

## **Pre-Going Private Ownership around the World\***

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# Pre-Going Private Ownership around the World

## Abstract

Going private transactions are often highly leveraged, and give rise to potential agency conflicts among existing shareholders. But who exactly are those shareholders, and under what legal conditions are these transactions more likely to occur? We examine ownership structure prior to going private transactions in 33 countries around the world from 2002 to 2014. The data indicate strong and consistent evidence that pre-going private ownership is characterized by higher institutional and corporate ownership. Family ownership lowers the probability of a public to private transaction. Stronger creditor rights increase the probability of going private particularly for whole company and institutional buyouts.

**Keywords:** Ownership; Law and finance; Public to private transactions

**JEL Classification:** G2, G21, K22

## I. Introduction

Public to private buyout transactions (hereafter “going-private” or “buyout” transactions<sup>1</sup>) have grown in popularity around the world. For example, the Carlyle Group, one of the world’s largest and most successful private equity organizations, highlighted in their 2013 Q2 Results: “We have been active in Asia, recently closing one and announcing another public to private transaction in China.” Although, buyouts are supposed to create value by improving target firm efficiency (Guo, et al. 2011; Goergen et al., 2014a,b; Brewster et al., 2017), at different points in time, buyout transactions have been criticized in the media and have even been banned in some countries such as Italy. There has been growing concern in the media around the world that buyouts should be regulated. In 2006, for example, *The NY Times* reported that “LBOs should be illegal”.<sup>2</sup> In 2007, *The Economist* stated that private equity funds need regulation.<sup>3</sup> German governmental officials have characterized private equity firms as “locusts”.<sup>4</sup> Yet, an active buyout market for corporate control also serves a role of external corporate governance, and its aim is to improve efficiency. Introducing regulation might distort the governance role of the buyout funds as external monitors.

Although going private transactions have been widely studied in different countries (DeAngelo et al., 1984; Lehn and Poulsen, 1989; Halpern et al., 1999; Renneboog and Vensteenkiske, 2017), and ownership structures vary widely in different countries (Faccio and Lang, 2002), there is scant work that examines ownership structure and shareholder rights prior to going private in an international setting, apart from the continental European evidence of Achleitner et al. (2013). The worldwide growth in buyout funds taking firms private gives rise to question about whether there are differences in the ownership structure of firms prior to going private in different countries. Ownership naturally affects internal and external corporate governance. Different types of owners have different incentives in terms of how they affect a

firm's corporate policies (Connelly, et al. 2010; Anderson, et al. 2012; Coffee and Palia, 2016; McCahery and Vermeulen, 2016; Wood and Brewster, 2016), how efficiently they run the company, and also how they make decisions on whether to sell off the firm.

Given that buyout funds seek to improve a firm's efficiency, we claim that firms with certain ownership structure might be more likely to be taken private. Also, the way they are taken private might differ, as well. In order to assess the validity of these claims, it is helpful to understand whether or not shareholder ownership is systematically different before going private. Are public to private transactions more common for firms with block ownership? Do they differ depending on the buyout type?

Furthermore, a buyout typically involves leveraging the target company to a significant extent. The leverage creates an agency conflict between the investors in the target firm and its debtholders (Sherwin, 1988). When the target firm is restructured and left with sufficient funds to pay back its debt, it does not harm the creditors. However, the protection of creditors' rights becomes critical when the target firm is left insolvent or without necessary funds in order to sustain its operations.

Bankruptcy risk and expected agency costs are more relevant in the case of whole firm institutional buyouts than buildup strategies where the transaction was completed in several stages. Stronger creditor rights clarify and strengthen the lender's legal remedies, and, therefore, increase the supply of capital for institutional buyouts. In the absence of strong creditor rights, it could be harder to secure the requisite amount of debt finance, and build-up strategies may be more likely due to financial constraints. Also, in the case of management buyouts, information asymmetries for the new management team are less pronounced (Howorth et al., 2004), which mitigates the need to have stronger creditor rights to bring about completed deals.

We also examine whether legal conditions mitigate the probability of going private transactions. Better legal conditions ensure stronger certainty about the quality of exchanges and trading, thereby improving liquidity and lowering the cost of equity capital for publicly traded firms. As such, better legal conditions increase the likelihood of a firm being public and reduce the likelihood of a going private transaction.

Another concern about going private transactions is the possibility that they may lead to potential expropriation of minority shareholders through non-arms-length transactions. Going private imposes two primary costs for minority shareholders: lack of liquidity, and lack of transparency. In effect, a going private transaction potentially enables majority shareholders to extract greater rents from minority shareholders (DeAngelo, et al. 1984). Such misappropriation may happen even in developed countries, such as Canada and the U.S.<sup>5</sup> While the legal system in developed countries affords protections to shareholders in ways that mitigates the likelihood of such activity and provides redress in the event that it occurs, there is much more scope for opportunistic behavior in countries that do not afford such protections to minority shareholders. We, therefore, study whether there are any systematic differences in terms of country characteristics before going private transaction.

We examine these issues with a sample of 778 going private transactions between 2002 and 2014 from 33 countries, including Australia, Belgium, Bulgaria, Canada, China, Denmark, Finland, France, Germany, Greece, Honk Kong, Hungary, India, Ireland, Israel, Italy, Japan, the Republic of Korea, Lithuania, Malaysia, the Netherlands, New Zealand, Norway, the Philippines, Poland, Portugal, the Russian Federation, Singapore, South Africa, Spain, Sweden, the United Kingdom, and the United States of America.

We find that going private transactions are more likely if the firm is owned by institutional or corporate investors and less likely if it is owned by family. The data show strong and consistent evidence that pre-going private ownership is characterized by block corporate or institutional investor ownership, where block ownership is defined as a shareholder with 10% stake in the company in the year prior to going private. We find that going private through a buildup strategy is less likely if the firm is owned by family, while management buyouts are more likely when the firm is owned by a corporate investor.

Stronger creditor rights increase the probability of going private, especially in the case of whole company and institutional buyouts. We also find that the legal conditions decrease the likelihood of going private for those buyout types. While the results might be affected by potential endogeneity problems, we try to mitigate these by running several robustness tests and find largely consistent evidence.

We contribute to the management literature by analyzing ownership differences in public to private transactions in an international context. Our paper focuses on ownership differences and provides evidence from a multi-country setting to understand the association between law, institutions, and ownership on the probability of public to private buyouts.

This paper is organized as follows. Section II summarizes the hypotheses. The data are introduced in Section III. The summary statistics and univariate tests are discussed in Section IV. Multivariate analyses and limitations are discussed in Section V. Concluding remarks follow in Section VI.

## **II. Theory and Hypotheses**

The separation of ownership and control might be a major motive to extract private benefits by entrenched managers. Jensen (1986) claims that entrenched managers might not act in the best interest of existing shareholders. They might misuse the company's resources for empire building or to invest in negative NPV value projects. These agency costs might be more severe where the separation between the owners and management is more pronounced.

Aslan and Kumar (2011) claim that agency-cost theories explain the decision to go private. Ljungqvist, et al. (2016) analyze the consequences of public to private transactions when the incentives to sell become misaligned. Ownership structure is a central part of their model. They claim that shareholders in public companies do not internalize the consequences of their decision to sell to the wider economy; therefore, it has negative consequences for the economy. Renneboog, et al. (2007) show that shareholders in the UK receive a premium that results from firm undervaluation and incentive realignment. Mehran and Peristiani (2010) claim that the main reason for going private is due to poor financial visibility. Boot, et al. (2008) show in a theoretical model that firm ownership and investor participation are important determinants of a going private decision. Achleitner, et al. (2013) study how corporate control affects the likelihood of private equity acquisition for a sample of continental European firms. Political and governance factors are important for the going private decision. For example, Aguilera (2005) finds that corporate governance matters and director accountability varies, depending on the institutional setting and rule changes. Wright et al. (2016), for example, discuss the impact of Brexit on LBOs.

Owners are not the same. The time horizon of owners and investors affects investment decisions (Thanassoulis and Somekh, 2015) and voting practices (Stathopoulos and Voulgaris, 2016). Connelly, et al. (2010) claim that different types of shareholders might serve as an influential form of company governance. They suggest that corporate owners, on one hand,

provide capital to the firm; yet, on the other hand, they are mostly interested in subsequently selling their shares in a takeover. Typically, a corporate takeover is a lucrative exit strategy for investors generating a high premium (Greenwood and Schor, 2009). The effect of institutional investors such as banks on firm corporate policies is inconclusive (Gorton and Schmid, 2000; Agarwal and Elston, 2001). Yuan et al. (2009) show that financial institutions play an important role in governance of listed companies in China. We expect greater agency problems when the firm is controlled by corporate or institutional shareholders and, therefore, greater potential gains from public to private transactions. Furthermore, corporate or institutional investors might be more likely to exercise an exit opportunity and obtain a lucrative premium through a buyout. Therefore, we predict that firms with a greater percentage of institutional or corporate owners are more likely to be targets in going private transactions.

Corporate and institutional investors are concentrated owners and, as such, are more likely to be blockholders. As a blockholder, a corporate or institutional investor would have an exacerbated incentive to exercise a buyout for the following reasons. Public firms have significant costs of disseminating information (Bharath and Dittmar, 2010). Merton (1987) shows that under imperfect information expected returns to investors decrease with the size of the investor base. Block ownership by outside investors is associated with concentrated monitoring and private benefits. Blockholders can exercise their power over management. Yet, concentrated ownership often leads to costly overmonitoring and a decline in managerial initiative (Burkart, et al. 1997; Pagano and Roell, 1998). Furthermore, blockholders can often exercise their power, which leads to wealth expropriation from minority shareholders; these private benefits of block ownership have been confirmed by Barclay and Holderness (1989, 1991, 1992) through evidence that blockholder trades are at a premium, thus implying private benefits of control. Blockholders may also benefit



through production synergies associated with cross-ownership of other companies owned and controlled by the blockholders, and they make better use of those synergies without the costs of disseminating information in the ways required when the company is public. If the block ownership is associated with costly overmonitoring, a decline in managerial incentives, production synergies, and wealth expropriation, we would expect higher buyout probability to enable value creation through reducing agency costs and improvements in operating efficiency.

**H1:** *Corporate and institutional ownership increase the probability of a public to private transaction.*

**H2:** *Blockholdings of corporate and institutional ownership exacerbate the increase in the probability of a public to private transaction.*

Family firms, by contrast, have a substantially less pronounced separation of ownership and control. Family shareholders typically have tighter control over (or are a part of) the management team; as such, there is evidence that family owned firms have better performance and a lower cost of debt (Anderson and Reeb, 2003; Anderson, et al., 2003). Thus, companies owned by families are expected to have lower agency costs (Jensen and Meckling, 1976) and to run more efficiently.<sup>6</sup> As the potential for value creation associated with mitigating agency costs is less pronounced for buyouts of family firms, we expect family ownership to lower the probability of a public to private transaction. Ahlers et al. (2017) find that non-financial factors are particularly important among non-family firms in buyouts, and there is related evidence that innovation is valued less among family firms (Chang et al., 2010). Furthermore, there could be emotional ties

associated with family ownership that reduce the likelihood of a buyout (Zellweger and Astrachan, 2008).

**H3:** *Family ownership decreases the probability of a public to private transaction.*

**H4:** *Blockholdings of family ownership exacerbate the decrease in the probability of a public to private transaction.*

### **III. Data**

#### **A. Sample Selection**

We select a sample of worldwide public to private buyouts from the Zephyr database. We select all institutional and management buyouts where the public firm was a target in the buyout transaction and became private. We carefully check the delisting reason for each target firm and make sure that the delisting date is later than the buyout date. We include whole company buyouts and buildup strategies (i.e. where the transaction was completed in several stages). In the case of whole company buyouts, the entire firm is converted from a public to private company in a single transaction. In other words, whole company buyouts are those that are not done through a buildup strategy.

We construct the main measure of ownership using data from the Orbis database. The Orbis ownership database is a primary source for owner links around the world for around 7 million companies. We decided to use Zephyr as a source of buyout transactions, as it shares common identifiers with Orbis, and both databases are provided by one vendor—Bureau Van Dijk.

All financial information is primarily from Orbis, supplemented by Thomson Reuters. All financial data are from the last fiscal year end before the going private transaction. Our main sample contains 778 public to private transactions from 2002 to 2014 from 33 countries, including Australia, Belgium, Bulgaria, Canada, China, Denmark, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Ireland, Israel Italy, Japan, Republic of Korea, Lithuania, Malaysia, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Russian Federation, Singapore, South Africa, Spain, Sweden, the United Kingdom, and the United States of America.

We choose a control sample, as the distribution of buyouts is not random (Davis, et al. 2015). For each public to private firm, we find one matched firm based on country, industry, year, and revenue (Weir, et al., 2005; North, 2001; Klein and Zur, 2009). We summarize the sample decomposition in Table 1. In Column 2, we show all public to private deals in our sample; in Column 3, we show whole firm buyouts (buyouts that were not done through a buildup strategy); in Column 4, we show buyouts through buildup strategies; and, in Columns 5 and 6, we distinguish between management and institutional buyouts. In Panel A, we present composition by year. There is a peak in buyouts in 2006-2007, reaching a number of 228 deals in 2007. In Panel B, we present composition by country. Buyouts through buildup strategies are common; yet, only in certain countries, with the majority of deals taking place in France, Germany, Italy, and the US. This might be related to strong shareholders' rights and the difficulty of buying the whole company. In Panel C, we present composition by industry. Most of the deals occur in the services and manufacturing sector.

[Insert Table 1 here]

## **B. Ownership Measures**

We generate ownership measures based on the ownership data provided by Orbis. For each target firm going private, we extract information on its immediate shareholders. We then generate three types of shareholders: 1) INSTITUTION is equal to the percentage of ownership of institutional investors, including private equity, banks, venture capital, etc.; 2) CORPORATION is equal to the percentage of ownership of an industrial company; and 3) FAMILY is equal to the percentage of ownership of family.

We also generate the block ownership variables. We define block ownership when one type of shareholder holds more than 10% of the stock. We define three types of blockholders: 1) INSTITUTION\_BLOCK, equal to one if the ownership of institutional investors is greater than 10%; 2) CORPORATION\_BLOCK, equal to 1 if the percentage of ownership of the industrial company is greater than 10%; and 3) FAMILY\_BLOCK, equal to one if the ownership of family is greater than 10%, and zero otherwise.

## **C. Other Controls**

Although the main focus of our analysis is to analyze the relationship between ownership and public to private transactions, we also include other variables that are identified in the previous literature as determinants of buyout transactions. The theories of agency problems between the principal and agent of Jensen (1986) argue that firms with more free cash flow are more likely to be targets in buyout transactions (e.g., Halpern, Kieschnick, and Rotenberg, 1999; Lehn and Poulsen, 1989). Financial leverage is important in many buyout transactions, as it shows the magnitude of the borrowing costs. Yet, it has been shown that buyout transaction can cause wealth expropriation from bondholders to shareholders (Asquith and Wizman, 1990). Growth

opportunities are also related to the free cash flow hypothesis and debt level. Firms with low growth prospects might misuse the cash flows and invest in negative NPV projects. On the other hand, firms with excessive debt levels might underinvest and forgo positive NPV projects.

We, therefore, include the following control variables. First, we include target firm age (AGE), the age of the company in years. Second, we control for target firm total assets in the logarithm (ASSETS). Third, we include a return on assets (ROA) that proxies for profitability of the firm. Fourth, following Jensen (1986), we control for the misuse by entrenched managers of free cash flows (CASHFLOW). Fifth, we include the debt-to-asset ratio (LEVERAGE) that proxies for borrowing costs and wealth expropriation. Sixth, we control for the ratio of fixed assets to total assets (CAPINV). Finally, we include the market-to-book ratio (MB) to control for growth opportunities.

#### **D. Country Characteristics**

Investor protection has an important effect on firm governance (La Porta et al., 1998), we therefore include, as control variables, several measures that proxy for legal, institutional, and creditor rights. We control for creditor rights using an index developed by La Porta et al. (1998) and for legal origin an English legal region that is equal to 1, if a firm is incorporated in a country of English legal origin before going private, and zero otherwise. We also control for country market size using the natural log of GDP per capita of the country in which the firm is incorporated before going private.

#### **IV. Univariate Tests**

In Table 2, we compare the going private sample with the control sample of matched firms that remained public. We first report summary statistics for the going private sample and then for firms that remained public. In the last two columns, we present the difference between means of two samples and t statistics. The statistically significant t-test suggests that going private firms are different in terms of ownership from firms that remained public. In particular, going private firms have a higher institutional and corporation ownership percentage, but a lower family ownership percentage.

[Insert Table 2 here]

We also present our results graphically. In Figure 1, we show that the trends for different types of ownership are relatively stable over time. However, one can see that the average FAMILY ownership is higher for the non-buyout sample than for the buyout sample. In contrast, the average CORPORATION and INSTITUTIONAL ownership is lower for the non-buyout sample than for the buyout sample. This is in line with our univariate tests. We observe similar trends in Figure 2, where we only present whole company buyouts. Subsequently, in Figure 3, we present buyouts based on a buildup strategy. The plot suggests that there is only a difference in FAMILY ownership that is higher for the non-buyout sample than for the buyout sample.

[Insert Figures 1 to 3 here]

Table 3 presents the correlations between variables. Institutional and corporate ownership are positively and significantly correlated with the going private probability. Family ownership is negatively and significantly correlated with the going private probability.

[Insert Table 3 here]

## **V. Multivariate Regressions**

### **A. Ownership Structure**

We first examine how different shareholder types affect the probability of going private. We focus on three types of shareholders: institution, family, and corporation. We aggregate percentages of shares held by all shareholders from each of these three types. For example, institutional ownership is the percentage of shares held by all institutional shareholders. In Table 4, we present the results of logit regressions. In Models 1 to 5, the dependent variable is equal to 1, if the target firm went private after a buyout transaction, and 0 otherwise. In all models, standard errors are clustered by industry (Petersen, 2009). We report average marginal effects with p-values below.

[Insert Table 4 here]

In Model 1, we present the results for the whole sample of going private transactions. The institutional and corporate ownership has a positive and significant effect on the probability of going private, consistent with H1, while the family ownership has a negative and significant effect on the probability of going private, consistent with H3. All three ownership variables are significant at the 1% level. The average marginal effect of the institutional ownership is 0.0032.

The interpretation is that a one percent increase in intuitional ownership would increase the probability of going private by 0.32%. Similarly, one percentage increase in corporation ownership would increase the probability of going private by 0.23%. However, a one percent increase in family ownership would decrease that probability by 0.23%. The results are consistent with our predictions.

In Model 2, we present the results for a sample of targets that underwent a whole company buyout in one stage. We observe similar results. Corporate ownership has an even stronger effect. The probability of going private increases by 0.28% if the corporate ownership increases by 1%.

In Model 3, we present the results for the targets that went private in a buildup strategy, where the acquirer bought the target firm in several stages. In the case of a buildup strategy, only family ownership is a strong deterrent against going private buyouts. The probability of going private decreases by 0.60% if the family ownership increases by 1%. The other two types of ownership show no significant effect.

In Model 4, we present the results for management buyouts. The corporate ownership has a positive and significant effect (at the 10% level) on the probability of a management buyout.

In Model 5, we present the results for institutional buyouts. We show that corporate and institutional ownership is positively associated with an institutional buyout that results in going private, while family ownership is negatively associated with the probability of an institutional buyout. Again, all three are significant, and the effect magnitudes are very close to what we reported for the whole sample.

Many of the control variables are significant in Table 4. For example, we find that the probability of going private is higher for younger firms with lower profitability, higher free cash flows, higher leverage, and less fixed assets. We also find that the credit rights index increases



the probability of whole company and institutional buyouts. These findings are consistent with Cao, Cumming, Qian, and Wang (2015), who show that LBOs are facilitated by stronger creditor rights.

## **B. Ownership Block**

Instead of using aggregated ownership percentages, we look at the ownership structure by using a dummy variable for each of the three shareholder types. For each type, the dummy equals 1, if the aggregate ownership is higher than 10% of the total shares. For example, an institution block is equal to 1, if the aggregate institution ownership in a firm is higher than 10%. This process allows us to compare firms closely held by a particular type of shareholders with those not held closely by the same type of shareholders.

In Table 5, we present the results for the effect of block ownership on the going-private decision. As seen previously, in Models 1 to 5, the dependent variable is equal to 1, if the firm went private as a result of a buyout transaction, and 0 otherwise. In all models, standard errors are clustered by industry. We report average marginal effects with p-values below.

[Insert Table 5 here]

Results here confirm our previous findings reported in Table 4. We show that if a firm is closely held by an institution or corporation, the probability of going private is higher, consistent with H2. However, if closely held by family, the probability of going private is lower, as expected, based on H4. In Model 1, for the whole sample, all three ownership variables are significant. The average marginal effect of the institution block is 0.1381, significant at the 1% level, and that of

the corporation block is 0.1061, significant at the 5% level. The family block has a negative marginal effect of -0.1361, significant at the 1% level. On average, a firm closely held by institution (corporation) shareholders is 13.81% (10.61%) more likely to go private than a firm not closely held by institution (corporation) shareholders. A firm closely held by family shareholders is 13.61% less likely to go private than a firm not closely by family shareholders. Using both the whole firm buyout sample and the institutional buyout sample, we see consistent results.<sup>7</sup>

We find that block ownership is not related with the probability of going private in a buildup strategy. A family block is still a strong deterrent against going private in a management buyout, suggesting that firms with a strong family block have strong control over management.

### **C. Endogeneity of Ownership Structure**

In this subsection, we discuss the potential endogeneity issue when analyzing the ownership and the decision to go private. The problem of endogeneity is quite common in international studies (Reeb, et al., 2012). However, while it is extremely unlikely that the going private decision determines the firm's ownership structure, the firm might have some unobservable characteristics that might determine both ownership structure and the decision to go-private. Although it is difficult to completely address the endogeneity problem, we try to mitigate the potential bias in the three following ways. First, the carefully chosen sample design already corrects for the endogeneity concerns, as we match firms that go private with a similar control sample of firms that remain public, based on country, industry, year, and sales (Weir, et al., 2005; North, 2001; Klein and Zur, 2009; Davis, et al., 2015). Second, in order to further alleviate these concerns, we perform an additional test, where we include country  $\times$  year and industry  $\times$  year fixed

effects to capture omitted variables. Third, we instrument for the ownership structure and perform instrumental variable regression.

We test the robustness of our baseline results in Table 6. We replicate the results reported in Table 4 by adding country  $\times$  year fixed effects in Panel A and by adding industry  $\times$  year fixed effects in Panel B. The results reported in Table 6 with country  $\times$  year and industry  $\times$  year fixed effects support our baseline regressions. All effects remain similar to baseline findings in Table 4 in magnitude and statistical significance levels.

[Insert Table 6 here]

In Table 7, we present instrumental variable regressions. In Model 1 to 4, we present the results for the whole sample of going private transactions. The instrument for 1) INSTITUTION is an indicator variable that is equal to one, if the institution ownership is greater than the median largest industry ownership, and zero otherwise; 2) FAMILY is an indicator variable that is equal to one, if the family ownership is greater than the median largest industry ownership, and zero otherwise; and 3) CORPORATION is an indicator variable that is equal to one, if the corporation ownership is greater than the median largest industry ownership, and zero otherwise. The median industry ownership is calculated for the initial year of our sample. The median industry ownership is correlated with the firm's ownership structure but is unlikely to affect the buyout probability, except through the target's ownership structure. The first stage of our regressions (untabulated) suggests that instruments are valid. In Table 7, we present second stage instrumental variables regressions. All effects remain similar to previous findings in magnitude and statistical significance levels.

[Insert Table 7 here]

#### **D. Additional analyses**

Antidirector rights across countries might affect going private transactions in ways consistent with potential wealth expropriation of minority shareholders. Delisting may be undesirable for minority shareholders for at least two primary reasons. First, minority shareholders lose liquidity; and, second, transparency decreases due to fewer disclosure requirements. This implies that strong antidirector rights (measured using ADRI<sup>6</sup>) would deter whole company buyouts, while increasing the probability of build-up buyouts, where the acquirer buys the firm in several stages and delists it once it has majority votes. We tested this hypothesis (results not tabulated) and found some evidence that stronger antidirector rights increase the likelihood of going private in the case of a buildup strategy, while the effect on the probability of whole company buyouts was negative, albeit statistically insignificant. We also interacted an ADRI\_D<sup>7</sup> variable with an ownership type (results not tabulated) and found that positive relationships between corporate ownership and buyout, and between institutional ownership and buildup type buyout, is mitigated when ADRI is higher than its mean. The interaction of ADRI with other ownership variables and for other types of buyouts did not result in statistically significant results.

The level of corruption in a country and the degree to which the less powerful members of a society accept and expect power to be distributed equally might also impact buyout probabilities. Hence, we considered models including the Corruption Perception Index (CPI<sup>8</sup>) and the Power Distance Index (PDI<sup>9</sup>) as control variables (results not tabulated), and found these variables to not have any effect on our main results.

The weak effect of ADRI, CPI, and PDI may be a result of these variables having very little variability over the sample period for any given country. We have also tried the interaction of ADRI\_D, CPI\_D<sup>10</sup> and PDI\_D<sup>11</sup> with the ownership variables (results not tabulated). We find that the positive relationship between institutional ownership [corporate ownership] and buyout probability is mitigated when CPI [PDI] is higher than its mean. The other interaction terms did not show any significant results.

We analyzed interactions between ownership types and various proxies for cultural dimensions of the target country including Trust<sup>12</sup>, Individualism<sup>13</sup>, IDV<sup>14</sup>, MAS<sup>15</sup>, UAI<sup>16</sup>, ITOWS<sup>17</sup>, and IVR<sup>18</sup> (results not tabulated). The interaction of corporate ownership and Trust (only for Management buyouts); IDV (for all buyouts, whole firm buyouts, and institutional buyouts); MAS (for all buyouts, whole firm buyouts, and institutional buyouts); and IVR (for all buyouts and institutional buyouts) has a positive coefficient, indicating that these cultural variables increase the probability of a buyout when there is corporate ownership. We believe that future research can further investigate the effect of cultural dimension.

Finally, we tried standard industry fixed effects and country fixed effects regressions (without including any time fixed effects) and find that our results are unchanged to these alternative specifications (results not tabulated).

## **E. Limitations and Extensions**

In this paper, we assess a link between ownership and going private. The stability in different types of ownership in the period from -10 years to -1 year, prior to going private, is suggestive that ownership is not endogenous to going private. Our instrumental variable analyses are consistent with this interpretation, and our regression analyses with country, industry, and year

fixed effects confirm a link between ownership and going private. However, our sample does not offer a natural experiment nor a randomized test to provide further assessment of causality. Future work as other samples become available in different countries over different time periods might shed further light on this issue.

Also, further work could consider the performance implications of going private transactions for shareholders. Our cross-country legal analyses are suggestive of conflicts of interest between majority and minority shareholders. The extent of wealth expropriation and insider dealing, and other possible conflicts of interest, is worthy of further study.

## **VI. Conclusion**

In this paper, we examine the ownership structure before the public to private transaction. Based on data from 33 countries spanning 12 years, we find strong and consistent evidence that pre-going private ownership is characterized by higher institutional and corporate ownership. All these data suggest that buyout transactions are often motivated by reducing over-monitoring, agency problems, and improving management efficiency. We also find that family ownership (or block) is a strong deterrent against a going private buyout. This supports the predictions that family owned firms are run more efficiently<sup>19</sup>. Management buyouts are more likely when the firm is owned by a corporate investor. We also find that going private through a buildup strategy is less likely if the firm is owned by family, while management buyouts are more likely when the firm is owned by a corporate investor. Overall, the data are consistent with the view that corporate and institutional block ownership facilitates going private, while family ownership decreases the probability of going private. Overall, the data are consistent with the view that corporate and

institutional block ownership facilitates going private, while family ownership decreases the probability of going private.

Furthermore, we highlight the role of creditor rights and legal conditions. We find some evidence that stronger creditor rights increase the probability of going private, especially in the case of whole company and institutional buyouts, while the legal conditions decrease the likelihood of going private for those buyout types.

Our study has some managerial implications as well. The composition of ownership is one of the most important factors for improving a firm's efficiency. Going private transactions imply, for minority shareholders, a lack of liquidity and a lack of transparency. Consequently, some dispositions could be better at integrating all shareholders (minority and majority). The study also highlights the role of the legal system in protecting shareholders.

Future research could examine whether the shareholders, particularly the minority shareholders, were treated differently depending on the ownership structure. Future research could also examine the real operating consequences on firms, including labor and productivity, conditional on the pre-going private ownership in different countries around the world. Future research could also study the reason why family ownership positively affects the efficiency of the going private transaction.

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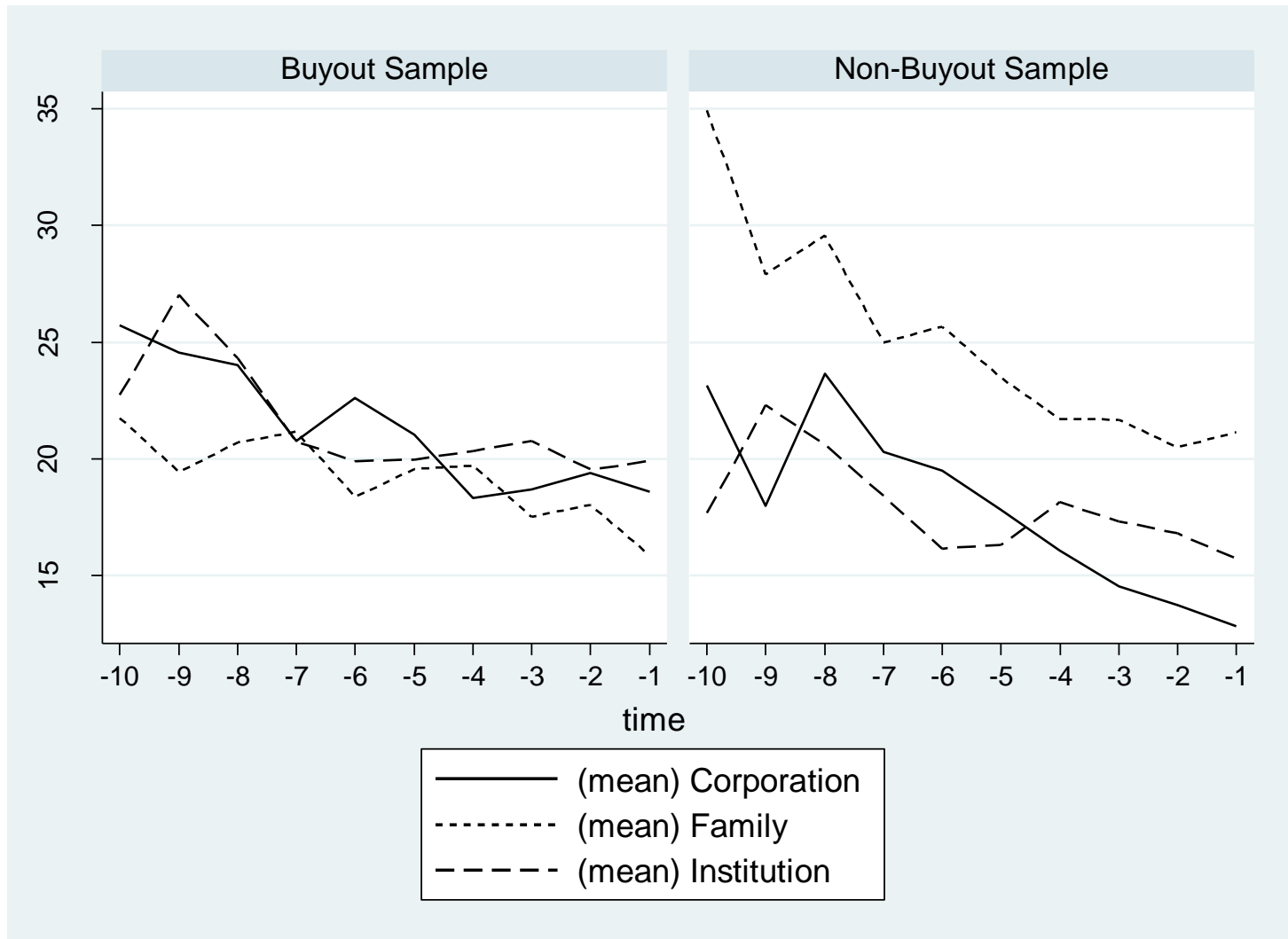
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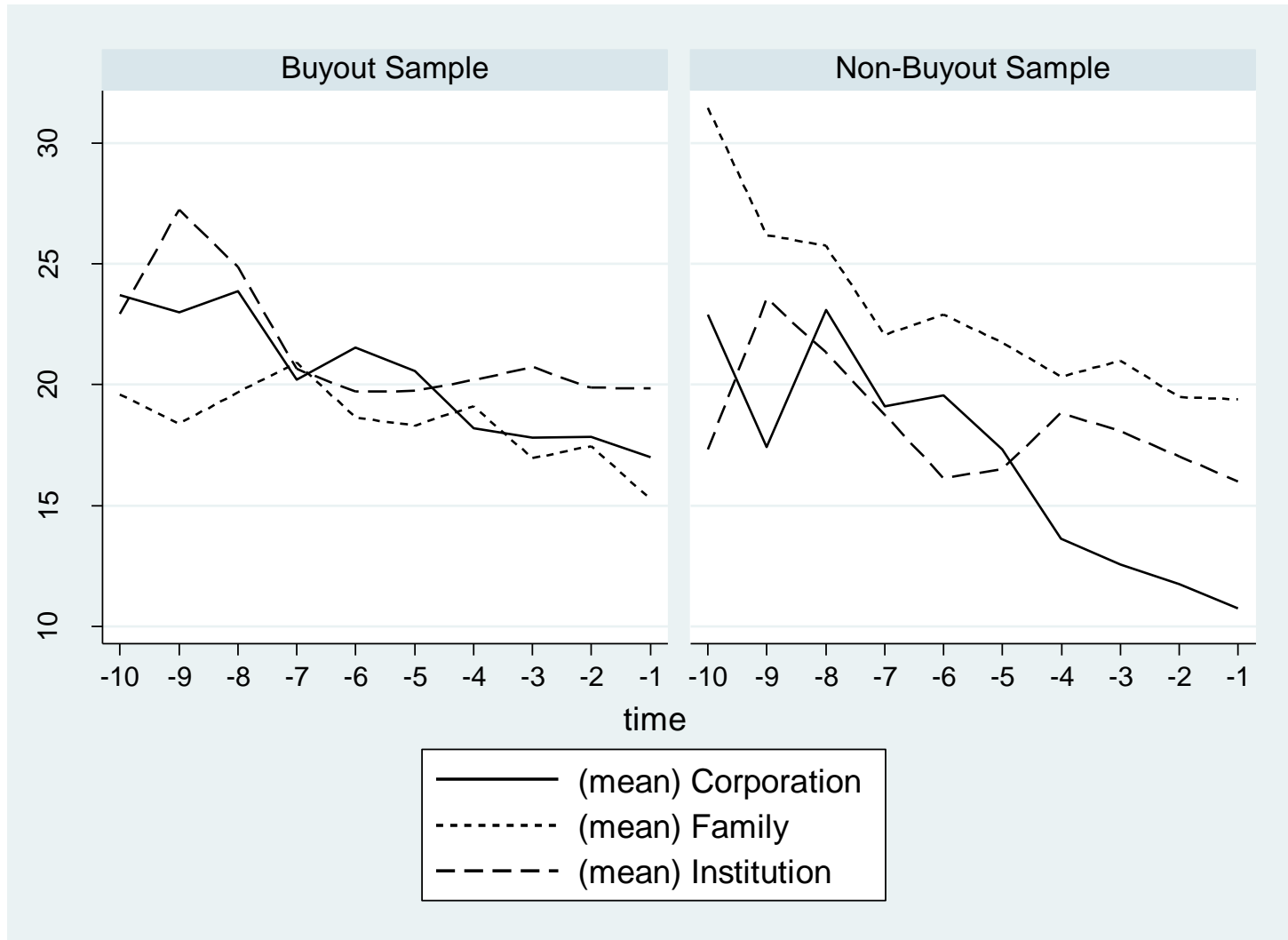
**Figure 1. The dynamics of ownership over time (All Public to private deals)**

This figure presents the dynamics of the average percentage in ownership in the months before the buyout and non-buyout deals.



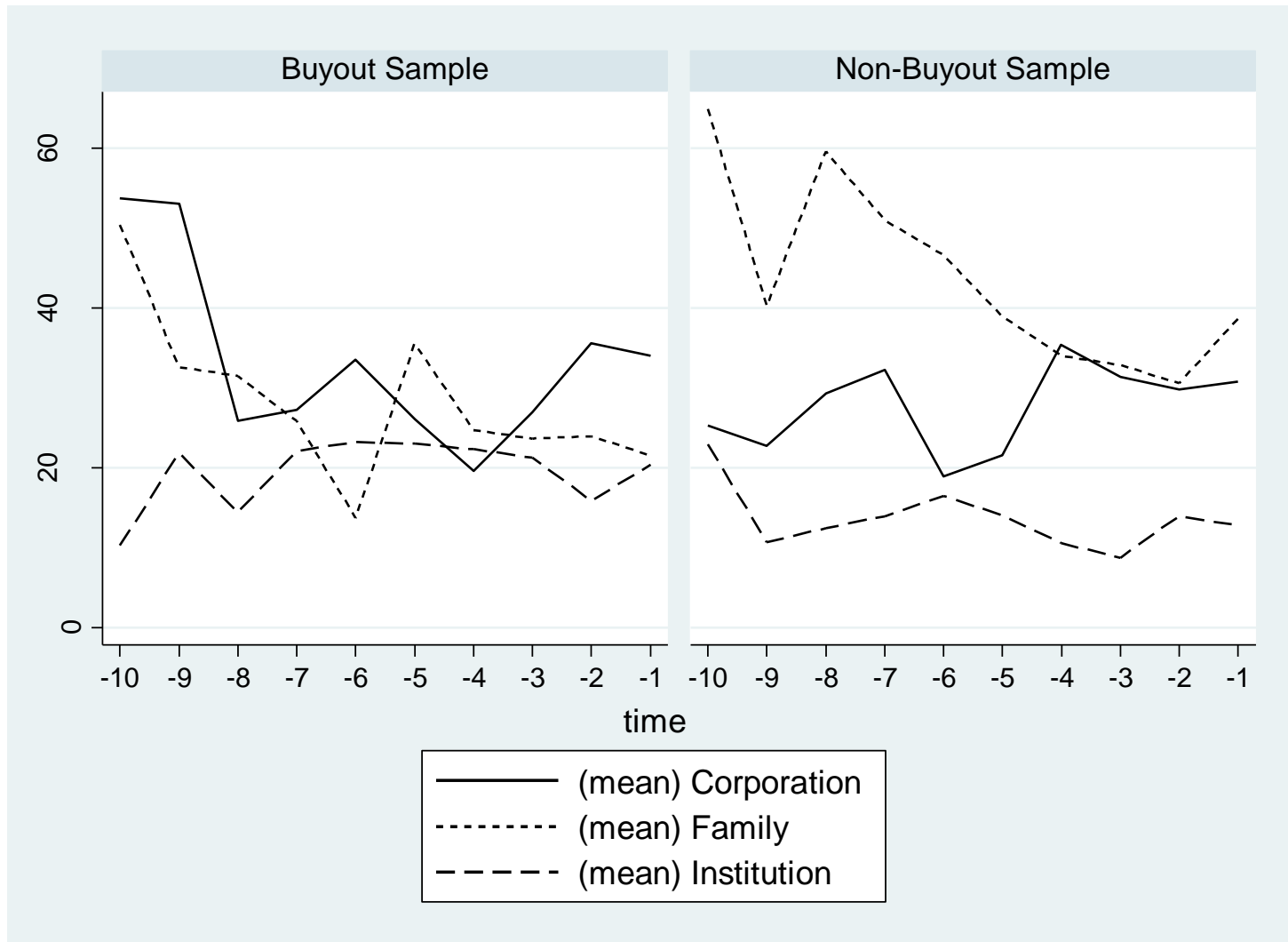
**Figure 2. The dynamics of ownership over time (Whole firm buyout)**

This figure presents the dynamics of average percentage ownership in the months before the buyout and non-buyout deals.



**Figure 2. The dynamics of ownership over time (Buildup strategy)**

This figure presents the dynamics of average percentage ownership in the months before the buyout and non-buyout deals.



**Table 1. Sample**

The sample contains 778 Public to private transactions from 2002 to 2014 around the world, matched with 778 control firms based on country, industry, year, and sales. In Column 2, we present a sample composition for all Public to private buyouts. In Column 3, we present a sample composition for whole company buyouts. In Column 4, we present the firms that went private in buildup strategies. In Columns 5 and 6, we present firms that went private through institutional buyout and management buyout, respectively. We present sample decomposition by year in Panel A, by target firm country in Panel B, and by target firm industry in Panel C.

**Panel A. Composition of sample by year**

Year	All Public to private deals	Whole firm buyout	Buildup strategy	Management buyout	Institutional buyout
2002	10	6	4	0	10
2003	80	64	16	34	46
2004	92	74	18	10	82
2005	140	126	14	14	126
2006	202	182	20	14	188
2007	228	210	18	12	216
2008	118	106	12	18	100
2009	86	80	6	14	72
2010	138	128	10	14	124
2011	160	142	18	6	154
2012	114	108	6	12	102
2013	114	112	2	8	106
2014	74	72	2	4	70
Total	1556	1410	146	160	1396

**Panel B. Composition of sample by country**

Country	All Public to private deals	Whole firm buyout	Buildup strategy	Management buyout	Institutional buyout
AU(Australia)	32 (2.06%)	30 (2.13%)	2 (1.37%)	2 (1.25%)	30 (2.15%)
BE(Belgium)	2 (0.13%)	0 (0%)	2 (1.37%)	0 (0%)	2 (0.14%)
BG(Bulgaria)	2 (0.13%)	2 (0.14%)	0 (0%)	0 (0%)	2 (0.14%)
CA(Canada)	108 (6.94%)	108 (7.66%)	0 (0%)	8 (5%)	100 (7.16%)
CN(China)	2 (0.13%)	2 (0.14%)	0 (0%)	2 (1.25%)	0 (0%)
DE(Germany)	34 (2.19%)	18 (1.28%)	16 (10.96%)	0 (0%)	34 (2.44%)
DK(Denmark)	8 (0.51%)	6 (0.43%)	2 (1.37%)	0 (0%)	8 (0.57%)
ES(Spain)	8 (0.51%)	6 (0.43%)	2 (1.37%)	0 (0%)	8 (0.57%)
FI(Finland)	4 (0.26%)	2 (0.14%)	2 (1.37%)	0 (0%)	4 (0.29%)
FR(France)	74 (4.76%)	30 (2.13%)	44 (30.14%)	10 (6.25%)	64 (4.58%)
GB(UK)	212 (13.62%)	210 (14.89%)	2 (1.37%)	44 (27.5%)	168 (12.03%)
GR(Greece)	4 (0.26%)	0 (0%)	4 (2.74%)	0 (0%)	4 (0.29%)
HK(HongKong)	2 (0.13%)	2 (0.14%)	0 (0%)	0 (0%)	2 (0.14%)



HU(Hungary)	4 (0.26%)	2 (0.14%)	2 (1.37%)	0 (0%)	4 (0.29%)
IE(Ireland)	4 (0.26%)	4 (0.28%)	0 (0%)	4 (2.5%)	0 (0%)
IL(Israel)	2 (0.13%)	2 (0.14%)	0 (0%)	0 (0%)	2 (0.14%)
IN(India)	2 (0.13%)	0 (0%)	2 (1.37%)	0 (0%)	2 (0.14%)
IT(Italy)	16 (1.03%)	6 (0.43%)	10 (6.85%)	0 (0%)	16 (1.15%)
JP(Japan)	92 (5.91%)	86 (6.1%)	6 (4.11%)	42 (26.25%)	50 (3.58%)
KR(Korea)	2 (0.13%)	2 (0.14%)	0 (0%)	0 (0%)	2 (0.14%)
LT(Lithuania)	2 (0.13%)	2 (0.14%)	0 (0%)	0 (0%)	2 (0.14%)
MY(Malaysia)	10 (0.64%)	10 (0.71%)	0 (0%)	4 (2.5%)	6 (0.43%)
NL(Netherlands)	26 (1.67%)	20 (1.42%)	6 (4.11%)	4 (2.5%)	22 (1.58%)
NO(Norway)	18 (1.16%)	14 (0.99%)	4 (2.74%)	0 (0%)	18 (1.29%)
NZ(New Zealand)	4 (0.26%)	2 (0.14%)	2 (1.37%)	2 (1.25%)	2 (0.14%)
PH(Philippines)	2 (0.13%)	0 (0%)	2 (1.37%)	0 (0%)	2 (0.14%)
PL(Poland)	12 (0.77%)	6 (0.43%)	6 (4.11%)	0 (0%)	12 (0.86%)
PT(Portugal)	2 (0.13%)	2 (0.14%)	0 (0%)	2 (1.25%)	0 (0%)
RU(Russia)	2 (0.13%)	0 (0%)	2 (1.37%)	0 (0%)	2 (0.14%)
SE(Sweden)	18 (1.16%)	16 (1.13%)	2 (1.37%)	0 (0%)	18 (1.29%)
SG(Singapore)	26 (1.67%)	24 (1.7%)	2 (1.37%)	2 (1.25%)	24 (1.72%)
US(USA)	808 (51.93%)	784 (55.6%)	24 (16.44%)	34 (21.25%)	774 (55.44%)
ZA(South Africa)	12 (0.77%)	12 (0.85%)	0 (0%)	0 (0%)	12 (0.86%)
<b>Total</b>	<b>1556 (100%)</b>	<b>1410 (100%)</b>	<b>146 (100%)</b>	<b>160 (100%)</b>	<b>1396 (100%)</b>

**Panel C. Composition of sample by industry**

Industry	All Public to private deals	Whole firm buyout	Buildup strategy	Management buyout	Institutional buyout
Agriculture	2	2	0	0	2
Construction	18	16	2	2	16
Finance, Insurance	256	234	22	34	222
Manufacturing	404	352	52	42	362
Mining	28	26	2	2	26
Retail Trade	172	166	6	20	152
Services	490	448	42	36	454
Transportation	110	102	8	10	100
Wholesale Trade	76	64	12	14	62
<b>Total</b>	<b>1556</b>	<b>1410</b>	<b>146</b>	<b>160</b>	<b>1396</b>

**Table 2. Univariate tests**

Variable	Going private Firms			Control Sample			T-test for the Difference	
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Diff in means	t-stat
<i>Ownership variables</i>								
INSTITUTION	778	19.4568	28.4473	778	11.9972	19.6090	-7.4596	-6.0221
FAMILY	778	3.4818	11.9795	778	5.3788	16.2718	1.8970	2.618658
CORPORATION	778	8.2785	23.1485	778	5.0733	16.1034	-3.2052	-3.17043
INSTITUTION_BLOCK	778	0.4370	0.4963	778	0.3111	0.4632	-0.1260	-5.17513
FAMILY_BLOCK	778	0.0835	0.2769	778	0.1272	0.3335	0.0437	2.812323
CORPORATION_BLOCK	778	0.1401	0.3473	778	0.1003	0.3005	-0.0398	-2.41981
<i>Other variables</i>								
AGE	778	24.0180	23.8733	778	26.7686	29.7786	2.7506	2.010198
ASSETS	778	5.4495	1.6659	778	5.4515	1.9316	0.0021	0.022584
ROA	778	0.1024	0.1866	778	0.1354	0.4493	0.0330	1.894442
CASHFLOW	778	-0.0044	0.1925	778	0.0216	0.3896	0.0260	1.66746
LEVERAGE	778	0.2622	0.3204	778	0.2339	0.4726	-0.0283	-1.38129
CAPINV	778	0.4938	0.4418	778	0.4340	0.7685	-0.0598	-1.88063
MB	778	7.7057	37.4491	778	5.8751	34.5855	-1.8306	-1.00165

**Table 3. Correlations**

	Buyout	Institution	Family	Corporation	Institution Block	Family Block	Corporation Block	AGE	ASSETS	ROA	CASH-FLOW	LEVERAGE	CAPINV	MB
BUYOUT	1.0000													
INSTITUTION	0.1510*	1.0000												
FAMILY	-0.0663*	-0.0681*	1.0000											
CORPORATION	0.0802*	-0.0957*	-0.0185	1.0000										
INSTITUTION BLOCK	0.1302*	0.7089*	-0.0380	-0.1306*	1.0000									
FAMILY BLOCK	-0.0712*	-0.0561*	0.8087*	-0.0154	-0.0101	1.0000								
CORPORATION BLOCK	0.0613*	-0.0512*	0.0185	0.8119*	-0.0856*	0.0276	1.0000							
AGE	-0.0509*	-0.0641*	-0.0677*	0.0250	-0.0769*	-0.0651*	0.0259	1.0000						
ASSETS	-0.0006	0.0314	-0.2177*	-0.0695*	0.0460	-0.2317*	-0.0542*	0.1469*	1.0000					
ROA	-0.0480	-0.0258	0.1524*	-0.0032	-0.0360	0.1195*	-0.0060	-0.0616*	-0.3510*	1.0000				
CASHFLOW	-0.0423	-0.0138	0.1414*	-0.0132	-0.0152	0.0986*	-0.0148	-0.0301	-0.2733*	0.9395*	1.0000			
LEVERAGE	0.0350	0.0486	0.1358*	0.0243	0.0052	0.0882*	0.0331	-0.0510*	-0.0039	0.5008*	0.4777*	1.0000		
CAPINV	0.0477	0.0012	0.0974*	0.0449	-0.0104	0.0522*	0.0502*	0.0417	-0.0685*	0.1131*	0.0489	0.1048*	1.0000	
MB	0.0254	-0.0149	0.1156*	0.0261	0.0003	0.0908*	0.0081	-0.0333	-0.1231*	0.1048*	0.0891*	0.0393	0.3163*	1.0000

**Table 4. Ownership structure and going-private decision**

This table presents logit regressions. The dependent variable in each regression is an indicator variable equal to one, if the firm goes private, and zero otherwise. The sample includes firms from 2002 to 2014. In Model 1, we present the results for the whole sample of going-private transactions. In Model 2, we present the results for a sample of targets that underwent a buyout of the whole company in one stage. In Model 3, we present the results for the targets that were acquired in a buildup strategy where the acquirer bought the target firm in several stages. In Model 4, we present the results for management buyouts. In Model 5, we present the results for institutional buyouts. All models include constant, industry and year fixed effects. Robust errors are clustered at industry level. We report the marginal effects with p-value in parentheses. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance levels. See Appendix 1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)
	All Public to private deals	Whole firm buyout	Buildup strategy	Management buyout	Institutional buyout
<i>Ownership</i>					
INSTITUTION	0.0032*** (0.0000)	0.0033*** (0.0000)	0.0033 (0.3963)	0.0001 (0.9839)	0.0034*** (0.0000)
FAMILY	-0.0023*** (0.0019)	-0.0018* (0.0574)	-0.0060* (0.0646)	-0.0011 (0.7378)	-0.0024*** (0.0056)
CORPORATION	0.0023*** (0.0000)	0.0028*** (0.0000)	-0.0011 (0.6385)	0.0059** (0.0113)	0.0021*** (0.0001)
<i>Controls</i>					
AGE	-0.0010* (0.0649)	-0.0009* (0.0864)	-0.0019* (0.0790)	-0.0006 (0.6267)	-0.0012* (0.0545)
ASSETS	-0.0113* (0.0745)	-0.0107 (0.1173)	-0.0334 (0.2229)	-0.0022 (0.9443)	-0.0095 (0.1942)
ROA	-0.2970*** (0.0000)	-0.2682*** (0.0001)	-0.5571 (0.3857)	-0.1835 (0.5634)	-0.3370*** (0.0045)
CASHFLOW	0.1420*** (0.0000)	0.1061* (0.0667)	0.4132 (0.2993)	0.1133 (0.7922)	0.1868*** (0.0004)
LEVERAGE	0.1011** (0.0368)	0.1054 (0.1086)	0.0666 (0.4035)	0.0586 (0.4711)	0.1009 (0.1050)
CAPINV	0.0487 (0.2027)	0.0411 (0.2245)	0.1289 (0.4918)	0.2558** (0.0286)	0.0555* (0.0770)
MB	0.0003 (0.5755)	0.0003 (0.5213)	-0.0022 (0.6786)	0.0038*** (0.0034)	-0.0002 (0.6594)
GDPCAPITA	0.0079 (0.5036)	0.0146 (0.5652)	0.0106 (0.7895)	0.0682 (0.2888)	0.0025 (0.8568)
CREDITOR_INDEX	0.0056 (0.1242)	0.0075* (0.0610)	0.0076 (0.6272)	0.0053 (0.6746)	0.0055 (0.2262)
LEGAL_UK	-0.0148* (0.0684)	-0.0051 (0.6618)	-0.0645** (0.0470)	0.0469 (0.2452)	-0.0162* (0.0546)
N	1556	1410	146	160	1396
PSEUDO R-SQ	0.0362	0.0379	0.0664	0.0690	0.0395
LOG LIK.	-1039.4481	-940.3442	-94.4810	-103.2515	-929.3679

**Table 5. Block ownership and going-private decision**

This table presents logit regressions. The dependent variable in each regression is an indicator variable equal to one, if the firm goes private, and zero otherwise. The sample includes firms from 2002 to 2014. In Model 1, we present the results for the whole sample of going-private transactions. In Model 2, we present the results for a sample of targets that underwent a buyout of the whole company in one stage. In Model 3, we present the results for the targets that were acquired in a buildup strategy where the acquirer bought the target firm in several stages. In Model 4, we present the results for management buyouts. In Model 5, we present the results for institutional buyouts. All models include constant, industry and year fixed effects. Robust errors are clustered at industry level. We report the marginal effects with p-value in parentheses. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance levels. See Appendix 1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)
	All Public to private deals	Whole firm buyout	Buildup strategy	Management buyout	Institutional buyout
<i>Ownership</i>					
INSTITUTION BLOCK	0.1381*** (0.0001)	0.1355*** (0.0001)	0.2312 (0.1696)	0.0260 (0.7923)	0.1466*** (0.0005)
FAMILY BLOCK	-0.1361*** (0.0000)	-0.1256*** (0.0035)	-0.2531 (0.1783)	-0.1818* (0.0801)	-0.1353*** (0.0000)
CORPORATION BLOCK	0.1061** (0.0107)	0.1301*** (0.0011)	-0.0512 (0.7921)	0.2304* (0.0512)	0.0965** (0.0484)
<i>Controls</i>					
AGE	-0.0010* (0.0551)	-0.0009* (0.0772)	-0.0025** (0.0207)	-0.0004 (0.7101)	-0.0012** (0.0479)
ASSETS	-0.0137** (0.0163)	-0.0140** (0.0232)	-0.0233 (0.2582)	-0.0175 (0.5748)	-0.0113* (0.0641)
ROA	-0.2891*** (0.0000)	-0.2634*** (0.0000)	-0.5521 (0.4228)	-0.2638 (0.4351)	-0.3181*** (0.0007)
CASHFLOW	0.1232*** (0.0000)	0.0866 (0.1548)	0.4559 (0.2676)	0.1392 (0.7768)	0.1584*** (0.0001)
LEVERAGE	0.1148** (0.0139)	0.1233* (0.0547)	0.0324 (0.7146)	0.0515 (0.4935)	0.1161* (0.0514)
CAPINV	0.0482 (0.2190)	0.0418 (0.2253)	0.1457 (0.4508)	0.2461* (0.0529)	0.0542* (0.0815)
MB	0.0002 (0.5733)	0.0003 (0.4819)	-0.0040 (0.3694)	0.0039*** (0.0038)	-0.0002 (0.6702)
GDPCAPITA	0.0035 (0.7035)	0.0115 (0.5214)	-0.0013 (0.9740)	0.1027 (0.1343)	-0.0042 (0.7083)
CREDITOR_INDEX	0.0066** (0.0265)	0.0076* (0.0614)	0.0090 (0.4020)	0.0020 (0.8923)	0.0067* (0.0625)
LEGAL_UK	-0.0214* (0.0645)	-0.0124 (0.3071)	-0.0733 (0.1540)	0.0332 (0.2933)	-0.0256* (0.0603)
N	1556	1410	146	160	1396
PSEUDO R-SQ	0.0311	0.0315	0.0703	0.0666	0.0330
LOG LIK.	-1044.9606	-946.5941	-94.0864	-103.5184	-935.7423

**Table 6. Robustness: Country x year and industry x year fixed effects**

This table presents logit regressions. The dependent variable in each regression is an indicator variable equal to one, if the firm goes private, and zero otherwise. The sample includes firms from 2002 to 2014. In Model 1, we present the results for the whole sample of going-private transactions. In Model 2, we present the results for a sample of targets that underwent a buyout of the whole company in one stage. In Model 3, we present the results for the targets that were acquired in a buildup strategy where the acquirer bought the target firm in several stages. In Model 4, we present the results for management buyouts. In Model 5, we present the results for institutional buyouts. All models include constant, controls, industry and year fixed effects. Robust errors are clustered at industry level. We report the marginal effects with p-value in parentheses. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance levels. See Appendix 1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)
	All Public to private deals	Whole firm buyout	Buildup strategy	Management buyout	Institutional buyout
<b>Panel A. Country x year fixed effects</b>					
<i>Ownership</i>					
Institution	0.0037*** (0.0000)	0.0038*** (0.0000)	0.0040 (0.5181)	-0.0009 (0.7926)	0.0039*** (0.0000)
Family	-0.0025*** (0.0020)	-0.0019* (0.0575)	-0.0090* (0.0643)	-0.0015 (0.6833)	-0.0026*** (0.0076)
Corporation	0.0029*** (0.0000)	0.0036*** (0.0000)	-0.0017 (0.6102)	0.0122* (0.0551)	0.0027*** (0.0000)
N	1556	1410	146	160	1396
PSEUDO R-SQ	0.0419	0.0438	0.0910	0.1182	0.0455
LOG LIK.	1033.3853	-934.5384	-91.9922	-97.7920	-923.5916
<b>Panel B. Industry x year fixed effects</b>					
<i>Ownership</i>					
Institution	0.0034*** (0.0000)	0.0035*** (0.0000)	0.0048 (0.2987)	-0.0002 (0.9485)	0.0037*** (0.0000)
Family	-0.0025*** (0.0022)	-0.0018* (0.0742)	-0.0076** (0.0342)	-0.0021 (0.5857)	-0.0025*** (0.0080)
Corporation	0.0023*** (0.0000)	0.0029*** (0.0000)	-0.0011 (0.7180)	0.0090*** (0.0081)	0.0021*** (0.0001)
N	1556	1410	146	160	1396
PSEUDO R-SQ	0.0382	0.0399	0.0844	0.0874	0.0423
LOG LIK.	1037.3032	-938.3024	-92.6621	-101.2137	-926.6817

**Table 7. Robustness: Instrumental Variable (IV) estimation**

This table presents instrumental variable regressions. The dependent variable in each regression is an indicator variable equal to one, if the firm goes private, and zero otherwise. The sample includes firms from 2002 to 2014. In Models 1 to 4, we present the results for the whole sample of going-private transactions. The instrument for 1) INSTITUTION is an indicator variable that equals to one, if the institution ownership is greater than the median largest industry ownership, and zero otherwise; 2) FAMILY is an indicator variable that equals to one, if the family ownership is greater than the median largest industry ownership, and zero otherwise; and 3) CORPORATION is an indicator variable that equals to one, if the corporation ownership is greater than the median largest industry ownership, and zero otherwise. All models include constant, controls, industry, and year fixed effects. Robust errors are clustered at industry level. We report the marginal effects with p-value in parentheses. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance levels. See Appendix 1 for variable definitions.

	(1)	(2)	(3)	(4)
<i>Ownership</i>				
INSTITUTION	0.0030*** (0.0000)			0.0030*** (0.0000)
FAMILY		-0.0025*** (0.0053)		-0.0020** (0.0458)
CORPORATION			0.0015** (0.0291)	0.0017*** (0.0061)
<i>Controls</i>				
AGE	-0.0010* (0.0988)	-0.0012** (0.0241)	-0.0011** (0.0361)	-0.0010* (0.0678)
ASSETS	-0.0084 (0.1534)	-0.0131*** (0.0069)	-0.0080 (0.1584)	-0.0108** (0.0257)
ROA	-0.2940*** (0.0000)	-0.3329*** (0.0000)	-0.3221*** (0.0000)	-0.2958*** (0.0000)
CASHFLOW	0.1367*** (0.0000)	0.1662*** (0.0000)	0.1540*** (0.0000)	0.1429*** (0.0000)
LEVERAGE	0.1024** (0.0412)	0.1210** (0.0110)	0.1105** (0.0154)	0.1031** (0.0328)
CAPINV	0.0508 (0.2844)	0.0529 (0.2159)	0.0491 (0.2681)	0.0495 (0.2279)
MB	0.0002 (0.6258)	0.0003 (0.5223)	0.0002 (0.7101)	0.0003 (0.5566)
GDPCAPITA	-0.0055 (0.3307)	-0.0034 (0.4570)	0.0060 (0.3493)	0.0051 (0.6000)
CREDITOR_INDEX	0.0068** (0.0409)	0.0016 (0.4542)	0.0033 (0.1006)	0.0056 (0.1503)
LEGAL_UK	-0.0252*** (0.0076)	-0.0138 (0.2409)	-0.0066 (0.6241)	-0.0173 (0.1386)
N	1556	1556	1556	1556
PSEUDO R-SQ	0.0207	0.0133	0.0131	0.0250
LOG LIK.	-1056.1931	-1064.2134	-1064.4382	-1051.5761

## Appendix 1. Variables definitions

Variable Name	Definition
<i>Dependent Variable</i>	
INSTITUTIONAL BUYOUT	An indicator variable equal to one, if the institution ownership is greater than the median largest industry ownership, and zero otherwise; “This is an acquisition where a Private Equity firm has taken a 50% stake or more in the Target company, or is the parent of the acquirer. The acquisition often takes place through a ‘new company’ (newco) or an acquisition vehicle. Often the target company’s management will take a small stake. If the buy-out is for less than 100 per cent of the target company, the deal is coded as IBO X%. Many deals described in the media as MBOs are coded on Zephyr as IBOs due to the fact that the management team did NOT take a majority stake in the target. There are very few occasions when venture capital may be inserted instead of private equity as the financing method. This would only occur when an early-stage company raises development capital funding, and the investors achieve a majority stake.” [Zephyr Definition]
MANAGEMENT BUYOUT	An indicator variable equal to one, [????]. “All or some of the existing management of the company buys at least 50% of the company from its existing owners. A private equity company is often brought in to aid the purchase through provision of equity funding. A ‘new company’ (newco) is normally formed by the management team specifically to purchase the target. The acquirer company would also show ‘MBO Team’ unless the name of the newco is known. If the name of the newco has been released, this company would be entered as the acquirer. If the Private Equity firm backing the deal takes a majority stake in the target, the deal is not defined as an MBO and would be coded as an IBO.”
WHOLE COMPANY BUYOUT	An indicator variable equal to one, if in the public-to-private buyout transaction acquirer has taken a 100% stake in the target company, and zero otherwise
BUILDUP BUYOUT	An indicator variable equal to one, if the public-to-private buyout transaction was completed in several stages, and zero otherwise
<i>Ownership</i>	
INSTITUTION	The percentage ownership of private equity or bank
FAMILY	The percentage ownership of family
CORPORATION	The percentage ownership of industrial company
INSTITUTION_BLOCK	An indicator variable equal to one, if ownership of private equity or bank is greater than 10%, and zero otherwise
FAMILY_BLOCK	An indicator variable equal to one, if ownership of family is greater than 10%, and zero otherwise
CORPORATION_BLOCK	An indicator variable equal to one, if percentage ownership of industrial company is greater than 10%, and zero otherwise
<i>Controls</i>	
AGE	The natural logarithm of the company age in years
ASSETS	The natural logarithm of total assets
ROA	Return on assets
CASHFLOW	Operating income minus capital investment minus change in net working capital scaled by total assets
LEVERAGE	The ratio of total debt to total assets
CAPINV	The ratio of fixed assets to total assets
MB	The firm’s market-to-book
GDPCAPITA	Gross national income per capita [World Development Indicators]
LEGAL_UK	An indicator variable equal to one, if the firm is incorporated in a country of English legal origin before going private, and zero otherwise [La Porta et al. (1998)]



## CREDITOR\_INDEX

Creditor rights index from La Porta et al. (1998). A score of one is assigned when each of the following rights of secured lenders are defined in laws and regulations: First, there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization. Second, secured creditors are able to seize their collateral after the reorganization petition is approved, i.e., there is no automatic stay or asset freeze. Third, secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers. Finally, if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights) and is constructed as at January for every year from 1978 to 2003. [La Porta (1998)]

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## NOTES

<sup>1</sup> Not all buyouts are going private transactions, and likewise, not all buyouts or going private transactions involve private equity sponsors. In this paper, we use the term ‘buyout’ to refer to public to private buyout transactions only, and consider both private-equity and non-private equity sponsored buyouts.

<sup>2</sup> Ben Stein, “On Buyouts, There Ought to Be a Law” *The New York Times* (September 3, 2006), at <http://www.nytimes.com/2006/09/03/business/yourmoney/03every.html?ex=1314936000&en=6679077c5af5c4a6&ei=5088&partner=rssnyt&emc=rss>

<sup>3</sup> “The uneasy crown,” *The Economist* (February 8, 2007) <http://www.economist.com/node/8663441>

<sup>4</sup> [http://en.wikipedia.org/wiki/Locust\\_\(finance\)](http://en.wikipedia.org/wiki/Locust_(finance))

<sup>5</sup> For example, in a recent legal dispute involving Protective Products of America (PPA), PPA allegedly did not disclose material information about a \$300 million contract award and was subsequently delisted and then put into bankruptcy. In bankruptcy, PPA was sold to a new company created by many of the prior managers of PPA. With the help of a PE fund, the new company bought PPA’s assets in bankruptcy for roughly \$10 million. Shortly thereafter, the managers of new announced the \$300 million contract award.

<sup>6</sup> The Antidirector Rights Index (ADRI) is formed by adding one when: (1) the country allows shareholders to mail their proxy vote, (2) shareholders are not required to deposit their shares prior to the General Shareholders’ Meeting, (3) cumulative voting or proportional representation of minorities on the board of directors is allowed, (4) an oppressed minorities mechanism is in place, (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary Shareholders’ Meeting is less than or equal to 10 percent the sample median, or (6) when shareholders have pre-emptive rights that can only be waived by a shareholders meeting.

<sup>7</sup> ADRI\_D is a dummy variable that is equal to one, if the ADRI is higher than the mean of ADRI, and zero otherwise.

<sup>8</sup> The Corruption Perceptions Index (CPI) scores and ranks countries/territories based on how corrupt a country’s public sector is perceived to be [Transparency International]

<sup>9</sup> The Power Distance Index (PDI) measures the degree to which the less powerful members of a society accept and expect that power is distributed unequally [<http://geert-hofstede.com/>]

<sup>10</sup> CPI\_D is a dummy variable that is equal to one, if the CPI is higher than the mean of CPI, and zero otherwise.

<sup>11</sup> PDI\_D is a dummy variable that is equal to one, if the PDI is higher than the mean of PDI, and zero otherwise.

<sup>12</sup> Trust is a dummy variable equal to one, if the trust is higher than the mean, and zero otherwise. Trust is an average answer to the following question: “Generally speaking, would you say that (1) “Most people can be trusted.” Or, (2) “Most people need to be very careful.”

<sup>13</sup> Individualism is a dummy variable equal to one, if the individualism is higher than the mean, and zero otherwise. Individualism is an average answer to the following question: “Incomes should be more equal.” Or, “We need larger income differences as incentives for individual effort.”

<sup>14</sup> IDV is a dummy variable equal to one, if the IDV is higher than the mean, and zero otherwise. IDV is the Individualism versus Collectivism of the respective target country (see <http://geerthofstede.com/national-culture.html>).

<sup>15</sup> MAS is a dummy variable equal to one, if the MAS is higher than the mean, and zero otherwise. MAS is the Masculinity versus Femininity of the respective target country (see <http://geerthofstede.com/national-culture.html>).

<sup>16</sup> UAI is a dummy variable equal to one, if the UAI is higher than the mean, and zero otherwise. UAI is the Uncertainty Avoidance Index of the respective country target country (see <http://geerthofstede.com/national-culture.html>).

<sup>17</sup> ITOWS is a dummy variable equal to one, if the ITOWS is higher than the mean, and zero otherwise. ITOWS is Long -Term Orientation versus Short-Term Normative Orientation of the respective target country (see <http://geert-hofstede.com/nationalculture.html>).

<sup>18</sup> IVR is a dummy variable equal to one, if the IVR is higher than the mean, and zero otherwise. IVR is the Indulgence versus Restraint of the respective target country (see <http://geert-hofstede.com/nationalculture.html>).

<sup>19</sup> Westhead and Cowling (1997) study the performance between family and non-family unquoted companies in the UK. They find that family companies are more interested in non-financial objectives than non-family companies.

Daily and Dollinger (1992) and Neubauer and Lank (1998) find that family firms have superior performance to non-family firms. Ganderrio (1999) found that family firms have a higher level of ROE and are financially stronger than non-family firms. Anderson and Reeb (2002) show that family ownership is prevalent and substantially more profitable and more valuable than non-family ownership.

<sup>20</sup> In untabulated analysis, we checked whether our results are robust to the definition of the block ownership of 5% and 20%. The results remain unchanged.