an indicator variable that notes whether the firm follows IFRS accounting standards to control for within country changes in financial reporting since changing to IFRS can affect earnings measures (e.g., Ozkan, Singer, and You (2012) and Daske, Hail, Leuz, and Verdi (2008)). Firm size is also added to control for the potential effects on profitability and management turnover. We winsorize continuous variables at the 1% level.

We take into account the non-linear nature of probit models in calculating the interaction terms in our regressions (Norton, Wang and Ai (2004)). Specifically, to investigate whether the sensitivity of top management turnover to firm performance in private firms differs between strong and weak institutions, we compute the interaction effect using the cross partial derivative of *Firm Performance* with respect to *Index* and report the sample average interaction effect in our tables (the average of the cross-partial derivatives over all observations in the dataset). We compute the average marginal effects for other variables in the model. We should note that the reported coefficient on *Firm Performance (e.g. Lagged Earnings Ratio)* is the marginal effect of *Firm Performance* on *Management turnover* for private firms in countries with weak institutions (to allow for comparison between weak and strong institutions, similar to linear models). In later tests, we show our results are robust when we use logit and linear probability models.

[14] In some tests, we use log(gdp) instead.

3.2. Base Results

Table 2 provides the baseline regression for top management turnover in private firms. Model 1 shows that managerial turnover is sensitive to firm performance in private firms. The coefficient on the lagged earnings ratio is -0.0185, p = 0.008, suggesting that private firms are more likely to replace top managers when performance is poor. It provides new evidence that top manager turnover in private firms is sensitive to poor performance.

In Model 2, we control for family ownership in private firms. This analysis is motivated by prior work that finds that public family-run firms have weaker sensitivity of top manager turnover to poor firm performance than other firms (Volpin, 2002).[15] Following Villalonga and Amit (2006), we create an indictor variable (*Family)* that equals one for firms with family ownership above five percent and zero otherwise.[16] We find that the sensitivity of top management turnover to performance in family-run private firms is not different from the non-family-run private firms. Given this finding and the previously mentioned limitations of the ownership data, we do not differentiate between family and non-family firms in subsequent tests.

Among the control variables, firm size is positively related to managerial turnover, consistent with Gibson (2003) and DeFond and Hung (2004). In Model 2, firms that follow IFRS display lower management turnover, consistent with Hazarika, Karpoff and Nahata (2012) who find that top manager turnover is higher for firms that have lower reporting quality.

3.3 Minority Investor Protection and Top Management Turnover in Private Firms

Table 3 presents results on the role that investor protection plays in explaining top management turnover in private firms. The primary variable of interest is *Index*Lagged Earnings*

[15] In the U.S., Anderson, Mansi and Reeb (2003) find family-founded firms can have lower agency conflicts.
[16] Table 1A Model 3 shows the results are robust to using a twenty percent threshold.

Ratio, which measures the difference between levels of investor protection. We first examine legal origin (English versus Common law), a summary measure of minority investor protection emanating from both laws and enforcement intuitions, which is taken from LaPorta et al. (1998). Model 1 shows that the coefficient on *English*Lagged Earnings Ratio* is negative and significant (-0.030, p = 0.009), indicating that private firms are more likely to replace poorly performing managers when investor protection is strong. Further, when investor protection is weak (Common law countries), top management turnover is not related to performance as the coefficient on the stand-alone *Lagged Earnings Ratio* is insignificant, consistent with DeFond and Hung (2004) and Volpin (2002) who find that management turnover in public firms is not related to firm performance in countries with weak protection of minority shareholders. In terms of economic significance, private firms are ten times more likely to replace poor managers in countries where investor protection is strong. In countries with strong investor protection, probability of replacing poor managers increases by 2.01% in absolute terms per one standard deviation change in the earnings ratio.[17]

So far, the evidence suggests that strong institutions that reduce the incentives of controllers of private firms to retain poorly performing managers ameliorate governance problems in private firms. We next examine laws and enforcement separately using the anti-self-dealing index from Djankov et al. (2008) and the index LEGAL. LEGAL is the average score across three proxies from La Porta et al. (1998): (1) an index of the judicial system's efficiency, (2) an index of the rule of law, and (3) the level of corruption. Model 2 of Table 3 presents results for countries that limit anti-self-dealing tactics. The *Index*Lagged Earnings Ratio* is negative and significant (-

[17] For comparison, Huson et al. (2001) show that going from the top quartile to the lowest quartile in the earnings ratio increases the probability of the top manager turnover by about 2.24% in their sample of public U.S. firms.

0.021, p-value = 0.042), indicating that private firms are more likely to replace poorly performing managers in countries with strong laws that limit self-dealing transactions. Model 3 of Table 3 investigates the impact of enforcement institutions. The *Index*Lagged Earnings Ratio* is negative yet insignificant at the conventional levels (-0.019, p-value = 0.154), indicating that the sensitivity of top management turnover to performance does not differ across enforcement regimes in our sample. We should note, however, that our sample covers countries with relative strong enforcement institutions. Thus, the variation in enforcement is low relative to, for example, DeFond and Hung (2004), which may explain the finding.

Model 4 investigates the role of the new corporate transparency index developed by the World Bank's *2015 Doing Business Report* (Chakra and Kaddoura, 2015). We focus on transparency since laws that mandate more transparency in private firms should aid the identification and replacement of poorly performing managers as O'Neil (1987) argues minority shareholders in private firms are often denied information about corporate affairs. Model 4 shows that strong laws mandating corporate transparency in private firms lead to a higher sensitivity of turnover to poor performance (-0.024, p-value = 0.014). This is consistent with the hypothesis that laws that mandate more transparency in private firms should aid the identification and replacement of poorly performing managers (O'Neil (1987)). This finding is also consistent with Hope, Thomas, and Vyas (2011) who show that high-quality financial reporting improve access to external capital in private firms.

We next perform several tests to gauge the robustness of these results, which are presented in Table 1A of Appendix A. In Model 1, we add a control for the average firm size within a country. In Model 2, we employ an alternative proxy for firm performance: Lagged Profit (Loss) for Period, reported on the Profit and Loss statement. This variable is calculated as Profit(Loss) after Taxation

Plus Extraordinary Profit(Loss). In Model 3, we employ 20% as an alternative threshold for family ownership and in Model 4 we include several additional control variables (Leverage, Intangible Assets and Liquidity). In all instances, we find our findings are robust.

3.3.1 Alternative Channels and Additional Robustness

While our results show that private firms are most likely to retain poorly performing mangers when legal institutions that protect minority investors are the weakest, there could be other cross-country channels that explain our findings. To investigate this possibility, we first rerun the models of Table 3 replacing GDP with country fixed effects, which controls for other country level observable and unobservable differences. Panel A of Table 2A shows our results remain robust.

Next, we explicitly test for two different alternative channels based on cultural and societal norms. We follow Crossland and Hambrick (2007) and investigate two indexes developed by Hofstede (1980, 2001) to capture cross-country differences in cultural/societal norms. The first index is individualism, which measures the degree to which a society prefers autonomous vs. interdependent actions. The second is uncertainty avoidance, which is the degree to which members of a culture dislike the unpredictable; cultures that score high on uncertainty avoidance typically employ rules, conventions, and rituals that are intended to minimize unpredictability. Details of these indexes are provided in Appendix B.

Panel B of Table 2A reports results that replicate our Table 3 tests but replace our country-level legal protection indexes with the above-mentioned culture indexes. In both models, the interaction term is insignificant, suggesting that proxies for these alternative channels are not significantly related to the sensitivity of turnover to performance.

We also confirm that our results are robust to alternative estimation techniques. Panel C and D of Table 2A show that our conclusions do not change when we use logit or linear probability models.[18]

Overall, our results show that top management turnover in private firms is more likely to be associated with poor performance in countries with strong legal institutions, which is consistent with good governance. Further, our findings provide new evidence on specific mechanisms that determine top management turnover in private firms, which are often the most economically important form of corporate investments in the economy. Specifically, our results suggest laws that limit self-dealing transactions and increase corporate transparency are important in improving governance outcomes in private firms.

4. Turnover Analysis: Private Firms versus Public Firms

In this section, we test the hypothesis that the difference in the ability of private and public firms to identify and replace poorly performing managers stems from the strength of governance mechanisms inherent in public equity markets.

4.1. Empirical Specifications and Base Results

We estimate a series of probit models that take the following form:

$$Management\ Turnover_{i,t} = \beta_1 * Public_{i,t} + \beta_2 * Public_{i,t} * Firm\ Performance_{i,t-1} + \beta_3 * Firm\ Performance_{i,t-1} + \delta X_{i,t} + \varepsilon_{it}$$

[18] Further, we consider an alternative measure of managerial turnover, *management turnover ratio*, calculated as the percentage of the top management team that is turned over in a given year. Using the *management turnover ratio*, we find that country-level measures of minority investor protection affect top management turnover in private firms. The interaction term, *Index*Lagged Earnings Ratio*, is negative and statistically significant across all indexes (untabulated).

where *Management Turnover* is an indicator variable that takes on the value of one whenever at least half of the top management team is turned over and *Public* refers to firms listed on main exchanges in a country. We also include a set of control variables described in Section 3.

Model 1 in Table 4 reports results from the main specification that estimates the sensitivity of managerial turnover to poor firm performance across public and private firms. The coefficient of the interaction term, *Public*Lagged Earnings Ratio*, is negative and statistically significant (-0.043, p-value = 0.001), suggesting that public firms are more likely to replace poorly performing managers than private firms. In terms of economic significance, public firms are three times more likely to replace poorly performing managers than private firms. In public firms, probability of replacing poorly performing managers increases by 3.02% in absolute terms per one standard deviation change in the earnings ratio. To the extent that shareholders of public firms can also use market-based measures of firm performance that are unavailable to shareholder of private firms, our results underestimate the true sensitivity of managerial turnover to poor firm performance in public firms.

In Model 2 in Table 4, we control for ownership concentration. We follow Burgstahler, Hail and Leuz (2006) and measure ownership concentration, *Owner*, as the percentage of direct holdings by the largest shareholders. As noted earlier, data on ownership is limited. With this caveat, we continue to find that public firms display higher sensitivity of managerial turnover to firm performance, as the coefficient of the interaction term is -0.072, p = 0.001.

We also perform several additional robustness tests that mirror those conducted earlier in the private firm sample. In these tests (reported in Table 3A of Appendix A), we control for the average firm size in a country (Model 1), employ profit per period as the firm performance measure

(Model 2), control for additional firm characteristics (Model 3), use logit model (Model 4) and linear probability model (Model 5). In all instances, we find robust results.

Overall, these baseline results suggest that managers of public firms are less likely to be entrenched than managers of private firms, which is indicative of good corporate governance. It is important to note, however, that our results do not imply that any randomly selected private firm made public (perhaps sub-optimally) would necessarily see an increase in top manager turnover to performance sensitivity. Rather, our results provide the first large sample cross-country evidence on the differences in top management turnover between two major groups of firms that exist in the real economy, public and private, and may help minority investors in their decision on whether to invest directly in private or public firms. Further, we do not claim that our findings apply to small private firms, such as partnerships or cooperatives, where there is littler separation between ownership and control.

4.2 Governance Mechanisms Inherent in Public Equity Markets

One potential mechanism that allows for replacement of poorly performing managers in public firms but not private firms is the market for corporate control. To test whether the market for corporate control is a mechanism that can explain our findings, we use the antitakeover provision index from Nenova (2006) to measure the extent of anti-takeover regulations across countries. More regulations that limit anti-takeover mechanisms increase the likelihood of the replacement of poorly performing managers through the market for corporate control. In Table 5, Models 1 and 2 we run our base regression separately for countries with strong and weak anti-takeover provisions, which allows us to include important controls for country fixed effects. Model 1 presents results for countries that limit antitakeover tactics (the index values above the median),

while Model 2 presents results for countries that, relatively speaking, do not limit antitakeover tactics (below the median). The results in this panel show that private firms are less likely to replace poorly performing managers than public firms only in countries that place high limits on antitakeover tactics thereby facilitating the replacement of top managers in public firms.

Another potential governance mechanism for public firms but not private firms is the scrutiny of public equity markets. To investigate whether the scrutiny of public equity markets is a mechanism that explains our findings, we employ the level of stock price synchronicity (R-squared) across countries from Jin and Myers (2006). Prior research shows high stock price synchronicity (high R-squared) is present in opaque markets where prices incorporate a low level of firm-specific information.[19]

Model 3 presents results for countries with opaque markets (the R-squared above the median), while Model 4 presents results for countries with less opaque markets (the R-squared below the median). Results suggest private firms are less likely to replace poorly performing managers than public firms only in countries where stock markets incorporate more firm specific information.

In Table 4A of Appendix A, we also run our base regression separately for countries with strong and weak anti-self-dealing provisions. We find that private firms are less likely to replace poorly performing managers than public firms both in countries with strong and weak anti-self-dealing provisions. This highlights the primary importance of capital market forces in explaining the difference between public and private firms rather than just legal protections.

[19] See, for example, Morck, Yeung and Yu (2000), Leuz, Nanda Wysocki (2003), Durnev, Morck, Yeung, and Zarowin (2003), Jin and Meyers (2006) and Hutton, Marcus and Tehranian (2009).

Overall, these results are consistent with the hypothesis that the difference in the ability of private and public firms to identify and replace poorly performing managers is related to the strength of governance forces inherent in public equity markets. Public equity markets provide managerial discipline by creating the danger of hostile takeovers for public firms. In addition, public equity markets provide a market assessment of managerial decisions through stock prices, thus disciplining value destroying managers.

4.3 Short-termism

We next examine whether the higher sensitivity of top management turnover to poor firm performance in public companies is driven by private firms' ability to consider longer performance windows in evaluating managers. Boot, Gopalan and Thakor (2006, 2008) suggest a benefit of private ownership is that it enables the manager to achieve the optimal level of decision-making discretion (or autonomy) through private contracting with a few investors, while such discretion is not visible in public firms because of their constantly changing investor base. Given a potentially higher level of managerial discretion in private firms, shareholders of these firms may put more weight on long-term performance in their decision to replace top managers.

A high sensitivity of top management turnover to long-term firm performance (rather than current performance) may be desirable if it discourages managerial myopia. Myopic managers may forego substantial investments where benefits are only visible in the long-run. We should note, however, that the existing literature documents that public firms are actually more likely to respond to positive growth opportunity shocks (Gilje and Taillard, 2016), generate patents of higher quantity, quality and novelty (Acharya and Xu, 2015) and are less likely to delay large

investment projects than private firms (Mortal and Reisel, 2013).[20] This evidence is inconsistent with myopia in public firms.[21]

We perform a series of tests where performance measures are lagged up to three years to check if our results are due to a short-termism effect of financial markets. In Model 1 of Table 6, we examine the sensitivity of the turnover to average firm performance over the last three years, which allows us to focus on a relatively long-term firm performance rather than the performance over one year. The coefficient on the interaction term, *Public*Firm Performance*, remains negative and statistically significant (-0.070, p = 0.004) suggesting that the higher sensitivity of public firms is unlikely to be driven by firm performance measured over a relatively short horizon.

In Models 2 and 3, we further investigate whether private firms display a delayed reaction in their decision to replace poorly performing managers. We consider lags of two and three years of the earnings ratio. In both cases, the management turnover in private firms is not sensitive to these lagged performances. Both types of firms, public and private, are more likely to respond to poor performance relatively quickly – within a year, although public firms are more sensitive not only to firm performance over the previous year but also to firm performance lagged over two years. Overall, the results in Table 6 are unlikely to be due to a delayed response by private firms.[22]

[20] The behavior of private firms seems to be consistent with the "quiet life" model of Bertrand and Mullainathan (2003).

[21] There may be some special cases where relatively low earnings should not necessarily trigger top management dismissal such as young start-up firms and LBO firms backed by private equity funds during a restructuring period (e.g., Cornelli and Karakas, 2013). We should note that we address some of these special cases using our propensity score matching procedure.

[22] As an additional robustness check (untabulated), we use the adoption of corporate governance laws in Europe as a quasi-exogenous shock to the governance environment of public firms. These laws mandated several changes to the corporate governance environment of public firms but not private firms, such as more independent boards and a better information environment (see Kim and Lu, 2013) for a detailed description of these laws). To the extent that public firms' higher turnover to firm performance sensitivity is due to governance problems (i.e., short-termism), improvements in the governance environment of public firms compared to private firms should decrease the turnover to performance sensitivity of public firms following the adoption of these laws. We do not find evidence that the

4.4 Additional Explanations

In this sub-section, we investigate two additional explanations of why private firms are less likely to replace poor managers than public firms. First, we examine if public equity markets may act as a mechanism that selects already well-governed firms. That is, certain firms may remain private to circumvent the governance regulations inherent in public equity markets. We test for this channel three different ways: propensity score matching on factors related to decision to go public, analyzing firms that changed status from listed to unlisted or vise versa, and employing a treatment-effects model. The second additional explanation we examine is whether poor earnings quality in private firms may explain our findings.

4.4.1 Selection effects

To investigate the role that selection plays in our results, we first employ propensity score matching that incorporates multiple firm characteristics to eliminate observable differences between public and private firms. To generate propensity scores, we use variables that prior research has found to be associated with the decision to go public (Pagano, Panetta and Zingales, 1998; Aslan and Kumar, 2011): sales growth, leverage, total assets, age and cash flow. Then we match public and private firms within each country and industry based on the propensity scores. The benefit of the matching procedure is a sub-sample of firms where public and private firms are statistically indistinguishable across a number of characteristics. The cost of this procedure is a reduction in the sample size since there is not always an acceptable match within industry and country. The results from this test are presented in Model 1 of Table 7 The coefficient of the interaction term, *Public*Lagged Earning Ratio,* is negative and highly statistically significant (-

difference in the sensitivity between public and private firms shrinks after the corporate governance reforms. This further suggests that our results are unlikely to indicate short-termism in public firms.

0.059, p-value = 0.000) again suggesting that public firms are more likely to replace poorly performing managers than private firms.

The second test we perform to investigate whether selection explains our results is to analyze firms that changed listing status from private to public or vice versa within our sample period. If only well-governed firms opt to be public and the change in status doesn't affect corporate governance, then we should not observe any difference in the sensitivity of top management turnover to firm performance before and after the change in listing status. The results for the firms that changed listing status from private to public or vice versa are presented in Model 2 of Table 7. We continue to find a higher sensitivity of management turnover to firm performance for public firms than for private firms.

Finally, we employ a treatment effects model. This model allows us to address concerns related to unobservable differences between firms going public and private, which also explain the sensitivity of management turnover to firm performance. For the treatment effects model, we follow Saunders and Steffen (2011) and include distance to the country's financial center as an instrument in the selection equation in addition to other variables that explain the decision to go public such as sales growth, leverage, total assets, age and cash flow.[23] Proximity to a financial center should facilitate access to public capital markets, but should not be related to the sensitivity of management turnover in individual firms. In this estimation (Model 3), we use our unmatched sample, and continue to find a higher sensitivity of management turnover to firm performance for public firms than for private firms. We recognize that we might not have a perfect instrument. We therefore also conducted this test using an alternative instrument: the percentage of firms in a country-region that are listed given presence and preferences of local investors could affect firms'

[23] We confirm in the first stage of the treatment model that distance to the financial center is significantly negatively related to the probability of going public.

decision to go public (investors often exhibit a 'home bias' i.e., have a preference to invest locally).[24] Table 5A shows our results are robust.

Taken together, our combined findings from propensity score matching, firms that changed status from listed to unlisted or vice versa, and treatment-effects model suggest that mechanisms inherent in the equity markets are likely to drive better governance outcomes in public firms rather than just selection effects alone.

4.4.2 Earnings management

To examine whether poor earnings quality in private firms may explain our findings, we follow Burgstahler, Hail and Leuz (2006) and compute four different proxies: (1) the tendency of firms to avoid small losses, (2) the magnitude of total accruals, (3) the smoothness of earnings relative to cash flows and (4) the correlation of accounting accruals and operating cash flows. We mitigate potential measurement error in the individual scores by creating aggregate measures. First, we compute the first principal component of the individual scores. Second, we transform each individual score into percentage ranks (ranging from 0 to 1) and combine the ranks by averaging into an aggregate index of earnings management.

Table 8 reports the results. We find the coefficient on earnings management to be positive and significant, suggesting that boards of firms are likely to discipline top managers of firms that aggressively manage earnings. This is consistent with the U.S. based results of Hazarika, Karpoff and Nahata (2012) who document that top manager turnover is positively related to a firm's level of earnings management. Turning to our main test variable, we find across both models the coefficient on *Public*Lagged Earnings Ratio* remains negative and statistically significant after

[24] We obtain the region of the firm's location from Amadeus. Regions are territorial units that comprise a country. We measure percentage of firms in a country-region that are listed during the first year of the sample period to minimize concerns that our instrument is directly related to managerial turnover at the firm level.

controlling for the level of earnings management (-0.048, p-value = 0.001 and -0.045, p-value = 0.001, respectively). These findings suggest that our results are not due to private firms' earnings being potentially less informative than earnings of public firms.

5. Conclusion

How do legal institutions across countries impact the ability of private firms to identify and replace poorly performing managers? How do private firms compare in this regard to their public counterparts and, further, what can explain their difference? In this paper, we provide new evidence on these unanswered questions using cross-country data on top management turnover in private firms domiciled in the EU.

The EU provides a unique laboratory to answer important questions on private firms because more studied markets (like the US) do not require the disclosure of basic financial and managerial data from private firms. In addition, the EU makes up the largest economy in the world, making the setting important in itself. Further, the institutional features of stock market that theory suggest are important are cross-country so should also be generalizable to other settings.

We find significant differences across countries in the ability of private firms to identify and replace poorly performing managers. We also show that the strength of countries legal institutions can explain these differences. For example, the sensitivity of top management turnover to performance is greatest in countries with English legal origin and in countries with strong laws that prevent self-dealing and increase corporate transparency.

Comparing top management turnover in private firms to that in public firms, we show that private firms trail public firms in the replacement of poorly performing managers in countries where public equity markets incorporate firm-specific information and facilitate takeovers. In

contrast, private firms are similar to public firms in countries where these governance mechanisms inherent in public equity markets are weak and managers of public firms are entrenched.

Our findings are important for several reasons. First, they provide empirical support for theoretical predictions that managers of private firms, similar to their public counterpart, are often entrenched. Next, they show that effects of country laws may be stronger than previously anticipated as they impact corporate governance practices of not only public firms but also of private firms. Further, our results compliment the literature on real effects of financial markets by demonstrating that capital markets exert forces that can explain why, in certain countries, private firms are less likely to replace poorly performing managers than public firms. Finally, our findings also complement a growing empirical literature that compares behavior between public and private firms; while the economic differences between public and private forms of ownership have been studied extensively in the theoretical literature, the empirical evidence is still limited.

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Table 1. Descriptive Statistics

This table presents descriptive statistics for the main variables used in the analysis. The sample includes matched public and private firms from Western European countries. Details of the sample selection procedure are provided in the text. *Public* is used to denote a firm that is listed on a major exchange in the country, otherwise a firm is classified as private. *Top management turnover* is a dummy variable that equals one for firms where at least 50 percent of the top management team is turned over in a given year. *Lagged Earnings Ratio* is the one-year lagged ratio of earnings before interest, taxes and depreciation to total assets. *Liquidity Ratio* is current assets minus stocks to total assets. *Leverage* is long-term debt to total assets. *Intangible Assets* is intangible fixed assets to total assets. Total Assets are measured in millions of $US. *Corporate transparency* is governance indexes for private firms from the 2015 Doing business database prepared by the World Bank.

Panel A. Means comparison across private and public

	Private	N	Public	N	Difference in means	p-value
Top management turnover	0.09	19,670	0.11	18,156	-0.02***	*0.000*
Total number of top managers	2.76	23,545	3.49	19,942	-0.73***	*0.000*
Total Assets	1,085.76	23,545	1,991.29	19,942	-905.53***	*0.000*
Firm age	24.16	14,504	31.44	11,478	-7.28***	*0.000*
Number of employees	1,636.85	18,377	4,833.35	17,424	-3,196.49***	*0.000*
Lagged Earnings Ratio	0.08	21,200	0.06	18,928	0.02***	*0.000*
Liquidity Ratio	2.64	22,602	2.85	19,499	-0.21***	*0.006*
Leverage	0.11	21,532	0.13	19,018	-0.02	*0.5713*
Intangible Assets	0.24	22,159	0.31	19,439	-0.08	*0.4821*

Panel B. Correlations

	1	2	3	4	5
1. Log Assets	1				
2. Lagged Earnings Ratio	0.04	1			
3. Liquidity Ratio	-0.06	-0.03	1		
4. Leverage	0.02	-0.01	0.00	1	
5. Intangible Assets	-0.0143	-0.02	0.01	-0.00	1

Panel C. New corporate transparence index in private firms and the number of observations across countries

	Private	Public	Corporate transparency
Austria	34	30	3
Belgium	271	151	0
Denmark	538	478	4
Finland	784	896	2
France	5,263	3,610	4
Germany	2,907	3,182	3
Greece	2,040	2,186	2
Ireland	258	278	4
Portugal	189	137	1
Spain	1,662	845	4
Sweden	2,049	1,533	3
United Kingdom	7,550	6,616	4

Panel D. Summary statistics

	Mean	Median	St. dev.	N
Top management turnover	0.10	0	0.30	37,826
Total number of top managers	3.10	2	2.59	43,487
Total Assets	1,501.01	88.67	1.59E+04	43,487
Firm age	27.38	17.01	27.82	25,982
Number of employees	3,192.56	193.00	17,190.32	35,801
Lagged Earnings Ratio	0.07	0.073	0.46	40,128
Liquidity Ratio	2.74	1.09	7.69	42,101
Leverage	0.129	0.04	3.73	40,550
Intangible Assets	0.27	0.01	11.19	41,598

Table 2. Top Management Turnover in Private Corporation

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched private firms from Western European countries. The dependent variable is top management turnover dummy. Details of the sample selection procedure are provided in the text. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. *Family* is a dummy variable that equals one for firms with family ownership above five percent and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)
Lagged Earnings Ratio	-0.0185***	-0.0140**
	(0.007)	(0.007)
	0.008	0.049
Log Assets	0.0096***	0.0078***
	(0.001)	(0.001)
	0.000	0.000
IFRS dummy	-0.0096	-0.0229**
	(0.10)	(0.010)
	0.313	0.017
Family* Lagged Earnings Ratio		0.0167
		(0.039)
		0.668
Family		-0.0745***
		(0.010)
		0.000
Industry Dummies	Yes	Yes
Year Dummies	Yes	Yes
Country Dummies	Yes	Yes
N	17,744	17,744
Log Pseudolikelihood	-5,153	-5,248

Table 3. Investor Protection and Top Management Turnover in Private Firms

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is top management turnover dummy. *The anti-self-dealing index* is from Djankov et al (2008). *Legal* stands for the mean of three variables in La Porta et al. (1998), which measure the quality of the legal system and enforcement (i.e., efficiency of the judicial system, rule of law, and corruption index). *Corporate transparency index* is the governance indexe for private firms from the 2015 Doing business database prepared by the World Bank. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Index= English Origin (1)	Index= Anti-Self- Dealing (2)	Index= Legal (3)	Index= Corporate transparency (4)
Lagged Earnings Ratio	-0.0035	-0.0020	-0.0067	-0.0014
	(0.005)	(0.004)	(0.008)	(0.003)
	0.467	0.575	0.375	0.617
Index* Lagged Earnings Ratio	-0.0300***	-0.0213**	-0.0187	-0.0239***
	(0.011)	(0.010)	(0.013)	(0.010)
	0.009	0.042	0.154	0.014
Index	-0.0173***	0.0091	0.0409***	-0.0205***
	(0.006)	(0.006)	(0.006)	(0.005)
	0.005	0.100	0.000	0.000
Log Assets	0.0094***	0.0088***	0.0089***	0.0091***
	(0.001)	(0.001)	(0.001)	(0.001)
	0.000	0.000	0.000	0.000
IFRS dummy	-0.0202**	-0.0200**	-0.0190**	-0.0187*
	(0.010)	(0.010)	(0.010)	(0.010)
	0.035	0.038	0.047	0.051
Log GDP	-0.0046	-0.0204**	-0.0504***	-0.0018
	(0.010)	(0.010)	(0.011)	(0.010)

	0.646	0.049	0.000	0.850
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
N	17,744	17,744	17,744	17,744
Log Pseudolikelihood	-5,276	-5,283	-5,211	-5,272

Table 4. Top Management Turnover and Listing Status

This table presents probit estimates of the relation between the top management turnover measures and firm performance. The average interaction and marginal effects are reported. The sample includes matched public and private firms from Western European countries. The dependent variable is top management turnover. Details of the sample selection procedure are provided in the text. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. *Owner* is percentage owned by the largest shareholder. Other variables are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)
Lagged Earnings Ratio	-0.0225***	-0.0231**
	(0.007)	(0.011)
	0.002	0.035
Public * Lagged Earnings Ratio	-0.0432***	-0.0717***
	(0.013)	(0.022)
	0.001	0.001
Public	0.0144***	0.0258***
	(0.004)	(0.006)
	0.000	0.000
Log Assets	0.0048***	0.0045***
	(0.001)	(0.001)
	0.000	0.000
IFRS dummy	-0.0138***	-0.0043
	(0.005)	(0.008)
	0.005	0.567
Log Owner		0.0227***
		(0.004)
		0.000
Industry Dummies	Yes	Yes
Year Dummies	Yes	Yes
Country Dummies	Yes	Yes
N	34,965	17,427
Log Pseudolikelihood	-10,653	-5,398

Table 5. Top Management Turnover and Listing Status: Capital Market Forces

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched public and private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is top management turnover dummy. The antitakeover provisions index is from Nenova (2006). The stock market scrutiny is measured using average R-squared from Jin and Myers (2006). The values of the R-squared that are above the median correspond to low levels of stock market scrutiny, while the values of the R-squared that are below the median correspond to high level of stock market scrutiny. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	The anti-takeover index above median (1)	The anti-takeover index below median (2)	The stock market scrutiny low (3)	The stock market scrutiny high (4)
Lagged Earnings Ratio	-0.0235***	-0.0107	-0.0314	-0.0206***
	(0.009)	(0.007)	(0.027)	(0.008)
	0.009	0.148	0.239	0.007
Public * Lagged Earnings Ratio	-0.0416***	0.0336	0.0045	-0.0453***
	(0.014)	(0.097)	(0.036)	(0.014)
	0.004	0.731	0.910	0.002
Public	0.0132***	0.0259**	0.0384***	0.0085*
	(0.004)	(0.012)	(0.007)	(0.005)
	0.001	0.034	0.000	0.061
Log Assets	0.0048***	0.0013	0.0022	0.0044***
	(0.001)	(0.003)	(0.002)	(0.001)
	0.000	0.672	0.193	0.000
IFRS dummy	-0.0128**	-0.0065	-0.0098	-0.0224***
	(0.005)	(0.018)	(0.007)	(0.007)
	0.014	0.718	0.164	0.001
Industry Dummies	Yes	Yes	Yes	Yes

Year Dummies	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes
N	31,536	2,103	7,181	23,980
Log Pseudolikelihood	-9,709	-423	-1,810	-7,370

Table 6. Top Management Turnover and Listing Status: Short-termism

This table presents the probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched public and private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is the top management turnover dummy. Average Earnings Ratio is the mean Earnings Ratio over the last three years. IFRS dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)	(3)
Average Earnings Ratio	-0.0463***		
	(0.018)		
	0.009		
Public * Average Earnings Ratio	-0.0695***		
	(0.024)		
	0.004		
Public * Lag Two Earnings Ratio		-0.0266*	
		(0.016)	
		0.092	
Lag Two Earnings Ratio		-0.0136*	
		(0.008)	
		0.096	
Public * Lag Three Earnings Ratio			-0.0217
			(0.014)
			0.119
Lag Three Earnings Ratio			-0.0071
			(0.007)
			0.333
Public	0.0149***	0.0120***	0.0114**
	(0.004)	(0.004)	(0.005)
	0.000	0.004	0.013
Log Assets	0.0050***	0.0054***	0.0045***
	(0.001)	(0.001)	(0.001)
	0.000	0.000	0.000
IFRS dummy	-0.0142***	-0.0138***	-0.0104*
	(0.005)	(0.005)	(0.006)
	0.004	0.010	0.073
Industry Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes

N	35,539	28,456	23,361
Log Pseudolikelihood	-10,812	-8,379	7,021

Table 7. Top Management Turnover and Listing Status: Selection Effects

This table presents estimates of the relation between the top management turnover measure and firm performance. Probit is used in models (1) and (2). The average interaction and marginal effects are reported. The sample includes public and private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is the top management turnover dummy. Model (1) reports results for the propensity score matched sample. Details of the matching procedure are discussed in the text. Model (2) reports results for the sub-sample of firms that changed status from public to private or vice versa. Model (3) reports results of the second stage of the treatment effects model described in the text. IFRS dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Propensity score matched sample (1)	Firms that changed listing status (2)	Treatment effects model (3)
Lagged Earnings Ratio	0.0039	-0.0046	-0.0022**
	(0.008)	(0.011)	(0.001)
	0.611	0.686	0.012
Public * Lagged Earnings Ratio	-0.0593***	-0.0233*	-0.0576***
	(0.016)	(0.014)	(0.013)
	0.000	(0.097)	0.000
Public	-0.0091	0.0433***	-0.1763
	(0.006)	(0.006)	(0.013)
	0.102	0.000	0.000
Log Assets	0.0052***	0.0049***	0.0219***
	(0.001)	(0.001)	(0.001)
	0.000	0.000	0.000
IFRS dummy	-0.0244***	-0.0100*	0.0043*
	(0.008)	(0.006)	(0.002)
	0.001	0.090	0.076
Selectivity variable			0.0744***
			(0.006)
			0.000
Industry Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes
N	17,511	17,932	331,959
Log Pseudolikelihood	-5,313	-5,197	

Table 8. Top Management Turnover and Listing Status: Earnings Management

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched public and private firms from Western European countries. The dependent variable is the top management turnover dummy. Details of the sample selection procedure are provided in the text. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Earnings management index is calculated using principal component analysis in model (1) and using percentage ranking in model (2). Details are provided in the text. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)
Lagged Earnings Ratio	-0.0211***	-0.0215***
	(0.007)	(0.007)
	0.004	0.004
Public * Lagged Earnings Ratio	-0.0478***	-0.0448***
	(0.014)	(0.014)
	0.001	0.001
Public	0.0185***	0.0149***
	(0.004)	(0.004)
	0.000	0.000
Log Assets	0.0047***	0.0047***
	(0.001)	(0.001)
	0.000	0.000
IFRS dummy	-0.0114**	-0.0126**
	(0.005)	(0.005)
	0.022	0.012
Earnings Management Index	0.0057***	0.0423**
	(0.002)	(0.020)
	0.001	0.037
Industry Dummies	Yes	Yes
Year Dummies	Yes	Yes
Country Dummies	Yes	Yes
N	34,878	34,878
Log Pseudolikelihood	-10,627	-10,631

Appendix A. Additional Tests

Table 1A. Top Management Turnover in Private Corporation: Robustness

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched private firms from Western European countries. The dependent variable is top management turnover dummy. Details of the sample selection procedure are provided in the text. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. *Mean(firm size)* is a mean firm size within a country. *Family* is a dummy variable that equals one for firms with family ownership above twenty percent and zero otherwise. *Profit for Period* is profit(loss) after taxation plus extraordinary profit(loss). Other variable are described in Table 1. Standard controls include log of total assets and *IFRS* dummy which is equals one for firms that follow the IFRS accounting standards, and zero otherwise. Model 1 also includes log GDP. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1) Control for average firm size in a country	(2) Alternative firm performance measure	(3) Alternative cut-off for family ownership	(4) Control for additional firm characteristics
Lagged Earnings Ratio	-0.0164**		-0.0140**	-0.0234**
	(0.007)		(0.007)	(0.009)
	0.027		0.049	0.011
Lagged Profit for Period		-0.0461***		
		(0.017)		
		0.007		
Mean (firm size)	-0.0630***			
	(0.005)			
	0.000			
Family* Lagged Earnings Ratio			0.0163	
			(0.022)	
			0.445	
Family			-0.0745***	
			(0.010)	
			0.000	

Liquidity				-0.0002
				(0.000)
				0.647
Leverage				0.0033
				(0.007)
				0.628
Intangible assets				-0.0001
				(0.001)
				0.918
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Country Dummies	No	Yes	Yes	Yes
N	17,744	19,499	17,427	15,372
Log Pseudolikelihood	-5,192	-5,687	-5,398	-4,474

Table 2A. Investor Protection and Top Management Turnover in Private Firms: Robustness

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is top management turnover dummy. *The anti-self-dealing index* is from Djankov et al (2008). *Legal* stands for the mean of three variables in La Porta et al. (1998), which measure the quality of the legal system and enforcement (i.e., efficiency of the judicial system, rule of law, and corruption index). *Corporate transparency index* is the governance indexe for private firms from the 2015 Doing business database prepared by the World Bank. *Individualism and Uncertainty Avoidance* are cultural indexes from Hofstede (1980, 2001). The Standard controls include log of total assets and *IFRS* dummy which is equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A. Country fixed effects

Variable	Index= English Origin (1)	Index= Anti-Self- Dealing (2)	Index= Legal (3)	Index= Corporate transparency (4)
Lagged Earnings Ratio	-0.0075	-0.0027	-0.0078	-0.0026
	(0.007)	(0.006)	(0.008)	(0.006)
	0.273	0.657	0.327	0.661
Index* Lagged Earnings Ratio	-0.0293**	-0.0251**	-0.0196	-0.0254**
	(0.013)	(0.011)	(0.013)	(0.011)
	0.024	0.027	0.135	0.025
Index	-0.0485***	-0.0488***	0.0425***	-0.0487***
	(0.008)	(0.008)	(0.013)	(0.008)
	0.000	0.000	0.002	0.000
Standard Controls	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes
N	17,744	17,744	17,744	17,744
Log Pseudolikelihood	-5,151	-5,151	-5,152	-5,151

Panel B. Alternative indexes: Individualism and Uncertainty Avoidance

Variable	Index= Individualism (1)	Index= Uncertainty Avoidance (2)
Lagged Earnings Ratio	-0.0048	-0.0208**
	(0.009)	(0.009)
	0.572	0.027
Index* Lagged Earnings Ratio	-0.0132	0.0138
	(0.012)	(0.012)
	0.273	0.259
Index	0.0122*	-0.0108*
	(0.007)	(0.007)
	0.086	0.098
Standard Controls	Yes	Yes
Industry Dummies	Yes	Yes
Year Dummies	Yes	Yes
N	17,744	17,744
Log Pseudolikelihood	-5,283	-5,283

Panel C. Logit

Variable	Index= English Origin (1)	Index= Anti-Self- Dealing (2)	Index= Legal (3)	Index= Corporate transparency (4)
Lagged Earnings Ratio	-0.0029	-0.0018	-0.0056	-0.0011
	(0.004)	(0.004)	(0.006)	(0.003)
	0.483	0.607	0.352	0.677
Index* Lagged Earnings Ratio	-0.0285***	-0.0200**	-0.0197*	-0.0220**
	(0.010)	(0.010)	(0.012)	(0.009)
	0.005	0.044	0.092	0.017
Index	-0.0181***	0.0090	0.0416***	-0.0207***
	(0.006)	(0.006)	(0.006)	(0.005)
	0.003	0.107	0.000	0.000
Standard Controls	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
N	17,744	17,744	17,744	17,744
Log Pseudolikelihood	-5,277	-5,285	-5,259	-5,273

Panel D. Linear Probability Model

Variable	Index= English Origin (1)	Index= Anti-Self- Dealing (2)	Index= Legal (3)	Index= Corporate transparency (4)
Lagged Earnings Ratio	-0.0017	-0.0010	-0.0018	-0.0009
	(0.002)	(0.001)	(0.002)	(0.001)
	0.289	0.425	0.241	0.544
Index* Lagged Earnings Ratio	-0.0494***	-0.0237**	-0.0269*	-0.0275**
	(0.017)	(0.012)	(0.016)	(0.012)
	0.004	0.050	0.096	0.022
Index	-0.0170***	0.0091*	0.0407***	-0.0203***
	(0.006)	(0.005)	(0.006)	(0.005)
	0.006	0.094	0.000	0.000
Standard Controls	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
N	17,754	17,754	17,754	17,754
R-squared	0.014	0.013	0.016	0.014

Table 3A. Top Management Turnover and Listing Status: Robustness

This table presents estimates of the relation between the top management turnover measure and firm performance. Probit is used in models (1)-(3). The average interaction and marginal effects are reported. The sample includes matched public and private firms from Western European countries. The dependent variable is top management turnover dummy. Details of the sample selection procedure are provided in the text. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. *Mean(firm size)* is a mean firm size within a country. *Profit for Period* is profit(loss) after taxation plus extraordinary profit(loss). Other variables are described in Table 1. Standard controls include log of total assets and *IFRS* dummy which is equals one for firms that follow the IFRS accounting standards, and zero otherwise. Model 1 also includes log GDP. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1) Control for average firm size in a country	(2) Alternative firm performance measure	(3) Control for additional firm characteristics	(4) Logit	(5) Linear probability model
Lagged Earnings Ratio	-0.0172**		-0.0297***	-0.0208***	-0.0083
	(0.008)		(0.009)	(0.007)	(0.006)
	0.022		0.001	0.003	0.151
Public * Lagged Earnings Ratio	-0.0449***		-0.0403***	-0.0397***	-0.0604***
	(0.013)		(0.015)	(0.013)	(0.015)
	0.001		0.007	0.002	0.000
Public	0.0179***	0.0109***	0.0129***	0.0145***	0.0170***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
	0.000	0.002	0.002	0.000	0.000
Profit for period		-0.0450**			
		(0.018)			
		0.012			
Public*Profit for period		-0.0821***			
		(0.022)			
		0.002			
Mean(firm size)	-0.0703***				
	(0.004)				

	0.000				
Liquidity					
			(0.000)		
			0.985		
Leverage			0.0002		
			(0.000)		
			0.260		
Intangible assets			-0.0002		
			(0.000)		
			0.390		
Standard Controls	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes
Country Dummies	No	Yes	Yes	Yes	Yes
N	34,965	37,628	31,185	34,965	34,976
Log Pseudolikelihood	-10,766	-11,508	-9,485	-10,653	
R-Squared					0.031

Table 4A. Top Management Turnover and Listing Status: Anti-self-dealing index

This table presents probit estimates of the relation between the top management turnover measure and firm performance. The average interaction and marginal effects are reported. The sample includes matched public and private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is top management turnover dummy. *The anti-self-dealing index* is from Djankov et al (2008). IFRS dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	The anti-self-dealing index above median (1)	The anti-self-dealing index below median (2)
Lagged Earnings Ratio	-0.0284***	-0.0066
	(0.009)	(0.010)
	0.003	0.521
Public * Lagged Earnings Ratio	-0.0307**	-0.0600**
	(0.015)	(0.029)
	0.043	0.036
Public	0.0008	0.0370***
	(0.005)	(0.006)
	0.868	0.000
Log Assets	0.0041***	0.0062***
	(0.001)	(0.002)
	0.000	0.000
IFRS dummy	-0.0155**	-0.0143*
	(0.007)	(0.008)
	0.024	0.063
Industry Dummies	Yes	Yes
Year Dummies	Yes	Yes
Country Dummies	Yes	Yes
N	21,329	13,636
Log Pseudolikelihood	-6,276	-4,340

Table 5A. Top Management Turnover and Listing Status: Robustness for Selection Effects

This table presents estimates of the relation between the top management turnover measure and firm performance. The sample includes public and private firms from Western European countries. Details of the sample selection procedure are provided in the text. The dependent variable is the top management turnover dummy. Results of the second stage of the treatment effects model described in the text are reported. Proportion of public firms in the region is used as an alternative instrument in the first stage. *IFRS* dummy equals one for firms that follow the IFRS accounting standards, and zero otherwise. Other variable are described in Table 1. Standard errors are adjusted for clustering at the firm level. The standard errors appear in parentheses below parameter estimates. p-values appear below standard errors. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Treatment effects model
Lagged Earnings Ratio	-0.0021***
	(0.001)
	0.013
Public * Lagged Earnings Ratio	-0.0601***
	(0.013)
	0.000
Public	-0.1637***
	(0.012)
	0.000
Log Assets	0.0215***
	(0.000)
	0.000
IFRS dummy	0.0044*
	(0.002)
	0.068
Selectivity variable	0.0690***
	(0.006)
	0.000
Industry Dummies	Yes
Year Dummies	Yes
Country Dummies	Yes
N	332,783

Appendix B. Description of country-level indexes

Index	*Description*
English origin	A dummy variable equal to one for English law countries and zero otherwise. Source: LaPorta et al. (1998).
Anti-self-dealing index	Average of ex ante and ex post private control of self-dealing. 1) Ex ante private control of self-dealing. Average of approval by disinterested shareholders and ex ante disclosure. a) Approval by disinterested shareholders Equals 1 if the transaction must be approved by disinterested shareholders, and zero otherwise. b) Ex ante disclosure. Average of the following three variables: • Disclosures by Buyer: Index of disclosures that Buyer must make before the transaction can be approved. Ranges from 0 to 1. One-third point for each of the following disclosures: (1) Mr. James owns 60% of Buyer; (2) Mr. James owns 90% of Seller; and (3) all material facts or the following three items: (a) description of the assets, (b) nature and amount of consideration, and (c) explanation of the price. • Disclosures by Mr. James Index of disclosures that Mr. James must make before the transaction can be approved. Ranges from 0 to 1. Equals 0 if no disclosure is required. Equals 1/2 if only the existence of a conflict of interest must be disclosed, without details. Equals 1 if all material facts must be disclosed. • Independent review Equals 1 if a positive review is required (e.g., by a financial expert or independent auditor) before the transaction can be approved and zero otherwise. Ex ante disclosure. (2) Ex post private control of self-dealing. Average of disclosure in periodic filings and ease of proving wrongdoing. a) Disclosure in periodic filings: Index of disclosures required in periodic disclosures (e.g., annual reports). One fifth-point for each of the following disclosures: (1) Mr. James owns 60% of stake in Buyer; (2) Mr. James owns 90% of Seller; (3) shares held beneficially by Mr. James (i.e., shares held and/or managed via a nominee account, trust, brokerage firm or bank); (4) shares held indirectly by Mr. James (e.g., via a subsidiary company or holding); and (5) all material facts about the transaction or the following three items: (a) description of the assets; (b) nature and amount of consideration; and (c) explanation for the price. b) Ease in proving wrongdoing: Average of the following five variables. • Standing to sue Equals 1 if a 10% shareholder can sue derivatively either Mr. James or the approving bodies or both for damages that the firm suffered as a result of the transaction, and zero otherwise. • Rescission Index of the ease in rescinding the transaction. Equals 0 when rescission is unavailable or only available when there is bad faith or when the transaction is unreasonable or causes disproportionate damage. Equals 1/2 when rescission is available when the transaction is

	oppressive or prejudicial. Equals 1 when rescission is available when the transaction is unfair or entails a conflict of interest. • Ease of holding Mr. James civilly liable: Equals 0 when the interested director is either not liable or liable only in cases of bad faith, intent, or gross negligence. Equals 1/2 when the interested director is liable if he either influenced the approval or was negligent. Equals 1 if the interested director is liable if the transaction is unfair, oppressive, or prejudicial. • Ease of holding the approving body civilly liable: Equals 0 when members of the approving body are either not liable or liable in only cases of intent, bad faith, or gross negligence. Equals 1/2 when members of the approving body are liable if they act negligently. Equals 1 if members of the approving body are liable if the transaction is unfair, oppressive, or prejudicial. • Access to evidence: One-quarter point for each of the following: (1) a shareholder owning at least 10% of the shares can request that the Court appoint an inspector to investigate Buyer's affairs; (2) the plaintiff can request any documents relevant to the case from the defendant (without specifying which ones); (3) the plaintiff can examine the defendant without the Court approving the questions in advance; and (4) the plaintiff can examine non-parties without the Court approving the questions in advance. One-eighth point for each of the following: (1) the plaintiff can examine the defendant but questions require prior Court approval; and (2) the plaintiff can examine directly the non-parties but questions require prior Court approval. Source: Djankov et al. (2008)
Legal	The average score across three variables presented below: (1) index of the judicial system's efficiency: Assessment of the "efficiency and integrity of the legal environment as it affects business, particularly foreign firms" produced by the country risk rating agency Business International Corp. (2) an index of the rule of law: Assessment of the law and order tradition in the country produced by the country risk rating agency International Country Risk (ICR). (3) the level of corruption: Assessment of the corruption in government produced by the country risk rating agency International Country Risk (ICR). Source: La Porta et al. (1998)
Corporate Transparency Index	Ranges from 0 to 6. One point for each of the following transparency measures: a) Annual financial statements must be audited by an external auditor; b) Financial statements must contain explanatory notes; c) Audit reports must be disclosed to the public; d) A company must disclose ownership stakes representing 10%; e) Board members' other positions and directorships must be disclosed; f) Managerial compensation must be disclosed on an individual basis. Source: Chakra, N. and H. Kaddoura (2015)
Anti-takeover provisions	Computed as the average of (1) 1 if it is forbidden by law to issue shares during a tender offer or if shareholder approval is needed, 0 otherwise; (2) 1 if it is forbidden by law to sell major assets during a tender offer or if shareholder approval is needed, 0 otherwise; (3) 1 if it is forbidden by law to use voting caps, 0 otherwise; (4) 1 if it is forbidden by law to restrict share transferability, 0 otherwise; (5) 1 if it is forbidden by law to use golden shares, 0 otherwise;

	(6) 1 if shareholder agreements are not frequently used, 0 otherwise; (7) 1 if at least two of the following three mechanisms are not frequently used among listed companies: multiple classes of shares, pyramid ownership structures, cross-shareholding ownership structures, 0 otherwise. Source: Nenova (2006)
Stock price synchronicity	Average R^2 from market model regressions for each country. Source: Jin and Myers (2006).
Uncertainty avoidance	A survey-based measure has been composed of the country scores on the following three questionnaire items: 1. How often do you feel nervous or tense at work? (mean score on a 5-point scale from 1 = always, to 5 = never). 2. Company rules should not be broken, even when the employee thinks it is in the company's best interest (mean score on a 5-point scale from 1 = strongly agree, to 5 = strongly disagree). 3. How long do you think you will continue to work for this company? (Percent answering [a] two years at the most, or [b] from two to five years. This is equal to 100 minus the percent planning to stay more than 5 years). The computation formula has been chosen to obtain equal contributions from all three questions to the variance uncertainty avoidance. Source: Hofstede (1980, 2001)
Individualism	A survey based measure derived from mean country scores on 14 questions dealing with "values in terms of the desired": the importance attached by respondents to the aspects of jobs indicated as challenge, desirable (living) area, earnings, cooperation, training, benefits, recognition, physical conditions, freedom, employment security, advancement, (relation with) manager, use of skills, and personal time (time for personal life). Answers to these questions were scaled according to five points ranging from "of utmost importance" to "of very little or no importance." The scores for groups of respondents were standardized across the 14 goals. Source: Hofstede (1980, 2001)