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Creditor Rights and LBOs

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Creditor Rights and LBOs

Abstract

This paper examines the relation between legal conditions and leveraged buyouts (LBOs) in 49 countries. The data indicate that sophisticated PE fund managers carrying out large international LBOs can only partially mitigate costs associated with inefficient legal protections. LBOs are more active in countries with strong creditor rights. Club deals are more likely to occur in countries with weak creditor rights. Cross-border LBO investment is more common from strong creditor rights countries to weak creditor rights countries. Premiums offered to shareholders are on average negatively correlated with creditor rights for both domestic and cross-border LBOs.

Key Words: LBOs, Creditor rights, Private Equity, Cross border, Club deal, Law and Finance

JEL Codes: G24, G32

I. Introduction

Cross-country analyses of the impact of laws and institutions on access to finance and the structure of financial arrangements have been a central theme in many empirical studies in recent years. Under the “law matters” view (La Porta et al., 1998, 2002), legal conditions affect both the availability and structure of finance. Under the Coasian view (Bergman and Nicolaievsky, 2007), regulations are comparatively less important due to the ability of sophisticated parties to structure optimal arrangements to avoid any impediments of the legal and institutional environment. In this paper, we test these competing propositions by examining a market with very sophisticated investors: the international leveraged buyout (“LBO”) market. The context herein is important, because if a private investor can arrange contracts and use other mechanisms to overcome costs associated with legal inefficiencies, then one would expect that such a sophisticated investor would be a private equity (“PE”) fund manager carrying out large international LBOs (Nikoskelainen and Wright, 2007; Nielsen, 2008; Officer et al., 2008).

LBO deal volume has steadily increased since 1995, reaching \$400 billion in 2006 worldwide and approximately 20% of global M&A volume. PE investment and LBO activities have enormous economic impact, mostly notable in corporate control, capital flows and efficiency improvement. Recent empirical evidence, primarily drawn from US samples, shows LBOs activities on average create economic value in term of improving target firm’s operating performance, employment, patent, and corporate governance, among other things (Davis et. al. 2008, Lerner et. al. 2008, Guo et al. 2010).

This paper examines whether the institutional environment influences LBO activities in different countries. We conduct our analysis in three main steps. First, we

document the LBO activities around the world, including deal volume, deal characteristics, and takeover premiums. Second, we examine the relation between LBO activity and the institutional environment, particularly creditor rights. Third, we examine whether PE sponsors strategically engage in club and cross-border deals to mitigate the costs associated with weak creditor rights, and if so, whether this alleviates any influence associated with the costs of inefficient legal systems.

Our sample includes LBOs completed between 1995 and 2007 around the world, and includes both public and private firms. The data support both the law and finance and the Coasian views: legal conditions do matter, but sophisticated LBO investors engage in cross-border and club deals in ways that mitigate the costs of weak legal environments. The data indicate that the volume of LBO activity is significantly larger in countries with better creditor protection, even when deals from the US (where creditor rights are weaker and the LBO market is well developed) are included in the sample. The premium offered to shareholders is significantly lower in countries with stronger creditor rights. The data further indicate cross-border LBO investments are more likely from sponsors in countries with stronger creditor rights towards targets in countries with weaker creditor rights.

This paper contributes to three streams of literature. First, this paper is the one of the few studies that describes the LBO activities in countries beyond US. A contemporaneous paper by Axelson et al. (2009) considers the leverage and pricing of 153 largest buyouts ('mega buyouts') worldwide, but do not examine legal sources of international differences. LBO activities in non-US countries have arguably become more important over time, and as such it is worth considering a wide range of deals and why some countries have more developed LB markets. In term of deal frequency, more

than 60% of LBOs occur in other countries (40% if one excludes both the US and the UK). Understanding LBOs in countries other than US is important because LBOs involve a multiple of parties in the financial system. Further, from a policy perspective, it is worth examining whether legal factors matter to LBOs.

Second, our study shows how the institutional environment (including creditor rights, shareholder rights, legal origin, contract environment, and financial systems) and economic development influence LBO activities and pricing in buyouts. Understanding the channels through which they affect buyouts has important implications for LBO sponsors, limited partners and policy makers. As Tirole (2006) points out, LBOs are considered as a governance instrument of the corporate control market and essentially create “a new and superior form of corporate governance.” This perspective is consistent with Jensen (1986, 2008)’s view that LBOs mitigate agency problems associated with free cash flow and thereby help to align management’s incentive. Qian and Strahan (2007) and Bae and Goyal (2009) find that in countries with better creditor rights, bank loans tend to have lower spread and longer maturity. Axelson et al. (2009) do not find evidence that leverage structure has pricing impact in mega buyouts, but do find evidence that economy-wide cost of borrowing seems to drive both leverage and pricing in mega buyouts. Axelson et al. (2009) do not examine the effect of legal conditions on LBO markets. Ljungqvist et al (2007) find that US buyout funds accelerate their investment flows when credit market conditions loosen. Lerner and Schoar (2005) show legal conditions matter private deals in developing countries, but do not examine LBOs or creditor rights. We extend this literature by examining how the economy-wide institutional factors such as creditor rights impact LBO deal structure and pricing.

Finally, our study examines the cross-country and cross-border corporate governance role of LBOs. Rossi and Volpin (2004) find that M&A activity largely depends on country-specific legal environment and that cross-border M&As play important corporate governance role by improving investor protection within target firms. Their analysis excludes LBOs. Recent studies use various measures of the quality of the legal and regulatory environment within a country as proxies for corporate governance. For example, La Porta et al. (1998, 2002) show that differences in laws, regulation and enforcement correlate with the development of capital markets, the ownership structure of firms and the cost of capital. Our findings contribute to the literature by showing LBOs play a cross-border governance role and creditor rights in the home country are important for this mechanism to be effective. This finding herein is important, as it highlights the role of legal impediments even for extremely sophisticated investors carrying out large international LBOs.

This rest of the paper goes as the follows. Section II discusses the hypotheses and the methodologies used to test the hypotheses. Section III discusses the sample selection criteria and provides descriptive statistics. Section IV presents the empirical results. Section V concludes.

II. Hypotheses and Methodology

A. Hypotheses

LBO transactions create new private organizations that are often financed through a combination of equity from PE investors and debt from a number of creditors. One common characterization to all buyouts is the extensive use of leverage in their financial structure. LBOs transfer control to improve firm value by reducing agency problems

associated with free cash flows (Jensen, 1986, 2008). PE sponsors often acquire private or public firms with about 25% of their own equity capital and 75% of borrowed money. Access to credit is crucial for LBOs. Use of leverage by a PE sponsors improves operating efficiency of the target (Jensen, 1986, 2008). As well, leverage aligns incentives between general partners and limited partners in a PE fund by providing a governance mechanism over general partners (Metrick and Yasuda, 2009). Given the centrality of leverage in LBOs, one might conjecture that differences in creditor rights to be related to LBO activity across countries.

While the effect of law on finance is well documented in many contexts, our analysis is unique and important in that we focus on very sophisticated investors that arguably could potentially be able to mitigate costs of weak legal conditions through private ordering of financing arrangements. Under the “Coasian view” (Bergman and Nicolaievsky, 2007), legal conditions such differences in creditor rights across countries do not play a pronounced role because sophisticated parties, such as those in LBO markets, can structure optimal arrangements to avoid any impediments of the legal and institutional environment. For example, sophisticated PE investors can mitigate legal impediments to buyouts through arranging club deals. Club deals have the effect of curtailing capital costs and constraints. PE sponsors need not fund their acquisitions only with own capital, especially in large transactions. In club deals, several PE sponsors form a consortium and pool their equity capital and debt financiers together in acquisitions. PE sponsors form club deals due to capital constraints, diversification, or the ability of club to obtain favorable debt amounts or prices. The benefits of club deals will be more pronounced in countries with poorer protection for creditors since debt financing will be

more difficult to obtain. We thus hypothesize that club deals are likely to be used by LBO sponsors to mitigate debt financing constraint in countries with poor creditor rights.

Sophisticated PE investors can likewise mitigate legal impediments to LBOs through foreign investment. Cross-border M&As help improve corporate governance since most of the acquirers go to target countries with poor shareholder's rights, a proxy for poor governance environment (Rossi and Volpin, 2003). LBOs are different from strategic sponsored M&As: debt financing is much more important in the former than the latter. In countries with poorer creditor rights, LBO targets are more likely to receive cross-border PE sponsors, since domestic PE sponsors will find it hard to get debt financing while foreign PE acquirers from countries with better creditor rights often have easier access to debt financing from home country. Therefore, we expect to see more cross-border deals with targets in countries with weak creditor rights and more capital flow from countries with relatively high creditor rights scores.

While club deals and cross-border deals potentially mitigate the costs of legal inefficiencies, we might conjecture that these mechanisms (and possibly others) would not completely eliminate expected costs of legal impediments. Transaction costs and legal risks associated with enforcing creditor rights are likely to be nontrivial despite the reduction in the expected costs of legal inefficiencies with club deals and cross-border transactions. If sophisticated parties can at best only mitigate, and not eliminate, inefficiencies with the legal system through transaction structures, then differences in laws such as creditor rights across countries will be related to LBO activity across countries.

In countries with poor creditor rights, debt financing is comparatively more difficult to obtain and more expensive (Djankov et al., 2007; Bae and Goyal, 2009). As such, under the “law matters” view (La Porta et al., 1998), we would expect that countries with poor creditor rights will have fewer and smaller LBO transactions.

In addition to deal volume, legal conditions may likewise affect deal prices, but theoretical arguments as to the direction of this effect are not as straightforward. On one hand, in countries with better creditor rights, lenders are in a stronger position to impose restrictive covenants and pricing power on borrowers given the legal system provide effective means of enforcing such contracts, which lowers the profitability space for the LBO sponsor. This constraint would imply that LBO premiums are negatively related to creditor rights. Similarly, for targets that in located in countries with weaker creditor rights, this constraint would imply cross-border deals have lower premiums than domestic deals.

On the other hand, there is evidence from studies on the returns to PE investments across countries that returns are lower in countries with weaker legal conditions (Lerner and Schoar, 2005). Returns are lower because countries with weaker legal conditions have less liquid exit markets and less transaction certainty upon exit. An expectation of lower returns in countries with weaker legal conditions implies that LBO sponsors will be incentivized to pay less ex ante for any given target. Further, as weaker legal conditions increase the spreads on debt (Bae and Goyal, 2009), LBO sponsors may only be able to afford lower premium for a given target. Taken together, these factors suggest imply weaker legal conditions are negatively related to premiums.

These competing propositions are examined in the subsequent sections based on a new dataset described in section III. Empirical methods are first described below in the next subsection.

B. Methodology

B.1 Variable definition and measurement

We measure LBO activities in the following four dimensions: deal volume, sponsor clubbing, cross-border, and buyout pricing (premium paid to shareholders). Deal volume measure uses $\log(\text{Total Deal Value})$ and $(\text{Deal Value})/(\text{Total Takeover Market Value})$ at the country level, $\log(\text{Deal Value})$ and $(\text{Deal Value})/(\text{Total Market Cap})$ at the transaction level. Club deal is a dummy variable, which equals one if there are multiple LBO sponsor in a deal and zero if single-sponsored. Cross-border is a dummy variable which equals one if the nationality of the LBO fund is different from the nationality of target firms. Buyout pricing or premium paid to shareholders uses $(\text{Offering price})/(\text{Stock Price One Day Before Announcement})$ and $(\text{Offering Price})/(\text{Stock Price One Month Before Announcement})$. All variables are measured in the view of target firms.

Our institutional variables and indices for the sample of countries are summarized in Appendix I and II, respectively. The key institutional variable of concern is creditor rights. It is an index taking value from zero (poor creditor rights) to four (strong creditor rights). The index is computed as the sum of scores on four measures of credit protection. The first measure is whether secured creditors are able to seize their collateral once a reorganization petition is approved ("automatic stay" clause). The second measure is whether restrictions such as creditor consent must be observed when a borrower files for reorganization, as opposed to debtors seeking unilateral protection from creditors' claims

by filing for rehabilitation. The third measure is whether secured creditors are paid first out of the proceeds of liquidating a bankrupt firm or if third-party claims take priority. The final measure is whether creditors are responsible for running a business during reorganization, rather than having the borrowers to continue running the business. For each of the measures, a score of one is given if the answer is yes. Details of the creditor rights indices are in La Porta et al. (1998) or Djankov et al. (2007). La Porta et al. (1998) use creditor protection to measure the extent of appealing debt claim. Strong creditor protection, however, also puts restrictions on firms' operations while decreasing the cost of debt financing.

We also control for legal origin and investor protection for equity shareholders. Rajan and Zingales (2000) argue that legal environment is essential for corporate governance mechanism to be effective. La Porta et al. (1998) find that countries with the common law origin have better investor protection and more developed economy than countries with civil law origin. They also consider the levels of investor protection provided in each country, using the index of anti-director rights. The anti-director rights is an index which equals the sum of five dummy variables describing the practices of capital requirement to call for annual meeting, proxy voting by mail, share-blocking before meeting, cumulative voting, oppressed minorities mechanism, and preemptive rights to new issues. The computation method is similar to the creditor rights index. Spanman (2009) updated the antidirector rights indices by using similar approach. Jarrell and Bradley (1980) find that strong investor protection regulation designed to safeguard target shareholders during takeovers result in higher final purchases price paid to target firms and lower returns to acquirers. Djankov, McLiesh, and Shleifer (2007) review the

scores of these institutional factors for the past 25 years and find this measure is highly persistent over time.

Since access to debt financing and future exit options are important issues for LBOs, we expect the development of banking system, bond market and stock market influent LBO activities. We include size of domestic stock market and GDP as control variables. The financial systems cross countries are characterized by main banking system and capital market system. Based on their relatively development and efficiency, the literature groups them into two groups, referring as “Anglo-Saxon” or market-based system and “Continental-German-Japanese” banking model. Demirguc-Kunt and Levine (2001) shows that countries with market-based system have more developed capital market that leads to better economy growth. In addition to the dummy for market-based system vs. bank-based system, we also include the measure of relatively depth of market such as ratio of domestic stock market size to GDP.

B.2 Analytical methods

In the first step, we document the LBO activities around the world: its frequency distribution cross countries, years, and industries. We also document the key characteristics of the target firms, LBO deal volume, premium and their difference cross types of deals or institutional environment. These summary statistics and univariate comparison give us a rough but overall picture of LBO activities around the world.

We then proceed to examine the relation between institutional environment, particularly creditor rights and the LBO activities. We conduct the tests at both the country level and the deal level. In the country level test, we first compute average volume measures for each country by aggregating deal value of all target firms, then run

cross sectional regressions with aggregate country level deal volume as the dependent variable and country level institutional factors and development measures as explanatory variables. We also examine the relation at the deal level, where firm level characteristics are also included along with the country level factors. To obtain efficient estimates of coefficients, the standard errors of coefficient estimates on the country level factors are clustered. Clustering in two dimensions, such as by country and time (Petersen, 2009), do not materially affect the results.

Finally, we examine whether LBO sponsors strategically use the advantage of clubbing or cross-border transactions to overcome the disadvantage arising from weak creditor rights. We first report univariate tests to examine the creditor rights difference between the acquire country and target country. Thereafter, we use probit analyses to determine whether weak creditor rights are associated with higher likelihood of cross border deals. Also, we examine whether club deals are more likely to occur in countries with weak creditor rights. Finally, we try to differentiate other motives of using club deals, to confirm that club deals are not purely driven by motives other than overcoming weak creditor rights.

As US firms count almost 40% of the sample and the US has weak creditor rights, US firms can significantly bias our test. Therefore, we conduct our analysis both in full sample and subsample excluding US. In some cases we further show robustness by excluding the UK. Furthermore, we examine both public and private firms, but for some cases we examine the subset of public targets in order to analyze more detail information available from public firms.

III. Data

A. Data Description

Our sample of global LBOs on public and private targets is obtained from DEALOGIC, a data provider for capital market transactions. We also use SDC's M&A data to cross-check the sample from DEALOGIC. We include the firm in our sample if both data sources report a dummy for LBOs. If LBOs have both financial sponsors and strategic sponsors, we identify the leading equity sponsors. If leading equity financiers are buyout groups, we categorize as LBOs. We further require deals to be greater than \$5 million¹ and final acquirer's stake greater than 50%. The final sample includes a total of 2589 LBOs involving both publicly traded targets and private firms completed between 1995 and 2007² around the world. Among the sample, there are 455 public-to-private transactions that involve stand-alone public targets, and the rest involve either private targets or divisions of public companies.

Where appropriate, we adjust LBO activities relative to total takeover activities. We also obtain a sample of 4461 M&As that involve non-buyout strategic acquisitions from 1995 to 2007. The non-buyout takeovers involve both private and public targets and are obtained from DEALOIC. Acquisitions are those for which the acquirer's assets are at least three times that of its target.

Indices of creditor rights, anti-director rights, and legal origin from La Porta et al. (1998) and Djankov et al. (2007) are obtained from Andrei Shleifer's website.³ Our index of the financial market system follows Demirguc-Kunt and Levine (2001).

¹ This cutting-off point is rather arbitrary; results do not change alternatively for a choice of \$5 million.

² In examining aggregate time-series level of premiums, we extend to an early sample of both financial- and strategic-sponsored M&As between 1985 and 1994 from SDC M&A data set.

³ <http://www.economics.harvard.edu/faculty/shleifer/dataset>

B. Summary Statistics

Table 1 shows the number of LBOs, percentage of club deals or cross-border deals by year as well as the year percentage of LBOs relative to M&As in number and in deal value. Both deal number and size increase over the time, and correspondingly, the percentage of LBOs relative to all takeovers (including LBOs) gradually increases. Club LBOs account for approximately 17% of deals in number but 30% of LBOs in terms of aggregate deal value, reflecting that club deals often involve large targets. 23% of LBOs are cross-border deals that involve domestic targets acquired by foreign PE investors.

-- Table 1 About Here --

Table 2 shows the clustering of LBOs across industries. Manufacturing is the most active industry for LBOs, accounting for 40% of all deals. Service industry and retails account for 28% and 12% of all LBOs respectively. We also find that the industry distribution of LBOs is similar to that of strategic-sponsored M&As that we do not report here. LBO premium is the highest in the Electronic and Gas industry and the lowest in construction industry.

-- Table 2 About Here --

Table 3 shows the clustering of LBOs across target countries. US LBOs account for more than 40% of LBOs in deal numbers and 60% in aggregate deal value. The second most active target country is UK, accounting more than 18% of deals. The other active LBO countries include France, Germany and Japan, each accounting for 4% to 5%.

The average deal size is however largest in Denmark, second largest in US, smallest in Italy,⁴ and second smallest in German and Japan.

-- Table 3 About Here --

Figure 1 shows the average premiums of LBOs for every year from 1985 through mid 2007. Notably, both LBO and strategic-sponsored premiums show a decreasing trend over the last twenty years. LBO premiums are much higher than strategic-sponsored premiums before 1997, except a significant plummet of LBO premiums from late 1980s to early 1990s which is attributable to the breakdown of high-yield debt market. After 1997 LBO premiums became systematically smaller than strategic-sponsored premiums. The evidence supports a structural change in LBO markets in the middle of 1990s. One possible explanation is in the 1990s buyout sponsors became more sophisticated in terms of market prowess, deal pricing or buyout structures, while prior to that time LBOs often involved hostile takeovers and junk bond financing. There is a reasonable co-movement of premium between LBOs and other takeovers. LBO premiums have a correlation coefficient of 0.20 with non-LBO takeover premiums (not reported in the tables but available upon request). Figure 2 shows the deal premium by deal size. We can see that the highest premium group is in the second quintile groups for both LBOs and other M&As.

-- Figures 1 and 2 About Here --

Table 4 Panel A reports the summary statistics for deal and target characteristics. The average LBO deal has is 526.47 million USD. Club deals' average transaction size is

⁴ In Italy over 1999-2004, the legal certainty of LBOs was in question, and many Italian courts deemed LBOs to be illegal (Cumming and Zambelli, 2010). Our findings are robust to inclusion or exclusion of this period for Italy.

more than three times larger than non-Club LBOs. US LBOs have larger deal size than the deals from other nations. Multiple measures such as EBITDA/sales, market to book ratio and enterprise value/EBIDTA show no difference between US and non-US LBOs. Compared to non-club targets, club deal targets show relatively lower multiples than non-club deals, while the difference seems quite small.

-- Table 4 About Here --

Table 4 Panel B reports the summary statistics for buyout pricing (premium is defined as offer price divided by stock price pre-announcement minus one). The mean and median of LBO premiums are 17.25% and 13.98% respectively. US LBOs show much higher premiums than non-US LBOs: 25.53% vs. 12.05%. Their difference is both economically and statistically significant.

Table 4 Panel C shows the multiple of Enterprise value/EBITD and deal value between countries with common law and those without, between club deals and single-sponsored deals, as well as between cross-border and domestic deals. We find that common law countries have significantly larger LBO deals, while targets have similar multiples. Cross-border deals have higher Enterprise Value/EBITDA than domestic deals and this difference is statistically significant. Finally, club deals are significantly larger than single-sponsored deals, but there is no difference in buyout pricing between them.

IV. Empirical Results

To test whether cross-border deals are effective ways to overcome the weak creditor rights, we compare the creditor rights in the target and acquirer countries. Table 5 Panel A presents the premium difference between cross-border deals vs. domestic deals. The data indicate that the cross border deals have lower average premiums than

domestic deals. The difference is larger in countries with weak creditor rights. The comparisons with medians versus means highlight the fact that there are outlier countries in the data, and as such we consider different subsets of the data in our multivariate empirical analyses. Table 5 Panel B presents the results of the univariate test to compare deal country's credit rights. The data indicate creditor rights in target country are on average smaller than those in acquiring countries. The difference is significant when US samples are excluded. Furthermore, in Table 5 Panels C and D, we show that the premium difference between club deals and single-sponsored deals is more pronounced in countries with weak creditor protection. Overall, this univariate evidence is suggestive that investor protection for debt financiers is important in LBOs, and as such we explore this possibility further with multivariate tests.

-- Table 5 About Here --

Table 6 reports the influence of institutional factors on LBO volume at the country level. The dependent variable is the aggregate LBO volume of each country deflated by aggregate stock market capitalization. We use several measures of aggregate LBO deal volume such as logarithm of sum of LBO dollar amount from 1995 to 2007 adjusted by inflation, sum of LBO dollar amount deflated by aggregate stock market capitalization or aggregate M&A volume. In the regressions, the level of LBO activity is positively related to creditor rights indices regardless of model specification, thereby indicating that credit market development is critical to the development of LBOs. In fact, for the specification with the $\log(\text{total LBO volume} / \text{market capitalization})$, creditor rights are the only significant factor. The institutional setting for debt financing is the primary determinant of the development of the LBO market, and this result is statistically

significant and economically large: the economic significance is such that a 1-point increase in the creditor rights index increases $\log(\text{total LBO volume} / \text{market capitalization})$ by 2.5%. The effect of creditor rights is likewise significant in the regressions with the $\log(\text{total deal volume})$ as the dependent variable. $\log(\text{GDP per capita})$ likewise matters in the regression for $\log(\text{total deal volume})$ but this latter effect is not robust when the dependent variable is scaled by market capitalization.

-- Table 6 About Here --

Table 7 examines the determinants of club deals. The dependent variable is a dummy equal one for a club deals and zero otherwise. Creditor rights are negative and significant in the first three regression specifications for the full sample, the sample excluding private targets, the sample excluding the US. The data thus indicate that club deals are more likely to occur in countries with weak creditor rights. The economic significance is such that a 1-point decrease in creditor rights reduces the probability of a club deal by approximately 8%-14% depending on the specification and sample considered. For the subsample of excluding private targets and US targets, creditor rights are still negative but marginally insignificant (t-statistic is 1.59). This latter result is likely attributable to the large reduction in the number of observations for this subsample (only 337 observations, while the other subsamples have at least 608 observations and up to 2589 observations). The data indicate that deal size are the most important driver for club deals. The other legal indices are not significant in the regressions, with the sole exception of the common law dummy variable in the third regression; however, that effect is not robust in the other specifications.

-- Table 7 About Here --

In addition to the importance of creditor rights in influencing club deals, the data show a number of other significant variables in Table 7. Most notably, deal size by itself contributes more than 15% to the adjusted R-square in all of the regressions. Club deals also tend to involve targets with lower multiples. For example, enterprise value/EBITDA is weakly negatively related to the likelihood for a deal to be club deal. This is consistent with extant evidence that PE sponsors collude in club deals to avoid competition for attractive targets (Officer et al., 2008). The cross-border dummy is negatively related to the probability for a target to be acquired in club LBO in both the full sample and non-US sub-sample. The data show that club deals are 19.4% more likely to take place among domestic PE sponsors for domestic targets in the subsample that excludes US targets, and up to 46.5% more likely in the full sample. Note, however, that this effect is insignificant in the regression for the subsample of public and non-US targets, which again is likely attributable to the reduced sample size.

Table 8 examines institutional factors that influence the decision of cross-border deals. The effect of creditor rights on cross-border LBOs depends on whether or not the US is included in the sample. The creditor rights index is positively associated with the probability of a cross-border LBO with the US targets in the sample, but negatively associated with the probability of a cross-border LBO without the US targets in the sample. More than 50% of the sample is comprised by US targets and non-US PE investors. The attraction to the US is likely attributable to factors apart from creditor rights. As such, we believe it is more meaningful to assess the effect of creditor rights on cross-border LBO deals with the non-US sample. In the subsample that excludes US targets, a decrease in creditor rights by 1 increases the likelihood of a cross-border deal

by 15.9% with the sample of public and private firms, and 4.9% with the subsample of public firms, and these effects are statistically significant at the 1% and 10% levels, respectively. In countries with poor creditor rights, it is for domestic PE funds to finance deals with external debt. Therefore, deals are more likely to involve foreign PE sponsors who can access more financing and at a cheaper rate from their home country. Also, the data show that an increase in the antidirector rights index by 1 (i.e., an increase in shareholder rights) increases the probability of cross-border LBOs by 13.6% - 17.7%, and this result is statistically significant when both public and private firms are included in the sample, and regardless of the inclusion of US targets. Most PE sponsors are either based in the US or Europe so PE investment flows from these countries to countries with poorer investor protection. The results support our hypothesis that cross border LBOs can overcome the weak creditor protection in target country. Overall, the results in table 8 support the notion discussed in section II that cross-border deals enable, at least in part, the benefits better investor protection from the home country to extend to foreign firms based in institutional environments with weak investor protection.

-- Table 8 About Here --

Table 9 presents regressions that assess the impact of institutional factors on buyout pricing in terms of the LBO premium (the offer price divided by the stock price one day prior to the LBO announcement). As in the prior tables, the tests are conducted with and without US target firms. All of the regressions show that creditor rights have a significantly negative effect on LBO premiums regardless of the subsample considered. The economic significance is such that a 1-point increase in the creditor rights index reduces the premium by at least 1.5% (in the subsample of only public firms excluding

US targets) and by as much as 2.9% (in the sample of only public firms including US targets). The findings confirm our prediction in section II that creditor protection helps to mitigate expropriation by PE investors and results in less wealth transfer to equity investors. Antidirector rights are positively associated with LBO premiums in the first model, suggesting that shareholder's wealth gain is greater in countries with better protection for equity investors, but this effect is not robust in the other models. The LBO premium is also lower in the cross-border deals by 7.3%-8.9% and this effect is significant in all specifications in Table 9 except the second model. Finally, countries with greater market capitalization also have lower premiums, indicating that larger markets offer more competitively priced deals.

-- Table 9 About Here --

V. Conclusion

This paper documents the LBO takeover activities around the world and examines the influence of institutional environment on the development of LBO markets. This context is important in the law and finance literature as it enables a stringent test of the Coasian proposition that sophisticated investors can find ways to alleviate the costs of inefficient legal institutions. Large PE funds and the associated financial institutions involved in carrying out international LBOs are arguably very sophisticated.

The data indicate LBOs are more active, but premiums are lower, in countries with stronger creditor rights. Better legal protection for creditors helps LBO sponsors to access external debt financing. But more stringent protection for creditors also reduces premiums associated with LBOs as it mitigates expropriation by PE investors and results

in less wealth transfer to equity investors. These findings hold for the non-US samples. The US is an outlier country with low creditor rights indices but active LBO investment.

Formal institutions, such as protection for external financing via creditor rights, not only influence the LBO activity in general but also influence the sponsors' decision on deal practices. We find that club deals are more likely to occur in countries with poorer creditor rights. The premium difference between club and single-sponsored deals is larger in countries with poorer creditor rights. Furthermore, the data indicate that cross-border deals are more likely to occur in countries with weaker creditor protection, and cross-border capital is sourced from PE sponsored in countries with stronger creditor rights. The results indicate that PE sponsors strategically arrange deals to mitigate the disadvantage of the credit financing constraint, and to take advantage of credit cross different creditor-protection regimes.

Overall, the data highlight the sophistication of PE funds' strategic choices in arranging club deals and international deals to mitigate the costs of inefficient legal protections for creditors. But legal and institutional inefficiencies in creditor protection nevertheless still play an important impact on the development of LBO markets around the world, and impact the frequency, size and structure of LBO deals.

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Appendix I: Definition of Key Institutional Variables related to Institutions and LBOs
The table summarizes the definition of key institutional variables. The institutional variables include Legal Origin, GDP per Capita, Anti-director Rights Indices, Creditor Rights Indices, and Market-based Financial System.

Institutional Variables	Explanations
Legal Origin	Equals one if the origin of the Company Law or Commercial Code of the country is the English Common Law, and zero otherwise. Source: La Porta et al. (1998).
GDP per Capita	Gross national income per capita (source: World Development Indicators 2005).
Anti-director Rights Indices	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. The range for the index is from zero to six. Source: La Porta et al. (1998) and Spanman (2009) .
Creditor Rights Indices	An index aggregating creditor rights,. 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. Source: La Porta (1998)
Market based Financial System	Dummy that defines countries where the conglomerate ratio of banking sector development to stock market development is below the mean are classified as market-based, e.g., UK and US. Source: Demirguc-Kunt and Levine (2001)

Appendix II: Institutional Environment Variables in Sample Countries

This table displays the scores of each institutional variable for each country. The country will not enter some of the test later on if the variables are denoted as NA. The variables are obtained from Shleifer's website at <http://www.economics.harvard.edu/faculty/shleifer/dataset>. The anti-director rights indices are updated by Spamann (2009).

	Legal Origin (UK)	Market-based Financial System	Creditor Rights	Anti-director Rights
Australia	1	1	1	4
Canada	1	1	1	5
Hong Kong	1	1	4	5
India	1	0	4	5
Ireland	1	1	1	5
Israel	1	0	4	4
Malaysian	1	1	4	5
New Zealand	1	1	3	4
Pakistan	1	0	4	4
Singapore	1	1	4	5
South Africa	1	1	3	5
Sri Lanka	1	0	3	4
Thailand	1	1	3	4
UK	1	1	4	5
US	1	1	1	3
Zimbabwe	1	0	4	4
Argentina	0	0	1	2
Belgium	0	0	2	3
Brazil	0	1	1	5
Chile	0	1	2	4
Colombia	0	0	0	3
France	0	0	0	3.5
Greece	0	0	1	2
Indonesia	0	0	4	4
Italy	0	0	2	2
Mexico	0	1	0	3
Netherlands	0	0	2	2.5
Peru	0	0	0	4.5
Philippine	0	1	0	4
Portugal	0	0	1	2.5
Spain	0	0	2	5
Turkey	0	0	2	3
Venezuela	0	0	3	1
Austria	0	0	3	2
Germany	0	0	3	3.5
Japan	0	1	2	4.5
South Korea	0	1	3	4.5
Switzerland	0	1	1	3
Taiwan	0	1	2	3
Denmark	0	0	3	4
Finland	0	0	1	3.5
Norway	0	0	2	3.5
Sweden	0	1	2	3.5

Table 1: Year Distribution of LBOs

The table presents the distribution of LBOs over sample period. The sample includes 2589 worldwide LBOs (both private and public targets) from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. Columns 2 and 3 present the numbers of LBOs and average deal value of LBOs for each year. Columns 4 and 5 show the percentage of LBOs in total acquisitions in term of both numbers and total deal values. Columns 6 and 7 show the percentage of Club LBOs and cross-border LBOs in total LBOs. Column 8 reports the percentage of US LBOs in world LBOs in numbers. Column 9 shows the percentage of US LBO in total US acquisitions in numbers.

	1	2	3	4	5	6
Year	Number of LBOs	Average LBO Deal Value (\$ Million)	LBO Percentage in total Takeovers	LBO Value Percentage in total Takeovers	CLUB LBO Deal Percentage in LBOs	Cross-Boarder LBO Percentage in LBOs
1995	66	225.35	2.81%	2.48%	12.82%	10.61%
1996	71	279.71	7.59%	4.90%	26.09%	11.27%
1997	99	290.10	11.81%	10.28%	7.79%	17.17%
1998	124	237.91	11.57%	7.14%	14.56%	20.16%
1999	140	353.57	14.11%	4.66%	21.31%	42.14%
2000	171	296.71	11.74%	5.58%	17.27%	34.50%
2001	176	289.69	11.52%	6.62%	25.00%	33.52%
2002	241	392.52	14.53%	14.52%	22.53%	35.68%
2003	309	399.20	23.90%	20.19%	21.49%	27.51%
2004	539	412.58	21.63%	19.34%	19.30%	29.13%
2005	491	545.31	21.20%	18.28%	15.00%	28.51%
2006	648	991.35	25.77%	39.88%	16.64%	6.79%
2007	242	626.72	25.93%	25.91%	11.17%	8.68%
AVG	255	526.47	15.80%	13.83%	17.66%	23.12%

Table 2: Industry Distribution of LBOs.

The table presents the industry distribution of LBOs over sample period. The sample includes 2589 worldwide LBOs from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. The industry distributions are reported according to the descending order of frequency in LBO deal numbers. We report average deal value and average premiums for LBOs in each industry.

Industry Sector	Frequency in deal number (%)	Deal Value	Premium (%)
Manufacturing	39.62	647.19	17.32
Services	28.06	748.30	19.14
Retails	11.61	1183.56	21.59
Whole Sale	6.45	504.64	16.51
Communications	3.87	2596.32	12.23
Transportation	2.06	1751.21	14.07
Electricity and Gas	1.91	2735.77	38.41
Construction	1.67	839.31	9.43
REITS	1.67	5625.16	13.74
Mining & Agriculture	1.55	783.40	20.57

Table 3: Country Distribution of LBOs

The table presents the country distribution of LBOs over sample period. The sample includes 2589 worldwide LBOs from 1995 to 2007 over 49 countries. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. Panel A reports the country distributions according to the descending order of frequency in LBO deal number and average deal value and average premium for each country. We only include the first 9 countries that have the most frequent LBO deals. Panel B reports the difference between countries with common law legal origin and those without common law origin. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

Panel A:

Deal Country	Frequency in number (%)	Frequency in value (%)	Deal Value (million USD)	Premium (%)
USA	42.97	63.24	1141.57	25.62
UK	18.52	16.59	769.72	11.76
France	5.20	2.53	478.97	12.79
Germany	4.84	1.63	348.49	9.04
Canada	4.01	2.84	622.89	22.21
Japan	3.92	1.15	206.81	9.95
Australia	1.95	0.66	239.11	13.24
Italy	1.94	0.43	366.10	2.22
Denmark	1.37	2.98	1814.44	12.84
Sweden	1.37	1.14	1112.79	21.06
Others	13.91	6.81	646.78	13.36

Panel B:

Legal Origin	Frequency in number (%)	Frequency in value (%)	Deal Value (billion USD)	Premium (%)
Common Law Origin	64.88	69.13	1207.12	18.35
Civil Law Origin	35.12	30.87	539.15	9.64
P-value of Difference	0.00***	0.00***	0.00***	0.00***

Table 4: Summary Statistics of Target Firms and the Difference Cross Deal Types.

The table includes 576 public-to-private transactions in the sample. Panel A reports the summary statistics of deal value, EBIDTA/sale, market to book ratio, and enterprise value/EBIDTA (all measured at the last twelve months before announcement date). Panel B reports the summary statistics of cross-sectional premiums for all LBOs, Club LBOs and US LBOs. Panel C reports the multiples and deal value between different legal origins, cross-border and domestic deals, and club and single-sponsored deals. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

<i>Panel A: Key Financials of Targets</i>				
	Mean	Median	SD	
LBOs				
Deal Value (\$ Million)	526.47	133.89	1668.01	
EBITDA/Sale (%)	21.03	11.08	269.16	
Market to Book Ratio	1.02	0.74	1.78	
Enterprise Value/EBITDA	14.37	10.37	23.34	
US LBO				
Deal Value (\$ Million)	1217.64	289.24	3514.48	
EBITDA/Sale (%)	7.85	10.64	58.06	
Market to Book Ratio	1.01	0.75	2.05	
Enterprise Value/EBITDA	13.27	10.42	12.01	
<i>Panel B: Premium (Offer Price/Stock Price-1)</i>				
LBOs				
1 Day Prior to Announcement	17.25	13.98	30.48	
1 Month Prior to Announcement	28.19	22.28	45.95	
US LBO				
1 Day Prior to Announcement	25.53	20.67	29.43	
1 Month Prior to Announcement	35.17	28.25	55.59	
<i>Panel C: Comparison of LBOs cross Legal Origin and Deal Types</i>				
	<i>Enterprise Value/EBIDTA</i>		<i>Deal Value (Million USD)</i>	
	Mean	Median	Mean	Median
LBOs in Countries with Common Law	14.57	10.44	560.95	140.00
LBOs in Countries with Civil Law	13.87	9.87	462.70	123.02
P-value of Difference	0.77	0.40	0.10*	0.01***
Cross board LBOs	10.97	8.09	497.31	162.50
Domestic LBOs	15.02	10.67	535.25	122.14
P-value of Difference	0.15	0.11	0.58	0.00***
Club LBOs	12.09	10.89	1260.59	402.15
Single-sponsored LBOs	15.91	10.44	401.14	132.88
P-value of Difference	0.17	0.19	0.00***	0.00***

Table 5: Creditor rights and LBO Premiums

Panel A compares the creditor rights between acquiring country and target country. It includes all LBO deals. Panel B compares the premium between cross border deals and domestic deals. The premium is measured as offer price over price one day before the LBO announcement minus one. It includes public-to-private transactions only. Panel C compares the premium difference between club deals and single sponsored deals in countries grouped by their creditor rights. The premium is measured with offer price over stock price one day before the LBO announcement. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

Panel A: Premium comparison (Offer price / price one day before LBO announcement -1)

	Mean	Median
Cross border	4.32	16.32
Domestic deals	11.22	11.59
t-statistics of the difference	1.88*	1.52

Panel B: Creditor rights comparison

	Exclude US Acquirer	All cross-border deals
Creditor rights of acquire country	2.86	2.22
Creditor rights of target country	2.05	2.12
t-statistics of the difference	8.44***	1.13

Panel C: Premium comparison (Offer price / price one day before LBO announcement -1)

	Mean	Median
Club Deal	13.71	12.82
Single-sponsored Deal	16.32	11.71
t-statistics of the difference	0.12	0.68

Panel D: Premium difference between club deal and single-sponsored deal

	Countries with weak creditor rights exclude US (<2)	US	Countries with strong creditor rights (>=2)
Club Deal	3.93	16.99	10.65
Single-sponsored Deal	16.26	23.91	8.47
t-statistics of the difference	2.19**	1.29	0.56

Table 6: Country-level LBO activity and creditor rights

The table presents country-level regression results on institutional factors and LBO activities. The dependent variable takes log (value of all LBOs in the country), and its adjustment by the stock market capitalization and all takeover deal values of the country. The sample includes 2589 worldwide LBOs from 1995 to 2007 and 33 countries. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. The independent variables include country-specific institutional variables such as GDP per capita, antidirector rights indices, creditor rights indices, legal origin, market-based financial system dummy, and development of stock market (stock market capitalization/GDP in 1995). The heteroscedastic robust t-statistics are reported in the parenthesis. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

	Log (Total LBO Deal Volume)	Log(Total LBO Deal Volume/Market Cap)
Intercept	-7.065 (2.29)	-0.224 (2.23)
Log(GDP per Capita)	1.045*** (3.38)	0.007 (0.45)
Anti-director Rights Indices	0.051 (0.35)	0.002 (0.16)
Creditor Rights Indices	0.321* (1.81)	0.025* (1.76)
Legal Origin (UK)	-0.385 (0.37)	0.005 (1.15)
Market based Financial System	0.094 (0.14)	-0.049 (1.57)
Stock Market Capitalization/GDP	0.023 (0.03)	-0.003 (0.33)
Obs.	33	33
R ²	0.67	0.55
P value (F-Test)	0.00	0.03

Table 7: Choice of club LBOs

The table presents results of probit regression on the choice of club deal LBOs relative to other LBOs. The dependent variable is a dummy variable, which equals one if it is a club deal LBOs, and zero otherwise. The sample includes 2589 worldwide LBOs from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. The independent variables include deal characteristics (target size, Enterprise value/EBITDA, debt/asset ratio, and cross-border dummy) and country-specific institutional variables (logarithm of GDP per capita, anti-director rights indices, creditor rights indices, market based financial system dummy, and legal origin). The clustered regressions are on country level and regressions also control industry and year fixed effects. The heteroscedastic robust t-statistics are reported in the parenthesis. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

		Dummy =1 if Club LBO, 0 if other LBO			
		Full sample, include public and private targets	Full sample, exclude private targets	Include public and private targets, exclude US targets	Exclude US targets, exclude private targets
Target Characteristics	Log(Deal Value)	0.239*** (12.00)	0.366*** (9.07)	0.232*** (8.60)	0.321*** (3.58)
	Enterprise Value/EBITDA		-0.013* (1.80)		-0.043 (1.56)
	Debt/Asset		-0.313* (1.69)		-0.974** (2.14)
	Cross-boarder Deal Dummy	-0.235* (2.88)	-0.465* (1.90)	-0.194** (2.51)	-0.052 (0.61)
	Logarithm of GDP per capita	-0.144* (1.89)	0.223 (0.83)	-0.035 (0.44)	0.035 (0.93)
Target Country Institutional Factors	Anti-director Rights Indices	0.008 (1.46)	0.060 (0.67)	-0.050 (0.90)	0.033 (0.45)
	Creditor Rights Indices	-0.102* (1.86)	-0.141* (1.75)	-0.083** (2.10)	-0.092 (1.59)
	Market-based Financial System	-0.163 (1.42)	-0.077 (1.10)	-0.173 (1.19)	-0.330 (0.59)
	Common Law (UK legal origin)	0.188 (1.61)	0.160 (1.31)	0.266** (2.19)	0.364 (1.35)
Industry Fixed Effects	Yes	Yes	Yes	Yes	
Year Fixed Effects	Yes	Yes	Yes	Yes	
Obs.	2589	608	1621	337	
Pseudo R2	0.10	0.11	0.09	0.12	

Table 8: Choice of cross-border LBOs

The table presents results of probit regression on the choice of cross-border LBOs relative to domestic deals. The dependent variable is a dummy variable which equals one if the LBOs fund is from a country different from the target, 0 otherwise. The sample includes 2589 worldwide LBOs from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. The independent variables include deal characteristics (target size, market book ratio, operating performance and debt ratio) and country-specific institutional variables (logarithm of GDP per capita, anti-director rights indices, creditor rights indices, market based financial system dummy, legal origin and contracting standard). The clustered regressions are on country level and regressions also control industry and year fixed effects. The heteroscedastic robust t-statistics are reported in the parenthesis. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

		Dummy =1 if Cross border LBO deal, 0 if other LBO			
		Full sample, include public and private targets	Full Sample, exclude private targets	Include public and private targets, exclude US targets	Exclude US targets, exclude private targets
Target Characteristics	Log(Deal Value)	0.040 (0.15)	-0.005 (0.78)	0.119*** (4.19)	0.040 (0.47)
	Enterprise Value/EBITDA		-0.015 (1.47)		-0.029** (2.23)
	Debt/Asset		0.245** (2.21)		0.074 (1.54)
Target Country Institutional Factors	Logarithm of GDP per capita	-0.073 (0.33)	-0.179 (1.13)	-0.138 (1.38)	-0.021 (0.07)
	Anti-director Rights Indices	-0.136* (1.98)	-0.127 (0.67)	-0.177*** (2.56)	-0.077 (0.86)
	Creditor Rights Indices	0.186** (2.13)	0.179*** (4.43)	-0.159*** (2.70)	-0.049* (1.68)
	Market-based Financial System	-0.199 (0.83)	-0.465 (1.41)	-0.015 (1.13)	-0.394* (1.87)
	Common Law (UK legal origin)	-0.261 (1.07)	-0.102 (0.87)	0.086 (0.67)	0.349 (0.65)
	Industry Fixed Effects	Yes	Yes	Yes	Yes
	Year Fixed Effects	Yes	Yes	Yes	Yes
Obs.	2589	608	1621	337	
Pseudo R2	0.15	0.16	0.07	0.09	

Table 9: Multivariate Analysis on Takeover Premium of LBOs

The table presents results of determinants of LBO premiums.

$$Premium = \alpha_0 + \alpha_1 \cdot \text{Creditor Rights} + \alpha_2 \cdot \text{Control Variables} + \varepsilon,$$

The dependent variable is the takeover premium (calculated as offer price/stock price at 1 day prior to announcement day or 1 month prior to announcement day). The independent variables include deal characteristics (target deal value or market capitalization, debt ratio, market to book ratio, enterprise value/EBITDA, club LBO dummy and cross-border deal dummy) and country-specific institution variables (anti-director rights indices and creditor rights indices). The sample includes 576 worldwide LBOs (public targets) from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude LBOs that have deal value less than \$5 million or the financial acquirer's final stake less than 50%. The clustered regressions are on country level and regressions also control industry and year fixed effects. The heteroscedastic robust t-statistics are reported in the parenthesis. *, **, *** Significant at the 10%, 5% and 1% levels, respectively.

	Offer Price/Stock Price at 1 Day Prior to Announcement - 1			
	Full Sample		Exclude US target firms	
	1	2	3	4
Log(Deal Value)	-0.025** (2.07)		-0.017** (2.02)	
Log(Market Capitalization)		-0.032** (2.50)		-0.027* (1.90)
Target Debt Ratio		0.076 (1.32)		0.065 (1.39)
Target Market to Book Ratio		-0.014 (0.82)		-0.007 (0.49)
Enterprise Value/EBITDA		0.001 (0.88)		0.001 (0.81)
Club LBO Dummy	-0.032 (1.30)	0.017 (0.74)	0.034 (0.38)	0.004 (0.39)
Cross-boarder Dummy	-0.078* (1.94)	-0.053 (1.33)	-0.089*** (2.95)	-0.073* (1.76)
Anti-director Rights	0.026*** (2.86)	0.015 (1.20)	0.009 (0.90)	0.018 (1.36)
Creditor Rights	-0.027*** (3.26)	-0.029*** (2.85)	-0.019** (2.37)	-0.015*** (3.83)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Obs.	455	338	248	114
Adjusted R ²	0.30	0.15	0.52	0.25

Figure 1: Average Year Premiums of LBOs and other Takeovers Average

The sample includes 576 LBOs around the world and 4461 other takeovers from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude takeovers that involve private targets, divisions of public companies, deal value less than \$10 million, deals with no premium data reported or acquirer's final stake less than 50%. We include additional data of LBOs and other takeovers between 1985 and 1994 from Thompson Financials. This figure reports the average year premiums of LBOs and other takeovers from 1985 to June 2007. The premium is calculated at one day pre-announcement. The dash line represents LBOs. The solid line presents M&As.

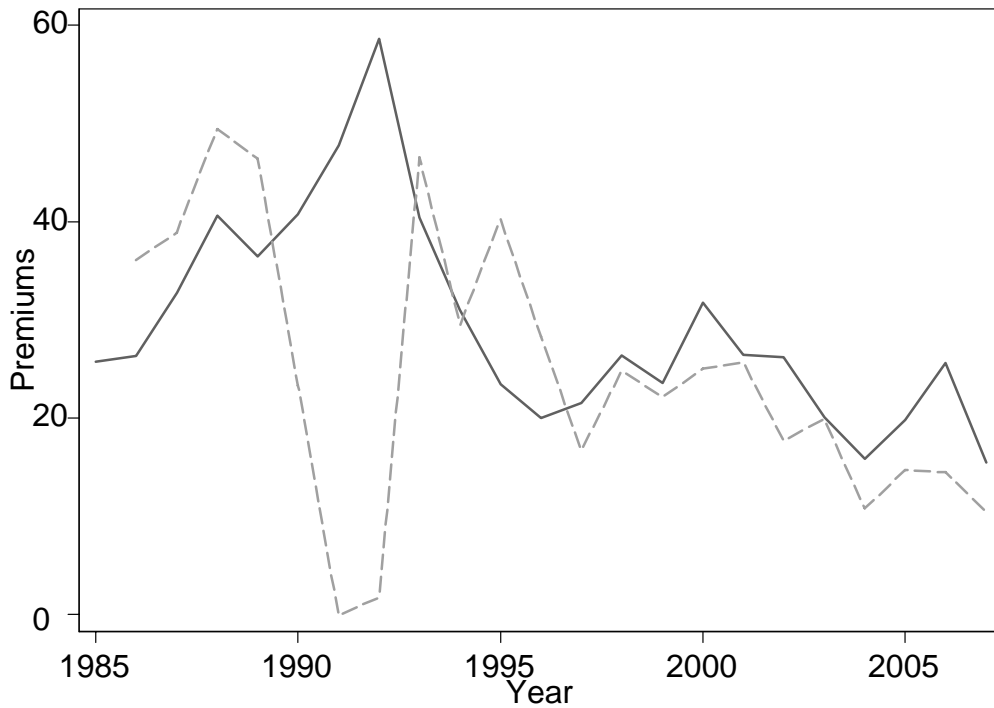


Figure 2: LBO Premium Distribution According to Deal Value Quintiles

The figure depicts the mean premiums of LBOs and other takeovers for both worldwide and US sample. The sample includes 576 worldwide LBOs and 4461 other takeovers from 1995 to 2007. The data is obtained from DEALOGIC and SDC. We exclude takeovers that involve private targets, divisions of public companies, deal value less than \$10 million, deals with no premium data reported or acquirer's final stake less than 50%. We first divide deal values for both LBOs and other takeovers into four quintiles and then calculate the cross-sectional means of premiums according to the four quintiles in deals values.

