BROKEN PROMISES: PRIVATE EQUITY BIDDING BEHAVIOR AND THE VALUE OF REPUTATION

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Abstract

To explore the relation between reputation and financial contracting, this paper examines the contracting structure in a novel dataset of 227 private equity buyouts of U.S. targets from 2004-2010. We note several provisions which allowed bidders to terminate contracts during the 2007-2008 financial crisis and show how contract structure is related to ex post litigation settlements. Consistent with economic theory, private equity firms were more likely to engage in contract nonperformance when default penalties were lower. Using details of target valuation changes and contract default penalties, we estimate the gains from backing out of these contracts. These gains approximate the values that bidders place on their reputations, which range from 5% to 9% of the sponsors' fund sizes, or $180 million to $2.5 billion in nominal dollars. We also document the reputational damage resulting from this wave of terminations and find that default penalties are about 115% higher in 2009-2010 than during the pre-financial crisis period. Ultimately, the results demonstrate that in even the most complex transactions subject to financial contracting, reputation and collective group behavior play an essential role in the negotiating process.

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"I will fight this until the day I die . . . . Private equity firms have taken over America, and we will fight it. These guys are getting away with dishonest behavior, and I won't tolerate it."

-Jon Huntsman, CEO, Huntsman Corporation[1]

1. Introduction

The financial crisis was not kind to pending private equity (PE) acquisitions. Beginning in August 2007, a number of private equity firms attempted to strategically default on pending acquisitions of publicly-traded targets. These attempts succeeded in a number of notable instances. We document that bidder-initiated terminations accounted for over $168 billion of transaction values announced in 2007 alone, representing an economically sizeable 39% of total announced private equity bids in 2007.

The large number of defaults represented a collapse of the prior relationship between the PE industry and targets. Prior to this wave of contract terminations, a promise between a private equity partner and target management set in motion a tacit relationship based primarily on trust and reputation but not contract. An unwritten rule held that private equity firms do not back out of their arrangements to acquire takeover targets despite the ability to do so under their formal contractual agreements. In other words, the private equity relationship with a target was one in which reputation played an important role. The trade-off between reputation and buyout losses reached a tipping point in 2007-2008 as many financial sponsors faced potential losses in the $billions on their bids for target firms of declining value. The extreme circumstances faced in the recent financial crisis thus provide a natural experiment to examine PE bidding behavior in relation to the value of reputation and contract design.

To assess the relation between the value of reputation and contracting terms, we examine the bidding behavior by PE firms in a novel dataset of 227 buyouts between 2004 and 2010. We isolate a subset of acquisition agreements that became nonperforming at the discretion of buyout firms. Because the rate of bidder-initiated terminations increased significantly during the recent financial crisis, we focus our study on the contracting terms which are most closely driven by reputation and trust concerns.

[1] Susan Pullman and Peter Lattman, "Buyout Bust Turns Bitter, A Major Deal Lands in Court", *Wall Street Journal*, Sept. 9, 2008.

The concept of "reputation" is abstract, but economists generally refer to reputation as a brand, image, or identity that an individual or firm may develop through repeat interactions with customers or counterparties. Klein and Leffler (1981) show that reputation can provide an incentive for contractual performance even in the absence of a third-party contract enforcer such as the government. In our setting, reputation arises from repeat interactions between private equity firms and transaction lawyers and financial advisors. Prior studies have explored the reputational incentives that arise from future fundraising efforts by financial sponsors among limited partners (e.g., Chung, et al., 2011; Kaplan and Schoar, 2005). We build upon this literature by showing how reputational incentives interact with contractual obligations as parties weigh the costs and benefits of a nonperformance decision. To the best of our knowledge, this is the first study to analyze the reputation of private equity as it relates to financial contracting with buyout targets.

Our empirical analysis begins by examining the contract terms in private equity buyouts before, during, and after the financial crisis. According to economic theory, third party contract enforcers help to ensure the feasibility of market exchange (Klein and Leffler, 1981). Yet only about half of the contracts in our sample permit the target to rely on U.S. courts to enforce the full contract terms. In contrast, about 90% of contracts permit the bidding PE firm(s) to resort to U.S. courts to enforce the contract. Takeover contracts also often provide that a target firm may exit its contractual obligations by paying a termination fee to the bidder (Bates and Lemmon, 2003; Officer, 2003). Conversely, leading up to the financial crisis, private equity contracts began to adopt a reverse termination fee (RTF) which allowed private equity bidders to exit their contractual obligations with their aggregate liability capped at the amount of this fee. The median default penalty is 3.0% of target enterprise value over the full sample period, but also has substantial variation with a range from 0.2% to over 100% of the target's value. This cost is related to termination behavior during the financial crisis , with a larger RTF generally resulting in a higher cost for exercising the option to walk away from a transaction.[2]

[2] This fee can be analogized to the earnest money placed in escrow by a home buyer. If the home buyer refuses to perform the obligations under a purchase contract, the seller receives the earnest money as compensation for the contractual default.

We also examine the predictors of strategic default by private equity firms. We find that during the general market downturn in 2007-2008, PE bidders were significantly more likely to default on their target bids when the contracts contained lower reverse termination fees or the target was barred from seeking third party enforcement of the contract. Contract structure is economically significant: a one standard deviation decrease in the reverse termination fee increases the predicted probability of contractual nonperformance by 8.7%, and predicted nonperformance increases by 6.0% when third party enforcement is unavailable. The contract features explain a substantial amount of variation in strategic defaulting behavior and are more predictive of default than other factors such as the size of the transaction, initial offer spread and the debt financing percentage. In particular, we find that the strategic default decision was not based on credit availability during the financial crisis.

To document the post-termination settling-up between bidders and targets for the defaulted contracts, we collect information from various news and legal sources and note that they generally conform to the termination structure in the respective acquisition agreements. We find that the contract termination structure is economically important in failed transactions. Bidders generally pay out 1-3% of target value in order to exit transactions if third party enforcement is not available, but may pay up to 10% or more of target value if it is. For example, in the buyout of Cumulus Media, Inc. by Merrill Lynch Global Private Equity, the contract barred third party enforcement and contained a reverse termination fee of $15 million (1.1% of deal enterprise value). The deal was terminated on May 12, 2008 with Merrill Lynch paying this $15 million fee to Cumulus Media. Conversely, Apollo Management and related parties agreed to acquire Huntsman Corp. pursuant to a contract which contained a $325 million reverse termination fee but also provided for a third party enforcement remedy. Apollo Management and its related parties paid a significantly higher $750 million in damages (7.5% of deal enterprise value) and purchased $250 million in target convertibles following the termination of its agreement to acquire Huntsman Corp.

Using details of target valuation changes and contract default penalties, we estimate the sponsor gains from backing out of these contracts, as well as the losses incurred if unprofitable contracts are

honored. These gains and losses approximate the upper and lower bounds that sponsors' place on the value of their contracting reputations. Estimates of this value range from 5% to 9% of the sponsors' fund sizes, or from $180 million to $2.5 billion in nominal dollars. The estimates suggest that PE firms face significant incentives to report favorable returns to limited partners in current funds, consistent with prior studies (Kaplan and Schoar, 2005; Chung et al. 2011). However, the findings also show that sponsors are willing to honor contracts despite current buyout losses. Hypothetically, if PE firms place no value on their contracting reputations, they should default on any souring contract. We find that sponsors are willing to bear losses of up to 5% of their fund sizes despite the implied reduction in current and future general partner income resulting from lower portfolio returns. Consistent with economic theory, private equity's reputation among targets has an economic value.

We also assess the reputational damage resulting from the wave of terminations during the financial crisis and find evidence consistent with models of collective reputation. Specifically, the private equity industry as a whole appears to have suffered a general decline in the credibility of its reputation among targets and transaction lawyers, the effects of which are evident in the explicit contracting process. We find only minor individualized penalties against specific sponsors for their own behavior. Instead, the costs of default are largely borne by the entire industry, suggesting that sponsors face a moral hazard problem when it comes to contractual performance decisions. Expected default penalties for both defaulting and non-defaulting PE firms have more than doubled following the wave of terminations, with median reverse termination fees rising from 2.2% pre-crisis to 4.7% post-crisis, a 115% increase. However, the higher default penalties appear primarily among transactions in which the target hires a legal team that has prior experience representing PE bidders. Transaction lawyers thus appear to provide a primary channel through which learning occurs. Arbitrage spreads are similar across the pre- and post-crisis periods, suggesting that the results are driven by a decline in PE's reputation, not an increase in overall deal risk. This also implies that financial contracting provides a market-priced solution to reputation failures in uncertain deal negotiations.

One interpretation of these results is that PE firm type is observed imperfectly. The findings imply that sponsors suffer only minor firm-specific penalties following "bad" behavior while the collective group reputation declines noticeably. As discussed in section 3.5.3, our results are robust to several alternative explanations.

Our findings provide empirical support for economic theory on collective group reputation (e.g., Tirole, 1996). The results also imply that reputational incentives do not provide a perfect substitute for third party contract enforcement. Ultimately, the results demonstrate that in even the most complex transactions subject to financial contracting, reputation and collective group behavior play an essential role in the negotiating process.

2. Hypothesis development and related literature

2.1 Hypothesis development

Economic theory has developed to address issues of contractual nonperformance. This theory generally proposes a tradeoff between third-party contract enforcers, such as the government, and individual reputations in providing parties the incentive to honor their contractual obligations. Klein and Leffler (1981, p.616) state:

> "An important element of the legal-philosophical tradition upon which the economic model is built is that without some third-party enforcer to sanction stealing and reneging, market exchange would be impossible. But economists also have long considered 'reputations' and brand names to be private devices which provide incentives that assure contract performance in the absence of any third-party enforcer…This private-contract enforcement mechanism relies upon the value to the firm of repeat sales to satisfied customers as a means of preventing nonperformance. However, it is possible that economic agents with well-known brand names and reputations for honoring contracts may find it wealth maximizing to break such potentially long-term exchange relationships and obtain a temporary increase in profit."

Kreps (1990) shows that reputation can provide incentives when a market exists for the buying and selling of one's reputation. This holds even if individuals survive only one period in the model, since they earn a premium by honoring their commitments and selling their good reputation to the next agent. However, the emphasis of our paper is not on the incentives of individual agents, but rather on the firms and industry as a whole. Economic theory on reputational incentives provides several key insights about firms' production of high vs. low quality products. For example, Klein and Leffler (1981) show that in a repeat-purchase setting, "[c]heating will be prevented and high quality products will be supplied only if firms are earning a continual stream of rental income that will be lost if low quality output is deceptively produced. The present discounted value of this rental stream must be greater than the one-time wealth increase obtained from low quality production."[3] Hörner (2002) shows how competition induces firms to exert effort in order to maintain high quality reputations. Bar-Isaac (2005) demonstrates that the level of competition can have a non-monotonic impact on reputational incentives though, since competition may affect both product prices and firms' market shares, and thus the potential impact of reputational damage.

The intuition from this line of theory as applied to the private equity contracting environment generally proceeds as follows: Private equity firms have an incentive to honor their acquisition contracts in order to protect their future contracting flexibility. If a PE firm defaults on a contract today, then it loses the trust of future transaction lawyers, investment bankers, and potential takeover target manager-directors and will be forced to make concessions in future contracts. In order for the PE firm to honor a given contract, the one-time wealth gain from defaulting must be less than or equal to the loss of its "good" reputation. Formally,

$$\textit{Net gain on default} \leq \textit{discounted value of good reputation} - \textit{discounted value of bad reputation} \qquad (1)$$

This implies that established and highly reputable PE firms have more to lose on a default than do recent entrants with no reputation or low-reputation firms. If a sponsor honors a contract that results in a short-term investment loss, then it values its reputation by more than this amount. The net gain on default

[3] However, it is necessary to distinguish between "sunk" production costs and salvageable capital in their model. We are able to ignore this distinction since contractual performance in our setting does not involve literal production costs.

serves as a proxy for the reputational value effects from various sources. These include the ability of sponsors to negotiate and contract with future buyout targets. Incentives also include general partner income derived from *current* fund returns as well as all *future* income that arises from follow-on buyout funds. However, the equation does not allow us to decompose the estimates into the *relative* impacts of each incentive source.

In the context of the strategic defaults which occurred in 2007-2008, the net gain on default amounts to minimizing the expected loss on the contract. PE firms were repeatedly forced to evaluate the declining value of a target relative to the agreed purchase price, as well as the expected costs of contract termination, and then compare this to the value of the PE firm's reputation. The net gain then is given by:

Net gain on default = (equity commitment – updated target equity value) – termination penalty (2)

If the termination penalty exceeds the difference between the purchase price and current value of the target to the PE firm, the net gain from defaulting is negative and the firm will honor the contract. However, if the value of a target falls sufficiently and the termination penalty is minor, the net gain becomes positive and the PE firm must then compare this gain to the reputational damage it will suffer following a default. If equation (1) is not satisfied, then the PE firm defaults and suffers the consequences. Equation (1) provides an upper bound of the difference between the value of good minus bad reputation for the subsample of terminated transactions. This gives rise to the question: *How much is a private equity firm's reputation worth?* Ex ante, we expect that defaulting private equity firms will subsequently be forced to offer more target-favorable contracting terms, assuming target firms care about firm-specific reputation. Thus, the following question arises: *How badly was the reputation of defaulting PE firms damaged?*

Tirole (1996) models collective reputation as a function of individual reputations. The model also demonstrates that individual reputations are influenced by the collective group's reputation. History dependence in the model implies that group reputations may suffer long after an incidence of poor group behavior, even after the misbehaving group members are extinct. Moreover, "after episodes of bad

behaviour, either the group is stuck in a bad-reputation steady state, or trust takes several periods to re-establish, after which the group's reputation returns progressively to the good-reputation level." The speed at which reputation converges to a good-reputation state increases with the turnover rate of group members and decreases with the level of trust required by counterparties. Several testable questions arise from the model of collective reputation: *How badly was the reputation of the overall PE industry damaged following the strategic defaults of several member firms?* Moreover, c*an the private equity industry return to a trust-based contracting relationship with takeover targets, and if so, how quickly?* If target managers are concerned with industry-wide reputation, then we expect to observe contractual changes at an aggregate level, even for non-defaulting private equity firms. Evidence related to these questions will help future parties in assessing both a) the value of reputation, and b) the most efficient means of contracting based on perceptions of reputation and potential for defaulting behavior.

2.2 Related literature

Kaplan and Strömberg (2009) provide a thorough survey of the development and functioning of leveraged buyouts and private equity. They also provide several predictions on the direction that private equity markets will take in the near future. For example, they predict that buyouts will be accomplished with less leverage following the dearth of available credit and the increase in interest rates on available buyout-related debt in 2007-2008. The authors also document evidence that private equity investors create economic value on average. Moreover, they note that private equity firms often appear to time the market to take advantage of mispricing between debt and equity markets, particularly in buyouts of public operating companies (e.g., Guo, Hotchkiss, and Song, 2010). Kaplan and Strömberg also cite evidence that private equity investors may be better at bargaining and negotiating transaction terms than their target counterparties (e.g., Bargeron, Schlingemann, Stulz, and Zutter, 2008). Despite the potential bargaining and market-timing abilities of private equity firms, Kaplan and Strömberg note that private equity returns tend to follow a boom and bust cycle, and that returns following the recent wave of private equity investments in 2006-2007 may prove "disappointing."

Axelson, Strömberg, and Weisbach (2009) develop a model of the financial structure of private equity funds, which predicts that investment by private equity bidders will be very sensitive to aggregate credit market conditions. Axelson, Jenkinson, Strömberg, and Weisbach (2010) provide empirical evidence consistent with this model. They also develop several proxies to measure private equity fund reputation: "the amount of capital raised by the sponsor, the number of past private equity funds raised by the sponsor, and the number of private equity transactions undertaken during the last three years" (p. 28). These metrics are designed to measure PE reputation for fundraising purposes from current and future limited partners. In contrast, we measure PE reputation among buyout counterparties and their advisors using details from the financial contracting process.

Contracting and reputation play important roles for both parties in a buyout transaction. Buyout firms are concerned with the ability to enforce their cash flow and ownership rights in target firms. Lerner and Schoar (2005) show that international PE contracts are structured to provide ownership-oriented remedies when legal protection is poor. The contracting process at least partially addresses legal environments by providing economic remedies when contracts become unenforceable. Because of the lack of a viable third party enforcer in international settings, PE contracts may include contingent clauses when needed. In a different setting, Kaplan and Stromberg (2003) provide a detailed analysis of venture capital contracts and document how ownership rights revert to the venture capitalists when target firms perform poorly. In our setting, we analyze how bidder reputation interacts with remedies of contractual enforcement and economic penalties upon contracting failures.

There are multiple facets to PE firm reputation. One aspect relates to the reputation for increasing value within and across portfolio investments. This reputation is valuable as it improves the ability of the firm to attract future capital investments from limited partners (Kaplan and Schoar, 2005; Chung et al., 2011). It can also enhance bidding results on target firms. For example, Hsu (2004) shows that highly reputable venture capital firms are more likely to have their competed offers accepted by start-ups, and that they acquire start-up equity at a significant discount to the price paid by less reputable venture capitalists. Another side to PE firm reputation, however, involves the ability to deliver on

promises made to target firm managers. This could include promises to retain and properly motivate key management and employees, fund necessary capital expenditures, and other corporate policies. Before these policies may be addressed, though, comes the promise to consummate a binding acquisition bid. It is this reputation for "making good" on a winning acquisition bid that comprises the primary focus of this study.

Several papers explore the termination structure of public merger agreements. Bates and Lemmon (2003) and Officer (2003) focus on termination fees in large samples of public targets to evaluate whether these impede value-creating bidding competition for targets. Both studies conclude that termination fees do not significantly deter competing bids, but rather serve to encourage bidders to invest in the time-consuming and costly bidding process. Bates and Lemmon also explore reverse termination fees, which are termination fees payable by acquirers. They do not find any relation between the presence of reverse termination fees and transaction completion rates. They find evidence consistent with an "insurance hypothesis" that reverse termination fees are more likely to be included in transactions with higher expected negotiation costs or costs of bid failure, as proxied by target size and equity payment. Davidoff (2009) examines the use of reverse termination fee provisions in private equity acquisitions, and provides descriptive evidence showing that a small number of top-tier law firms repeatedly represent both targets and acquirers in private equity acquisitions. He postulates that since repeat business opportunities arise from private equity bidders but not targets, these law firms may not be fully incentivized to negotiate contractual terms in the best interest of target clients. In addition, he hypothesizes that the characteristics of the legal market make the merger agreement a path dependent, boilerplate contract. Therefore attorneys may be underincentivized to negotiate varying contract terms to fully reflect transaction characteristics.

Klein and Leffler (1981) discuss the relevance of third party contract enforcers in facilitating market exchange. They note the long-standing theory relating to firm reputation as a motivator for contractual performance in the absence of independent contract enforcers (e.g., Hayek, 1948; Marshall, 1949). In the private equity setting, U.S. courts may be relied upon to enforce the acquisition contracts – this is stipulated in the contract's "specific performance" clause. However, a party may also explicitly

ban the other party from seeking third party enforcement of the contract, an action which implicitly shifts the enforcement burden onto that party's reputation. Ulen (1984) argues that specific performance generally dominates monetary damages as an efficient judicial remedy for breach of contract under various scenarios.[4] In the following sections we explore this and other contractual provisions in order to shed more light on the role and value of explicit contracting versus reputation as revealed in the contracting process.

3. Data and empirical findings

3.1 Sample construction

Our sample contains all transactions listed in the FactSet MergerMetrics[5] database and announced from 2004 through 2010 that meet the following criteria: 1) The acquirer is a private equity firm or involves a consortium of private equity firms, 2) the target is a U.S. firm publicly traded on the NYSE, AMEX, or NASDAQ stock exchanges, 3) the transaction size is at least $100 million[6], 4) the offer price is at least $5 per share, and 5) a merger agreement is signed and publicly disclosed through an SEC filing. These filters result in a sample of 227 buyouts announced from 2004 through 2010, including both completed and withdrawn transactions.

From MergerMetrics we obtain data on the transaction value, offer price, consideration offered, deal attitude (hostile/friendly), form of acquisition (tender offer/merger), competing bids, target industry, offer price renegotiations, and transaction outcomes. We verify transaction outcomes by reading news stories surrounding termination announcements of each failed transaction, as well as settlement agreements that are publicly disclosed. We record the structure of reverse termination fees, the presence of a third party contract enforcer (i.e., what attorneys term "specific performance"), and other contractual provisions from the merger agreements filed with the SEC. The amounts of debt, equity, and excess cash

[4] Ulen (1984) uses the concept of "efficiency" from a legal perspective of contract enforcement and not from an economic perspective of wealth optimization.

[5] We use this data source instead of SDC Platinum because of the more reliable information provided by MergerMetrics on its covered transactions. Source: FactSet Research Systems, Inc. MergerMetrics database (https://www.mergermetrics.com).

[6] The majority of strategic defaults occurred in these larger deals during this timeframe.

utilized by private equity groups in financing the transactions are recorded from proxy statements mailed to target shareholders for voting approval of the transactions. From Preqin[7] we obtain information on fund size and dry powder (unused capital). . All stock price data is obtained from CRSP.

3.2 Contract structures

Figure 1 documents the recent private equity investment wave by charting the aggregate enterprise value of announced transactions from 2004 through 2010. Both the aggregate value and average size of transactions peaked in 2007, with about $364 billion of announced deals in the first half of 2007 alone. Deal activity dropped off sharply following this peak, with only two $100+ million transactions announced during 2nd half 2008 into 1st half 2009.

Table 1 provides summary statistics on the sample of 227 announced private equity buyouts. Panel A shows that the percentage of debt financing used by private equity firms to finance their buyouts averages 57.2% over the full sample period, but ranges from 0% to 100% at the extremes. Hence the phrase "leveraged" buyout may actually be a misnomer for some transactions. Panel B reveals that without variation, the consideration paid to target shareholders always takes the form of cash. Also, slightly less than 86% of the transactions are ultimately completed. Panel C summarizes the reasons for transaction failures, and shows that of the 32 failed transactions, 47% are terminated by targets in favor of post-announcement competing bids, 9.4% are terminated due to lack of regulatory clearance, and about 37.6% are terminated by bidders due to weak credit market conditions, outright financing failures, or poor target performance. Finally, Panel D documents a fairly high concentration of targets within the Fama-French 38 Industries of services (both business and personal), retail, and finance, insurance, and real estate.

Figure 2 provides a graphical illustration of the various transaction outcomes over the full sample period. Transaction terminations or renegotiations are reported in more detail across announcement years in Table 2. Commensurate with the peak of announced volume in 2007, the percentage of transactions

[7] Source: www.preqin.com.

that were eventually terminated by bidders increased sharply. Overall, the aggregate enterprise value of bidder-initiated terminations during the sample period is about $170 billion, with $168 billion of that occurring during the financial crisis in 2007-2008. To put this in context, the terminations of 2007-announced transactions represents an economically sizeable 39% of total announced private equity bids in 2007 and 20% of the total over the full sample period.

The low percentage of deals with downward price renegotiations is somewhat surprising. Less than 2% of announced private equity investments involve offer price decreases, compared with about 14% that see price increases. In contrast, among a sample of public acquirers, Denis and Macias (2011) report a higher percentage (8.1%) of downward price renegotiations and a lower percentage (2.1%) of upward price renegotiation. The trend among PE transactions could be driven by the relatively lower initial premiums that private equity bidders offer targets (Bargeron, Schlingemann, Stulz, and Zutter, 2008). PE bidders may be more likely to simply terminate transactions when the economic value of a pending deal approaches the lower bound of the target's pre-offer stock price.

Figure 3 provides a graphical illustration of the 12 bidder-initiated terminations. The beginning of each horizontal bar corresponds with the announcement date, and the end of the bar corresponds with the termination date of each agreement. Many of these pending transactions dragged on for a year or longer before termination. The concentration of announced private equity investments in mid-2007 provides a descriptive picture of the quick change in market conditions. While many of these deals experienced difficulty in raising the debt financing necessary to fund the acquisition, it is unclear whether these represented outright financing failures, declining target value, or some mix of both.

From proxy statements mailed to shareholders, we collect data on the mix of debt, investor group equity, and excess firm cash holdings used to finance the buyouts. Figure 4 documents the mean debt financing ratios for announced transactions through time, measured as the anticipated level of new debt financing divided by the total amount of funds needed to close the transaction. Generally, the target's old outstanding debt is retired at transaction closing, so this debt financing percentage should resemble the

target's actual new leverage at closing.[8] The mean debt financing amount ranges from a peak of just over 70% in late 2004, to less than 30% in late 2008. The lower leverage for recent transactions following the 2007 credit crisis confirms the predictions made by Kaplan and Strömberg (2009).

The distributions of various acquisition contract terms are presented in Table 3, for the full sample in Panel A, and by announcement year in Panel B. Panel A shows that in general, some variation exists in the size of both termination and reverse termination fees. Moving from the 25th to 75th percentile increases the reverse termination fee from 2.1% to 3.9% of enterprise value, and increases the termination fee from 2.0% to 3.6%. This is similar to the amount of variation in fee sizes documented by Bates and Lemmon (2003) and Officer (2003). The evolution of contract termination provisions through time is presented in Panel B. Following the numerous transaction failures in 2007-2008, the reverse termination fee more than doubles from a median of 1.9%-2.3% in 2004-2006 to a median of 5.7% in 2010. The termination fees show less variation over the same period, indicative of the impact from bidder strategic defaults in 2007-2008.

Third parties, such as U.S. courts, may be relied upon as an efficient mechanism for the enforcement of merger contracts (Klein and Leffler, 1981; Ulen, 1984). However, targets are only permitted to seek unconditional specific enforcement of merger contracts (i.e. "Target S.P. permitted") 17.7% to 30.0% of the time across sample years. The highest percentage occurs in 2009 following the 2007-2008 strategic defaults, indicating some shift towards third party enforcement. However, the relatively low ratio of 30% seems puzzling given the purported efficiency of this mechanism (Ulen, 1984). Nonetheless, the lack of legal enforceability of the contracts, particularly in early sample years, points towards the use of PE reputation as a bonding mechanism in these transactions. We note further that a bidder is permitted to enforce the contract in a court in 85% to 100% of transactions across sample years, consistent with a lack of target reputation as a bonding component in these transactions.

[8] As many targets cease to report financial data once private, we cannot verify this assumption for every deal, so we use caution in interpreting this financing mix as actual new target leverage. It is possible that leverage increases substantially post-closing for some targets if PE firms raise additional debt financing after transaction completion.

Overall, the descriptive evidence highlights the importance of considering multiple factors in assessing the termination rights granted to bidders. While reverse termination fee amounts vary both in the cross-section and through time, other provisions such as target third party-contract enforcer terms vary to a smaller extent. On the surface, it appears that the increasing amounts of reverse termination fees by 2010 provides greater insurance to targets for withdrawn transactions, yet the common bar on target third party contract enforcement may offset this insurance somewhat by providing a stronger termination option to bidders. We next turn to documenting how the contract termination structures are associated with bidder defaults during the financial crisis of 2007-2008.

3.3 Contract structure and strategic defaults

We attempt to identify contract features and other factors that predict strategic defaults by private equity firms by estimating probit models in Table 4. The dependent variable equals one if a transaction announced during 2007-2008 resulted in a bidder-initiated termination, and zero otherwise. The variable reverse termination fee which represents the bidder's break-up fee as a percentage of deal enterprise value is significant and negative in all columns. Private equity firms that negotiated cheaper options were more willing to strategically default on these transactions. This is further confirmed by the significance of the variable no third party enforcer, which is one if the target is not permitted to seek performance of the contract in a court (i.e., specific performance) and zero otherwise. The variable is positive and statistically significant in all columns at either the 1% or 5% levels. The lack of a third party enforcer thus appears to be a key driver in the decision by a private equity firm to strategically default on a contract.

Contract structure is economically significant: a one standard deviation decrease in the reverse termination fee increases the predicted probability of contractual nonperformance by 8.7%, and predicted nonperformance increases by 6.0% when third party enforcement is unavailable.[9] As the observed nonperformance rate in these regressions is 11.4%, the contract features predict a substantial amount of variation in strategic defaulting behavior. The findings are consistent with Klemperer (2002) in that the

[9] We evaluate the one standard deviation change around the sample means of the reverse termination fee and other continuous variables.

smaller the penalty fee upon default, i.e., the option payment, the more likely it is that bidders are bidding on options rather than the asset itself.

These contractual features are more predictive of default than extra-contractual factors such as the size of the transaction, initial offer premium and the debt financing percentage. In all columns, these variables are not statistically significant. The failure of the debt financing percentage and other variables to produce statistically significant results implies that the decision to default was not based directly on credit availability during the financial crisis. Transaction arbitrage spreads are not significant in columns (3) and (4), and significant but of the wrong sign in column (5), indicating that that traders did not fully interpret the contract termination provisions to provide the flexibility they ultimately provided private equity. The market may have overestimated the impact of private equity reputation in securing transaction completion.

The variable time to agreement expiration is also significant and positive in all five columns. This variable is the time from announcement to the merger agreement's drop dead date, in months. A longer time to expiration creates a more valuable abandonment option, and is associated with an increase in the incidence of observed strategic defaults. The significance of this variable, as well as the no third party enforcer and the reverse termination fee variables, may be a product of private equity's superior bargaining skill (Kaplan and Strömberg, 2009). Finally, in column (5), the variable equity commitment / GP fund size is included, which measures the amount of equity committed by the private equity buyer as a fraction of the general partner's total fund size. In club deals, these amounts are summed in both the numerator and denominator. This variable is positive and significant in column (5), indicating that during the financial crisis and consistent with equation (1), private equity firms were more likely to back out of those transactions which had the greatest potential impact on their overall investment portfolios. This finding is consistent with our hypothesis about the tradeoff between reputation and potential losses, as equation (2) predicts the losses may increase with higher equity commitments.

3.4 Cost of strategic default and value of reputation

3.4.1 Case studies

We collect more detailed information surrounding the 12 bidder-initiated terminations from news stories, SEC filings, and company press releases. This information and the contract termination structures are presented in Table 5. We note that the reasons for transaction failure and the contract structure largely agree with the settlement outcomes reported in the table. For example, bidders generally pay out 1-3% of target enterprise value (EV) in order to exit transactions if third party contract enforcement is barred, but may pay up to 10% or more of target value if third party contract enforcement is permitted. Thus, the contract termination structure is economically important in failed transactions. Davidoff (2009) provides more detail on the litigation and settlements surrounding many of these terminations. At least three of the settlements hinged on the definition in the contract of Material Adverse Change (MAC) clauses. Denis and Macias (2011) discuss this clause in detail and show how more exclusions in the clauses reduce a bidder's ability to terminate a transaction under a MAC claim.

In addition to the transactions discussed in the introduction, as an example of a transaction without third party enforceability, in the buyout of Reddy Ice Holdings, Inc. by GSO Capital Partners, the contract barred third party enforcement (specific performance) and contained a reverse termination fee of $21 million. The deal was terminated with GSO paying this $21 million fee to Reddy Ice. In the buyout of Penn National Gaming, Inc. by a private equity consortium consisting of Fortress Investment Group and Centerbridge Partners, the contract permitted specific performance and there was a $200 million reverse termination fee. The deal was terminated on July 3, 2008 and the bidders paid a $225 million cash fee and purchased 12,500 shares of target preferred stock for $1.25 billion.

Our case study of transactions in Table 5 leads us to conclude that both reverse termination fees and third party contract enforcement clauses are important to contractual parties ex post following strategic defaulting behavior by bidders. In 87.5% of the bidder-initiated terminations in 2007-2008 where there is a reverse termination fee and third party contract enforcement is barred, the ultimate

termination fee paid by the private equity bidder(s) approximates the reverse termination fee amount. In contrast, in most of the transactions allowing third party contract enforcement and therefore providing for a third party court enforcer, the settlement amount is substantially lower than the full possible liability of the private equity firm but higher than the reverse termination fee amount. Generally, the difference is likely due to the litigation positions of the parties upon a strategic default. In the former case, the contract is relatively clear about the right of a target to collect the reverse termination fee upon default. In the latter case, though, any outcome is dependent upon a third party enforcer and the inherent uncertainties of such litigation. This uncertainty leads to bargaining by parties with reference to the litigation risks and costs with a settlement floor being the reverse termination fee and a ceiling being the full amount of the private equity firm's equity commitment.

3.4.2 Estimating the value of reputation

Equation (1) allows us to derive estimates of the value of reputation in the PE contracting environment. A bidder will honor its commitment to acquire a takeover target so long as the one-time net gain from defaulting is less than or equal to the reputational damage from doing so. This equation does not allow us to separately identify the discounted stream of cash flows resulting from good reputation and bad reputation; only the difference between the two is estimable. Equation (2) provides a means of measuring the net gain on defaulting. The intuition stems from the fact that private equity bidders contribute their own equity plus outside debt plus target excess cash to fund the purchase of takeover targets, however, their economic incentives are limited to their equity component. Thus, during the period from transaction signing and public announcement to deal completion or termination, if the value of this equity commitment falls by an amount greater than the expected termination penalty, a net gain would arise by defaulting on the acquisition contract. Plugging this net gain into equation (1) dictates how the PE bidder responds to the potential one-time wealth effect. To summarize, we form lower bound estimates based on completed buyouts that may have declined in value and upper bound estimates based on terminated buyouts that clearly declined in value.

In Table 6 we estimate the upper and lower bounds of the value of reputation based on the inputs for equation (2). We construct upper bound estimates of sponsor reputation in Panel A based on terminated transactions. In what follows, we only estimate reputation values for observations that represented a clear decision by the PE firms(s) to strategically default; we drop transactions that were terminated due to financing failures or other exogenous reasons as these observations do not imply a tradeoff between reputation and profit.

In Panel A of Table 6 we use the PE firms' equity commitments, transaction leverage, and excess cash disclosed in proxy filings, the default penalty paid on the terminated transactions as reported in Table 5, and an estimate of the updated value of the PE firms' equity commitments at termination. This latter component is constructed as follows: First, we calculate the targets' enterprise value one day following the transaction termination announcement (equity + net debt). We estimate the difference between this and the target's enterprise value 30 days before the transaction announcement. This produces an estimate of the change in target fundamental value from before the announcement to the termination decision while purging the effects of the PE buyout and expected control premium. We then multiply the percentage change in target value by the enterprise value of the PE going-private transaction structure – i.e., the sponsors' equity commitment plus transaction net debt – to obtain an updated estimate of target value to the PE firm. This is labeled "EV at Termination" in Column (3) of Panel A. We then subtract transaction debt to obtain the updated target equity value in Column (4). If this value is negative, we set the updated equity value to zero. The "Net Gain on Default" in Column (6) equals the sponsor's equity commitment minus the updated value of this commitment minus the termination penalty, as stated in equation (2). Observations in Panel A are presented in ascending order based on the Reputation estimate scaled by sponsor fund size in Column (8).

As Panel A of Table 6 shows, for the subset of terminated transactions with available information for all inputs, the updated equity values are all well below the initial equity commitments from the PE firms, with half of these investments completely worthless. Subtracting the termination penalty paid by the firms to exit these transactions from the change in equity values produces net gains on default that

range from $180 million to $2.5 billion. As a proportion of the size of the sponsors' funds which contributed the equity, the reputation values range from a low of 1.23% to a high of 40.37%. These figures are only upper bounds, and it is plausible that a firm would strategically default on a contract in order to avoid a loss well below the 40.37% threshold.

In Panels B and C of Table 6, we form lower bound estimates of sponsor reputation. To do so, we examine a subset of transactions that were completed despite potentially significant drops in the value of the targets. We cannot estimate lower bounds using the method from Panel A, since the targets' enterprise values are a function of the transaction premium for completed deals. Thus, in Panel B, we impute target valuation changes using industry stock returns. For each completed transaction, we construct an equal-weighted portfolio of all firms other than the target within the target's 4-digit SIC code, rebalanced daily.[10] Daily returns to this portfolio are compounded from the announcement date + 1 through the completion date. The minimum cumulative return at any point in time between these two dates is then taken over this interval for each observation. If this is positive, the observation is omitted from further consideration.

This return is reported in Column (2) of Panel B as "Min Industry Return." The sponsor's updated valuation of its equity commitment in the transaction is its initial equity commitment times one plus the minimum return. This imputes a drop in the value of its potential buyout investment based on broad industry declines between the transaction announcement and completion. The remaining columns are constructed as in Panel A, with the "Potential Gain" on a strategic default representing the loss that a sponsor could have avoided, had it chosen to terminate the acquisition agreement and paid the termination penalty in Column (4). Results from this analysis are reported if the Reputation / Fund Size in Column (7) is greater than 1%, as lower values are uninformative for the lower bound estimates. The highest value is 14.52%, with the second highest being 5.77%, and several additional observations in the 2% - 3% range. Thus, in several buyouts, sponsors could have strategically defaulted on pending acquisitions and

[10] We also repeat the process with industry defined using either 3-digit SIC codes or the VIC-7.06 data provided by Hoberg and Phillips (2010a, b). Results are qualitatively similar across these other methods.

recouped a portion of their capital funds, but chose not to. This analysis assumes that target value changes occur in conjunction with their industry changes, which introduces some noise into the estimates.

In Panel C, we approach the lower bound estimation process using minimum target trading prices between transaction announcement and completion instead of industry proxies. Because target prices are a function of the transaction premium and the probability of deal completion, most observations do not decline significantly in price during this period. "Min Target Return" is the cumulative minimum return on the target's stock, relative to the target's average trading price from 45 to 30 days pre-announcement, during the period between deal announcement and completion. This return is multiplied by the sponsor's equity commitment to obtain the "Updated Equity Value" in Column (3). The remaining columns are constructed as in Panel B. For only two observations, the "Reputation / Fund Size" in Column (7) is greater than 1%, and these values range from 3% to 4%. Both of these are the same observations as those in Panel B, but the lower bound estimate is greater for one of these in Panel C (3.12% vs. 2.92%). Hence Panel C provides one additional unique observation relative to Panel B.

In Panel D, we summarize the results from Panels A through C. The lower bound estimates are from Panels B and C, with $mm from Column (5), % Equity from Column (6), and % Fund from Column (7). The upper bound estimates are from Panel A, with $mm from Column (6), % Equity from Column (7), and % Fund from Column (8). If an estimate is derived from an observation involving multiple sponsors ("club deals"), the $mm column is split equally among those bidders and the bidder names are indented in the first column in Panel D. As a percentage of sponsor fund size, the highest lower bound value of 14.52% and the lowest upper bound value of 1.23% appear to be outliers.[11] Moving to the next values in the sortings, the reputational value estimates range from around 5% to 9%, providing a relatively tight bound on the estimation of the value that private equity firms place on their reputations. To summarize, the lower bound estimates are based on completed buyouts that may have declined in value, while the upper bound estimates are based on terminated buyouts that clearly declined in value.

[11] It is difficult to make cross-sectional comparisons across the estimates because each estimate pertains to a different PE firm. Different firms may place disparate values on their reputations. Moreover, many firms do not have informative observations because they did not announce any public buyouts during the short interval under consideration (late 2007) in our study.

The value of future reputation is influenced by future contracting concerns as well as by sponsors' incentives to produce fee income, which is a function of both current fund performance and future fundraising ability (Kaplan and Schoar, 2005; Chung, et al. 2011). The following section explores the impact of strategic defaults on future sponsor reputation and subsequent PE buying activity.

3.5 Strategic defaults and impact on reputation

Models of reputation imply that repeat interactions with customers provide the incentive for firms to maintain a reputation for high quality (Klein and Leffler, 1981). The collective reputation of an industry is influenced by the behavior of individual members when firm type is observed imperfectly (Tirole, 1996). Individual behavior during 2007-2008 could be observed with noise because many PE firms happened to be on the sidelines during the crisis. Thus, it is impossible to observe firm type for these individual firms. A second source of noise comes from the structure of bidding groups. Table 1 documents that 22% of the sample involve club deals, or consortiums of multiple PE bidders. About one third of the bidder defaults in Table 5 involved club deals. In these transactions, it is difficult to determine whether the default was advocated by one or more of the PE consortium members, and so the ensuing reputational damage may be difficult to assign to any single group member.

3.5.1 Reputational Damage Reflected in Contracting

In order to examine the reputational fallout from the strategic defaults in 2007-2008, Table 7 reports summaries of various contract terms across multiple time periods: 2004-2006, the period before the wave of strategic defaults, and 2008-2010, the period following the many of the transactions which were terminated by late 2007. In Panel A, we compare the terms enjoyed by three categories of PE firms: defaulting bidders on single-bidder transactions, defaulting bidders from club deals, and non-defaulting bidders. These categories are not mutually exclusive, as some bidders are in both single-bidder and club deal subgroups after defaulting on several transactions. Bidders that defaulted on 2007-announced transactions were involved in about 19%-20% of 2004-2006 transactions, while non-defaulting bidders

were involved in about 85% of 2004-2006 transactions. Following the 2007 terminations, the defaulting single bidders were involved in 15.5% of transactions while defaulting club deal bidders were involved in only 8.6% of transactions. Thus, there is some descriptive evidence that the defaulters have been penalized through lower incidence of winning bids in 2008-2010.

For the contracts that each bidder category entered in 2008-2010, the reverse termination fees are slightly higher for defaulting single bidders but not for defaulting club deal bidders. Panel B documents the median default penalty in greater detail across four categories: defaulting single bidders vs. non-defaulters, and 2004-2006 (pre-defaults) transactions vs. 2008-2010 transaction (post-defaults). Following the wave of defaults in 2007, the median reverse termination fee increased for both those bidders who defaulted and those who did not default. The increase was 2.3% greater for the defaulting bidders, implying that reputational damage may have been more severe for the individual defaulters. The following table explores the statistical significance of this effect in regression models that control for additional factors.

We document the extent of collective, industry-wide reputational damage in Panel C of Table 7. The average size of reverse termination fees triples from the 2004-2006 period to the 2008-2010 period. The median size of the fees doubles and remains statistically significant at the 1% level. Thus, Panel C produces descriptive evidence that is consistent with a collective decline in reputation for the private equity industry as a whole following the 2007 defaults. Somewhat surprisingly then, the rate at which targets are barred from seeking third party contract enforcement of the contract actually *increases* across the periods. This runs counter to the predictions arising from models of reputation. One explanation is that target firms tend to focus on the amount of reverse termination fees but not the legal third party contract enforcement language. It is also possible that PE firms are more sophisticated or experienced negotiators, focusing on legal details that less experienced target managers and lawyers fail to appreciate.

An alternative explanation of the industry-wide trend in the default penalty shown in Panel C is that perhaps reputation has not changed at all, but rather the probability of a market disruption has increased through the financial crisis. Under this scenario, the market knew that sponsors had a certain

breaking point, but simply underestimated the likelihood of encountering a financial crisis and ensuing wave of strategic defaults. The rising default penalty would then reflect not reputation but rather the market's reassessment of the likelihood of another financial crisis. To evaluate this concern, we report mean and median arbitrage spreads over offer prices five days following transaction announcements in the final column of Panel C. As indicated by the insignificant p-values for the differences across the 2004-2006 and 2008-2010 categories, arbitrage spreads have not increased since the financial crisis. If this alternative explanation were correct, we would expect the market to price this event risk in arbitrage spreads. Because the spreads have not changed over time, the evidence appears to be more consistent with the reputation story than with an alternative explanation.

3.5.2 Explaining Reverse Termination Fees and Contract Enforceability

We next examine the effect of bidder defaulting behavior on the future contractual bidder default penalties (i.e., reverse termination fees) negotiated between bidders and targets. Table 8 reports results from regressing the reverse termination fee amount as a percentage of target enterprise value on target volatility, transaction size, transaction leverage, time indicators, an indicator of whether the current bidder has previously defaulted on an acquisition contract, the difference between an indicator variable for a top-tier legal team on the target side vs. the acquirer side, and a variable to indicate whether the target's legal team has experience working with both targets and acquirers.[12] In columns (1) and (2), the regressions do not document any significant reputational damage to individual bidders that have previously defaulted on a contract, reflected by the insignificant coefficient on *Bidder has Prior Default.*[13] We do find, however, robust evidence that default costs have risen substantially since the 2007 wave of defaults, as reverse termination fee amounts are significantly higher in transactions *Announced in 2008-2010*. Top-tier legal teams do not appear to negotiate for more favorable target terms, on average. One might expect law firms with acquirer experience to negotiate less favorable terms when representing targets due to a long-run

[12] We exclude observations with no reverse termination fee from these models. As documented in prior tables, it is not appropriate to label these transactions as having an RTF equal to zero; the default penalty may rise sharply for some of these transactions.

[13] It is possible that the small sample of prior bidder defaults renders this test of insufficient power to detect a significant effect. We note that in Table 7, the univariate results imply that prior defaulters have been penalized more severely than non-defaulters.

conflict of interest due to the potential for repeat business with private equity bidders. On the other hand, they may negotiate more favorable target terms due to their experience representing acquirers and increased knowledge of bidder behavior. On average, though, the coefficient on the variable *Experienced Target Legal Team* is insignificant in Columns (1) and (2).

Columns (3) and (4) add interactions of the law firm variables with an indicator variable capturing deals announced after the financial crisis and ensuing bidder defaults. When these interaction terms are included, the *Announced in 2008-2010* coefficients are no longer statistically significant. However, the interaction between *Experienced Target Legal Team* and *Announced in 2008-2010* is positive and significant at the 1% level in both Columns (3) and (4). This indicates that some degree of attorney learning took place following the bidder defaults, but it appears to have been concentrated among those attorneys with experience representing private equity bidders. These attorneys tend to bargain for higher reverse termination fees in the post-crisis transactions, providing greater downside protection for target firms. Thus, experienced transaction lawyers appear to add measurable value to the financial contracting process.

Expected default penalty amounts are not the only contract termination component that bidders and targets negotiate. As prior tables documented, third party enforceability of contracts influences bidder defaulting behavior as well as post-termination settling up. In Table 9, we explore the extent to which parties altered the rate of enforceability of contracts following the wave of terminations during the financial crisis. The table reports probit models in which the dependent variable equals one if the target is permitted to seek third party enforcement of the merger agreement (i.e., specific performance), and zero otherwise. Independent variables are defined the same way as in Table 8. Across all four columns, contracts are less enforceable during and following the financial crisis. If the target hires a top-tier legal advisor and the bidder does not (or vice versa), then contracts tend to be more (less) enforceable, evidenced by the positive coefficient on *Top-Tier Legal, Target minus Top-Tier Legal, Acquirer*. Transactions lawyers that routinely represent both targets and bidders negotiate less enforceable contracts for target firms, though the interactions of the time effects and legal dummies are insignificant.

One way to interpret the collective results from Tables 8 and 9 is that following the financial crisis, bidders were in some cases willing to offer targets larger default penalties in exchange for the ability to terminate agreements without the hassle of drawn-out court litigation. Top-tier target legal advisors tend to push for greater contract enforceability. Experienced transaction lawyers may attempt to speed the negotiating process by exchanging higher default penalties for less legally enforceable contracts. In sum, we find mixed results of individual PE firm reputational effects following defaulting behavior, but find strong evidence of industry-wide reputational damage, consistent with models of collective reputation. The results also imply that sponsors face a moral hazard problem, since they profit from nonperformance events while the overall industry bears the repercussions.

3.5.3 Robustness

One potential concern with these tests is that the population of PE bidders may have changed following the financial crisis. If targets are less willing to interact with financial sponsors following their defaults, this would represent an additional reputational penalty that does not show up in the contracting terms we measure. In Table 10, we evaluate this possibility by exploring the level of capital available to private equity firms. If PE bidders have greater levels of unused capital following their defaults, this would provide some support for the idea that targets are not satisfied with contractual penalties and instead are refusing to conduct business with them entirely. Panel A reports descriptive statistics for three variables. The first is sponsors' total capital each year, which includes all U.S.-focused buyout funds closed by a PE firm in the trailing four years. This level is CPI-adjusted to 2010 U.S. dollars. The second variable is dry powder, which is the dollar amount of capital that has not yet been called up by the general partners for investments. The third variable is the percentage of capital represented by dry powder. All of this data comes from Preqin. The minimum levels of dry powder are negative because some sponsors call up more than 100% of the capital that was initially committed to a given fund.

The lower portion of Panel A reports the median levels of each variable by year for the full Preqin sample of 886 firm-years, and for the subsample of sponsors that strategically defaulted on a

transaction at some point during the sample period. The defaulters were significantly larger firms each year, and they saw an increase in their capital under management for each sample year. Thus, the contractual defaults in 2007-2008 do not appear to have had an adverse effect on their ability to raise funds going forward. Capital under management and dry powder remains relatively stable across years for the full Preqin sample. Dry powder for future defaulters increased in 2006-2007, but dropped sharply in 2008 through the remainder of the sample. Thus, descriptively, it appears that defaulting sponsors continue to raise funds and invest heavily in U.S. buyouts following the financial crisis. We find no descriptive evidence to indicate that targets are unwilling to transact with them.

In panel B of Table 10 we evaluate these trends empirically by running OLS panel regressions with both year and firm fixed effects. The year fixed effects would pick up any industry-wide changes in PE capital following the wave of defaults. An additional independent variable, *Bidder has Prior Default*, equals one in any year following a strategic default for a given PE firm, and zero for the years prior to a default or for all years of non-defaulting bidders. This variable measures changes in capital for individual bidders following their defaults. Column (1) reports total capital in $US billions, Column (2) reports dry powder in $US billions, and Column (3) reports dry powder as a percentage of total capital.[14] Consistent with the descriptive evidence, total capital and dry powder for all PE firms increases significantly for each of 2006 through 2010, relative to 2004 levels. However, dry powder as a percentage of total capital decreased significantly in 2008 and 2009, and also decreased slightly (but not statistically significantly) in 2010. Thus, we find no evidence to indicate that the private equity industry as a whole is being shut out of transactions following the financial crisis, since the industry does not have a greater proportion of unused capital following the wave of defaults. The coefficient on *Bidder has Prior Default* is insignificant in all three columns. If it was positive in Column (3), this would indicate an excess of unused capital following strategic defaults. But the insignificance of this coefficient implies that targets remain willing to accept financial sponsor capital following their defaults.

[14] We also compute the models using logs of the dependent variables in Columns (1) and (2) to address skewness. Results are qualitatively unchanged.

Another concern with the results is that perhaps the industry-wide reputational effects we measure are misspecified in one of two ways. The first way is that reputation has in fact not declined over time, but rather the probability of another financial crisis has increased. This could drive up the observed default penalties in 2008-2010 even though sponsor reputation has remained constant. However, as we note in Panel C of Table 7, arbitrage spreads have not increased over time. If the likelihood of defaults has risen, we would expect to observe increasing arbitrage spreads over time. Because they have not, the results seem more consistent with the reputation story than with this alternative explanation. The second potential source of noise in the estimates relates to the issue of moral hazard. We estimate firm-specific reputational boundaries even though the repercussions of defaulting behavior are spread among all group members, including those who do not default in our sample period. In this respect, the reputational values we estimate are relative to the existence of other group members. It is possible that were firm behavior observed without noise, we would produce different reputational estimates since individual actions and consequences would be fully internalized.

4. Conclusion

This paper documents the contracting structure in 227 private equity buyouts of U.S. targets from 2004-2010. By looking at the impact of strategic sponsor defaults, we examine the relation between the value of reputation and financial contracting. We find that PE bidders were more likely to terminate contracts during the financial crisis of 2007-2008 when the penalty for doing so was lower. For example, bidders are more likely to default if the reverse termination fee payable is lower and if the target is not permitted to seek third party enforcement of the contract. Contract structure is economically significant: a one standard deviation decrease in the reverse termination fee increases the predicted probability of contractual nonperformance by 8.7%, and predicted nonperformance increases by 6.0% when third party enforcement is unavailable. As the observed nonperformance rate in the subsample for these regressions is 11.4%, the contract features predict a substantial amount of variation in strategic defaulting behavior. Ex post litigation settlements largely conform to predictions made from the contract structures, with

higher settlements paid by PE firms that terminate contracts containing higher reverse termination fees or permitting the target to seek third party contract enforcement

Using details of target valuation changes and contract default penalties, we estimate the gains from backing out of these contracts, as well as the losses to honoring unprofitable contracts. These gains and losses approximate the upper and lower bounds that sponsors' place on the value of their contracting reputations. Estimates of this value range from 5% to 9% of the sponsors' fund sizes, or from $180 million to $2.5 billion in nominal dollars. These estimates of reputation value suggest that PE firms face significant incentives to report favorable returns to limited partners in current funds, consistent with prior studies (Kaplan and Schoar, 2005; Chung et al. 2011). However, the findings also show that sponsors are willing to honor contracts despite current buyout losses. Hypothetically, if PE firms place no value on their contracting reputations, they should default on any souring contract. We find that sponsors are willing to bear losses of up to 5% of their fund sizes despite the implied reduction in current and future general partner income resulting from lower portfolio returns. Consistent with economic theory, private equity's reputation among targets has an economic value.

We also assess the reputational damage resulting from the wave of terminations during the financial crisis and find evidence consistent with models of collective reputation. Specifically, the private equity industry as a whole appears to have suffered a general decline in the credibility of its reputation among targets and transaction lawyers, the effects of which are evident in the explicit contracting process. We find only minor individualized penalties against specific sponsors for their own behavior. Instead, the costs of default are largely borne by the entire industry, suggesting that sponsors face a moral hazard problem when it comes to contractual performance decisions. Expected default penalties for both defaulting and non-defaulting PE firms have more than doubled following the wave of terminations, with median reverse termination fees rising from 2.2% pre-crisis to 4.7% post-crisis, a 115% increase.

The findings imply that historically, private equity firms bid for *options* on some takeover targets rather than for the targets themselves, but that targets have increased the expected cost of exercising these options following the stream of contractual defaults during the financial crisis. To the extent that private

equity derives excess returns from the ability to negotiate these options, its actions during the financial crisis could diminish future returns. However, we find no evidence to indicate that the private equity industry as a whole is being shut out of transactions following the financial crisis. Targets seem willing to continue transacting with PE firms. Defaulting sponsors continue to raise funds and invest heavily in U.S. buyouts following the financial crisis.

The adjustment in contract terms following the financial crisis shows the dynamic nature of the private equity contracting process as the industry substitutes more formal contracting default mechanisms in place of reputational capital. Models of collective reputation suggest that private equity firms may rebuild their lost trust through repeated successful interactions with market participants going forward. With time, all may be forgiven.

References

Axelson, Ulf, Tim Jenkinson, Per Strömberg, and Michael S. Weisbach, 2010, "Borrow cheap, buy high? The determinants of leverage and pricing in buyouts", Working Paper, The Ohio State University.

Axelson, Ulf, Per Strömberg, and Michael S. Weisbach, 2009, "Why are buyouts levered? The financial structure of private equity funds", *Journal of Finance* 64, 1549-1582.

Bar-Isaac, Heski, 2005, "Imperfect competition and reputational commitment", *Economic Letters* 89, 167-173.

Bargeron, Leonce L., Frederik P. Schlingemann, René M. Stulz, and Chad J. Zutter, 2008, "Why do private acquirers pay so little compared to public acquirers?", *Journal of Financial Economics* 89, 375-390.

Bates, Thomas W. and Michael L. Lemmon, 2003, "Breaking up is hard to do? An analysis of termination fee provisions and merger outcomes", *Journal of Financial Economics* 69, 469-504.

Chung, Ji-Woong, Berk A. Sensoy, Lea H. Stern, and Michael S. Weisbach, 2011, "Pay for performance from future fund flows: The case of private equity", Working Paper, The Ohio State University.

Davidoff, Steven M., 2009, "The failure of private equity," *Southern California Law Review* 82, 481-545.

Denis, J. David and Antonio J. Macias, 2011, "Material adverse change clauses and acquisition dynamics", Working Paper, Purdue University and Texas Christian University.

Guo, Shourun, Edith Hotchkiss, and Weihong Song, 2010, "Do buyouts (still) create value?", *Journal of Finance*, forthcoming.

Hayek, Friedrich A., 1948, "The meaning of competition", in *Individualism and Economic Order*, Chicago: Univ. Chicago Press.

Hoberg, Gerard and Gordon Phillips, 2010, "Dynamic product-based industry classifications and endogenous product differentiation", Working Paper, University of Maryland.

Hoberg, Gerard and Gordon Phillips, 2010, "Product market synergies in mergers and acquisitions", *Review of Financial Studies* 23, 3773-3811.

Hörner, Johannes, 2002, "Reputation and competition", *The American Economic Review* 92, 644-663.

Hsu, David H., 2004, "What do entrepreneurs pay for venture capital affiliation?", *Journal of Finance* 59, 1805-1844.

Kaplan, Steven N. and Antoinette Schoar, 2005, "Private equity performance: Returns, persistence and capital flows", *Journal of Finance* 60, 1791-1823.

Kaplan, Steven N. and Per Strömberg, 2003, "Financial contracting theory meets the real world: An empirical analysis of venture capital contracts", *Review of Economic Studies* 70, 281-315.

Kaplan, Steven N. and Per Strömberg, 2009, "Leveraged buyouts and private equity", *Journal of Economic Perspectives* 23, 121-146.

Klein, Benjamin and Keith B. Leffler, 1981, "The role of market forces in assuring contractual performance", *The Journal of Political Economy* 89, 615-641.

Klemperer, Paul, 2002, "What really matters in auction design", *The Journal of Economic Perspectives* 16, 169-189.

Kreps, David M., 1990, "Corporate culture and economic theory", in *Perspectives on Positive Political Economy*, New York: Cambridge University Press, 90-143.

Lerner, Josh and Antoinette Schoar 2005, "Does legal enforcement affect financial transactions? The contractual channel in private equity", *Quarterly Journal of Economics* 120, 223-246.

Marshall, Alfred, 1948, *Principles of Economics: An Introductory Volume*, 8th ed., New York: Macmillan.

Officer, Micah S., 2003, "Termination fees in mergers and acquisitions", *Journal of Financial Economics* 69, 431-467.

Tadelis, Steven, 1999, "What's in a name? Reputation as a tradeable asset", *The American Economic Review* 89, 548-563.

Tadelis, Steven, 2002, "The market for reputations as an incentive mechanism", *Journal of Political Economy* 110, 854-882.

Tirole, Jean, 1996, "A theory of collective reputations (with applications to the persistence of corruption and to firm quality)", *The Review of Economic Studies* 63, 1-22.

Ulen, Thomas S., 1984, "The efficiency of specific performance: Toward a unified theory of contract remedies", *Michigan Law Review* 83, 341-403.

Table 1. Sample Descriptive Statistics

Descriptive statistics on 227 private equity buyouts listed in MergerMetrics and announced from 2004 through 2010. The sample is limited to buyouts with a transaction value of at least $100 million, an offer price of at least $5 per share, a target company which is publicly traded on the NYSE, AMEX, or NASDAQ, and deals for which a merger agreement is signed and publicly disclosed. Both completed and withdrawn buyouts are included. Transaction Value is the total value offered to acquire the outstanding common stock of the target. Enterprise Value equals transaction value plus net debt. Initial Offer Premium at announcement and Final Premium Paid at closing are over target's trading price 30 days prior to merger announcement. Debt Financing % is the percentage of transaction-related funding that the private equity firm or group obtained from debt sources. Arb Spread is the difference between the offer price and the target's equity trading price five days after announcement, divided by the trading price.

Panel A	**Mean**	**St. Dev.**	**Min**	**25th %**	**Median**	**75th %**	**Max**
Transaction Value (*$mm*)	$2,468.2	$4,740.8	$104.5	$340.8	$816.1	$2,117.4	$31,802.4
Enterprise Value (*$mm*)	$3,707.0	$10,463.8	$62.4	$373.5	$1,119.0	$2,875.1	$130,659.3
Initial Offer Premium	28.4%	63.9%	-7.1%	11.8%	22.2%	32.7%	938.8%
Final Premium Paid	30.0%	64.3%	-8.6%	13.2%	23.9%	34.3%	938.8%
Debt Financing %	57.2%	22.6%	0.0%	47.8%	62.4%	71.8%	100.0%
Arb Spread (+5)	2.4%	3.7%	-10.4%	0.9%	2.2%	3.8%	21.8%

Panel B	N	%
Merger Consideration = Cash[1]	227	100.0%
Deal Completed	195	85.9%
Management Buyout	18	7.9%
Hostile / Unsolicited Deal	12	5.3%
Club Deal	51	22.5%

Panel C: Reason for Deal Failure			
Competing Bid	15	46.9%	(target-initiated)
Lack of Financing / Credit Market Developments	10	31.3%	(bidder-initiated)
Lack of Regulatory Approval	3	9.4%	(exogenous)
Target Performance	2	6.3%	(bidder-initiated)
Lack of Shareholder Approval	2	6.3%	(target-initiated)
	32	100.0%	

[1] Two transactions included a choice of cash or stock.

Table 1 (*Continued*)

Panel D: Industry Composition (Fama-French 38 Industries)	**Full Sample Period**		**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Services	87	38.3%	50.0%	26.5%	27.5%	35.3%	66.7%	60.0%	48.5%
Retail Stores	37	16.3%	6.3%	38.2%	15.7%	11.8%	0.0%	10.0%	18.2%
Finance, Insurance, and Real Estate	26	11.4%	25.0%	11.8%	13.7%	14.7%	6.7%	0.0%	0.0%
Electrical and Electronic Equipment	12	5.3%	0.0%	2.9%	5.9%	7.4%	0.0%	10.0%	6.1%
Wholesale	9	3.4%	0.0%	8.8%	2.0%	1.5%	20.0%	10.0%	0.0%
Transportation	9	3.4%	0.0%	2.9%	3.9%	5.9%	0.0%	0.0%	6.1%
Instruments and Related Products	6	2.6%	6.3%	0.0%	5.9%	2.9%	0.0%	0.0%	0.0%
Machinery, Except Electrical	6	2.6%	0.0%	2.9%	2.0%	4.4%	0.0%	0.0%	3.0%
Other Industries	35	15.4%							

Table 2. Transaction Outcomes by Announcement Year

Frequency of target-initiated, bidder-initiated, and regulatory-induced transaction failures by announcement year, in Panel A, and price renegotiations in Panel B. Price renegotiation data is from MergerMetrics, and transaction failure information is obtained from MergerMetrics and cross-checked against news stories and company press releases.

Panel A: Deal Failures	2004 (N =16)	2005 (N =34)	2006 (N =51)	2007 (N =68)	2008 (N =15)	2009 (N=10)	2010 (N=33)	Total (N=227)
Target-initiated transaction failures	1	4	2	4	2	2	2	17
	6.3%	*11.8%*	*3.9%*	*5.9%*	*13.3%*	*20.0%*	*6.1%*	*7.5%*
Bidder-initiated transaction failures	1	1	1	9	0	0	0	12
	6.3%	*2.9%*	*2.0%*	*13.2%*	*0.0%*	*0.0%*	*0.0%*	*5.3%*
Regulatory-induced transaction failures	1	0	0	2	0	0	0	3
	6.3%	*0.0%*	*0.0%*	*2.9%*	*0.0%*	*0.0%*	*0.0%*	*1.3%*
Total	3	5	3	15	2	2	2	32
	18.8%	*14.7%*	*5.9%*	*22.1%*	*13.3%*	*20.0%*	*6.1%*	*14.1%*
Panel B: Offer Price Renegotiations								
Offer price increase	0	6	11	10	2	1	2	32
	0.0%	*17.6%*	*21.6%*	*14.7%*	*13.3%*	*10.0%*	*6.1%*	*14.1%*
Offer price decrease	1	1	0	1	0	0	0	3
	6.3%	*2.9%*	*0.0%*	*1.5%*	*0.0%*	*0.0%*	*0.0%*	*1.3%*

Table 3. Individual Merger Contract Provisions

Descriptive statistics on provisions in merger contracts from the private equity buyout sample described in Table 1. *RTF* is reverse termination fee payable by the bidder(s) and *TF* is termination fee payable by the target. *Enterprise Value* is the total value offered to acquire the outstanding common stock of the target plus net debt. *# Days to Drop Dead Date* is the number of days between merger announcement and the deadline given for closing the merger. *3rd Party Contract Enforcement*, i.e., specific performance, is the ability of one party to go to a third party contract enforcer – such as the legal courts – to force the other firm to close a transaction.

Panel A: Variable Distributions

	N	Mean	St. Dev.	Min	25th %	Median	75th %	Max
Affects bidder's termination option								
Reverse Termination Fee ($mm)[1]	174	$99.8	$161.5	$0.5	$13.0	$37.7	$120.0	$1,000.0
RTF / Enterprise Value[1]	174	4.1%	8.9%	0.02%	2.1%	3.0%	3.9%	114.5%
Affects target's termination option								
Termination Fee ($mm)[1]	226	$74.9	$140.8	$3.0	$12.0	$27.5	$65.0	$1,000.0
TF / Enterprise Value[1]	226	2.9%	1.2%	0.1%	2.0%	2.8%	3.6%	7.9%
Median # Days to Drop Dead Date	225	200	70	52	162	183	226	574

[1] The calculations of these statistics include only transactions with a stated (nonzero) value for the given variable.

Table 3 (*continued*)

Panel B: Frequencies by Announcement Year	**Full Sample Period**		**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	N	**%**	*(N =16, 7%)*	*(N =34, 15%)*	*(N =51, 22%)*	*(N =68, 30%)*	*(N =15, 7%)*	*(N=10, 4%)*	*(N=33, 15%)*
Affects bidder's termination option									
Reverse Termination Fee (Yes)	174	76.7%	50.0%	35.3%	86.3%	91.2%	86.6%	80.0%	81.8%
Median RTF / Enterprise Value[1]			1.9%	2.2%	2.3%	2.9%	3.3%	4.6%	5.7%
3rd Party Contract Enforcement	50	22.0%	18.8%	26.5%	17.7%	22.1%	20.0%	30.0%	24.2%
3rd Party Contract Enforcement only if Debt Financing Available	51	22.5%	50.0%	50.0%	21.6%	13.2%	6.7%	20.0%	9.1%
No 3rd Party Contract Enforcement	126	55.5%	31.2%	23.5%	60.7%	64.7%	73.3%	50.0%	66.7%
Affects target's termination option									
Termination Fee (Yes)	226	99.6%	100.0%	100.0%	100.0%	98.5%	100.0%	100.0%	100.0%
Median TF / Enterprise Value[1]			1.9%	3.6%	2.4%	2.9%	3.1%	3.5%	3.1%
3rd Party Contract Enforcement	208	91.6%	87.5%	85.3%	88.2%	92.6%	100.0%	100.0%	100%
Median #Days to Drop Dead Date			189	179	181	222	180	134	174

[1] The calculations of these statistics include only transactions with a stated (nonzero) value for the given variable.

Table 4. Predicting Strategic Defaults

Probit models in which the dependent variable equals one if a transaction announced during 2007-2008 resulted in a bidder-initiated termination, and zero otherwise. *Target Std Dev Returns* is the standard deviation of daily returns for the target company, calculated over one year prior to 30 days before the merger announcement. *Time to Agreement Expiration* is the time from announcement to the merger agreement's drop dead date, in months; *Arb Spread* is the difference between the offer price and the target's equity trading price five days after announcement, divided by the trading price. *No 3rd Party Contract Enforcer* equals one if the target is not permitted to go to a third party contract enforcer, i.e., seek specific performance of the contract, and zero otherwise. *Reverse Termination Fee* is the bidder's break-up fee as a percentage of deal enterprise value. *Equity Commitment / GP Fund Size* is the private equity bidder's fund equity contributed towards the purchase price as a fraction of the general partner's total fund size at closing. The sample and all other variables are defined in the headers to Tables 1-3. Robust standard errors are clustered at the target industry level, defined using the Fama-French 38-industry classifications. P-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	**Bidder-Initiated Transaction Failure = 1, All Other Outcomes = 0**				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Intercept	-1.060	-1.285	-0.990	-1.389	-2.683
	(0.617)	(0.567)	(0.622)	(0.582)	(0.364)
Log Transaction Value	-0.084	-0.173	-0.075	-0.150	-0.193
	(0.591)	(0.361)	(0.645)	(0.460)	(0.472)
Initial Offer Premium	0.138	-0.410	0.336	-0.207	-1.071
	(0.848)	(0.496)	(0.729)	(0.810)	(0.191)
Debt Financing %		1.006		1.110	1.821
		(0.386)		(0.301)	(0.343)
Arb Spread			-3.662	-5.606	-18.455 **
			(0.499)	(0.430)	(0.028)
Target Std Dev Returns	-0.393	-0.018	-0.370	0.076	0.325
	(0.319)	(0.970)	(0.345)	(0.904)	(0.642)
Time to Agreement Expiration	0.098 **	0.107 **	0.099 **	0.111 **	0.118 *
	(0.031)	(0.035)	(0.032)	(0.048)	(0.061)
No 3rd Party Contract Enforcer	0.823 **	0.890 ***	0.809 **	0.902 ***	0.907 ***
	(0.016)	(0.005)	(0.021)	(0.006)	(0.004)
Reverse Termination Fee %	-50.972 *	-74.862 **	-56.291 **	-86.096 **	-76.210 *
	(0.073)	(0.016)	(0.046)	(0.013)	(0.072)
Equity Commitment / GP Fund Size					4.273 **
					(0.016)
N	75	65	75	65	62
Pseudo R^2	26.38%	28.85%	26.92%	29.60%	31.55%

Table 5. Strategic Defaults: Reasons, Contract Structures, and Penalties

This table summarizes the reasons for the failure of the 12 bidder-initiated withdrawn private equity buyouts. *Contract Structure* contains the outcome-relevant data recorded from the merger agreement, and *Reason for Failure* and *Outcome* are collected from various news and legal sources. *RTF* stands for reverse termination fee payable by the bidder. *Target S.P* indicates whether the target is permitted to seek third party enforcement of the agreement, i.e., specific performance. *EV* is deal enterprise value in $mm. *Equity Value* is the PE firm's equity contributed in the transaction, as reported in SEC proxy filings.

	Ann. Date	Target	Acquirer	Reason for Failure	Contract Structure	Outcome	EV	Equity Value	Penalty/ EV	Penalty/ Equity
1	10/27/2004	Prime Group Realty Trust	Mansur & Co., / The Prime Group, Inc.	Target claimed acquirer failed to obtain sufficient debt financing; Acquirer claimed target attempted to back out of deal.	$5mm RTF on financing failure; Target S.P. barred.	Bidder paid $7mm in damages and purchased select assets of target.	$637	N/A	1.1%	N/A
2	5/31/2005	School Specialty, Inc.	Bain Capital	Lack of financing.	No RTF; Financing condition; Target S.P. permitted.	Agreement terminated, with no fees triggered.	$1,305	$460	0.0%	0.0%
3	9/7/2006	Embarcadero Technologies, Inc.	Thoma Cressey Equity Partners	Target disclosed options backdating scandal, deteriorating performance.	$12.15mm RTF; No RTF payable on target breach of its representations and warranties in the merger agreement.	Bidders terminated deal, but subsequently acquired target at a reduced price.	$202	$66	0.0%	0.0%
4	4/16/2007	SLM Corporation ("Sallie Mae")	J.C. Flowers / Friedman Fleisher & Lowe / Bank of America / JPMorgan Chase	Bidders accused target of suffering a "Material Adverse Change" (MAC) in business.	$900mm RTF; No financing condition; Target S.P. barred; Target MAC clause with six exclusions.	Agreement terminated, with no fees triggered.	$130,659	$8,800	0.0%	0.0%
5	4/24/2007	Myers Industries, Inc.	Goldman Sachs Capital Partners	Weak credit market conditions and/or poor performance of target.	$35mm RTF; No financing condition; Target S.P. barred.	Bidders paid $35mm RTF.	$1,235	$285	2.8%	12.3%

Table 5 (*continued*)

	Ann. Date	Target	Acquirer	Reason for Failure	Contract Structure	Outcome	EV	Equity Value	Penalty/ EV	Penalty/ Equity
6	4/26/2007	Harman International Industries, Inc.	Kohlberg Kravis Roberts & Co. / Goldman Sachs Capital Partners	Bidders accused target of suffering a "Material Adverse Change" (MAC) in business and a breach of the merger agreement.	$225mm RTF; No financing condition; Target S.P. barred; Target MAC clause with 15 exclusions.	Bidders purchased $400mm of target convertible notes.	$7,832	$3,500	N/M	N/M
7	5/16/2007	Acxiom Corp.	ValueAct Capital Partners / Silver Lake Partners	Weak credit market conditions and/or poor performance of target.	$66.75mm RTF on financing failure; No financing condition; Target S.P. barred.	Bidders paid $65mm RTF.	$2,911	$761	2.2%	8.5%
8	6/15/1007	Penn National Gaming, Inc.	Fortress Investment Group / Centerbridge Partners	Weak credit market conditions and/or poor performance of target.	$200mm RTF; No financing condition; Target S.P. permitted.	Bidders paid $225mm RTF and purchased 12,500 shares of target preferred stock for an aggregate purchase price of $1.25 billion.	$10,161	$3,061	2.2%	7.4%
9	7/2/2007	Reddy Ice Holdings, Inc.	GSO Capital Partners	Weak credit market conditions and/or poor performance of target.	$21mm RTF; No financing condition; Target S.P. barred.	Bidders paid $21mm RTF.	$1,100	$311	1.9%	6.8%
10	7/12/2007	Huntsman Corp.	Apollo Management / Hexion Specialty Chemicals, Inc.	Weak credit market conditions and/or poor performance of target. Bidders accused target of suffering a "Material Adverse Change" in business.	$325mm RTF; No financing condition; Target S.P. permitted if debt financing available.	Court ordered S.P. Bidders and banks then settled and paid $750mm in damages and purchased $250mm of target convertible notes.	$10,053	N/A[1]	7.5%	N/A
11	7/23/2007	United Rentals, Inc.	Cerberus Capital Management	Weak credit market conditions and/or poor performance of target.	$100mm RTF; No financing condition; Target S.P. barred.	Bidders paid $100mm RTF.	$8,000	$1,500	1.3%	6.7%
12	7/23/2007	Cumulus Media, Inc.	Merrill Lynch Global Private Equity	Deteriorating performance of target.	$15mm RTF; No financing condition; Target S.P. barred	Bidder paid $15mm RTF.	$1,366	$346	1.1%	4.3%

[1] Apollo committed no direct equity in the transaction, but contributed equity indirectly through its holdings in Hexion.

Table 6. The Value of Reputation

This table reports estimates of the value of reputation based on equations (1) and (2). Panel A reports upper bound reputation value estimates using bidder-terminated transactions. Panel B reports lower bound reputation value estimates based on transactions completed following negative returns in the target's 4-digit SIC industry. Panel C reports lower bound reputation value estimates based on transactions completed following target price declines between transaction announcement and completion dates. Panel D summarizes the lower bounds and upper bounds from the first three panels, in raw dollars, as a % of transaction equity, and as a % of the sponsor's fund size. All dollars are in $mm.

Panel A reports details on the six terminated transactions in the sample which contain sufficient information to calculate the relevant variables. *Equity Commitment* is the PE firm's equity contributed to the transaction (excluding excess cash in the target), *Deal Debt* is the debt financing for the transaction, and *EV at Termination* is transaction EV * the change in the target's actual EV from 30 days before transaction announcement to one day following transaction termination. EV is defined as target's market value of equity plus market value of debt less excess cash. *Updated Equity Value* equals *EV at Termination* minus *Deal Debt* or zero if this is negative. *Termination Penalty* is the amount paid by the PE firms to terminate the contract or settle litigation following breach of the agreement. *Net Gain on Default* is defined by Equation (2): *Net gain on default = (equity commitment – updated target equity value) – termination penalty. Reputation / Equity* is the Net Gain divided by the sponsor's equity commitment in the transaction, and *Reputation / Fund Size* is the Net Gain divided by the size of the sponsor's fund affiliated with the given transaction. For club deals, this variable utilizes the sum of the sponsors' funds. The observations are reported in an ascending sort on Reputation / Fund Size.

Panel B reports details on completed transactions which were associated with a decline in industry returns between the announcement and completion dates. *Equity Commitment* and *Termination Penalty* are defined as above in Panel A. *Min Industry Return* is calculated as follows: An equal-weighted portfolio of all firms in the target's 4-digit SIC code is constructed (excluding the target), rebalanced daily, and daily returns to this portfolio are compounded from the announcement date + 1 through the completion date. The minimum cumulative return is then taken over this interval for each observation. If this is positive, the observation is dropped. The *Updated Equity Value* is imputed as the sponsor's Equity Commitment times one plus the Min Industry Return. The remaining columns are calculated as above in Panel A. The observations are reported in a descending sort on Reputation / Fund Size, and only those observations with a ratio > 1% are reported.

Panel C reports details on completed transactions which were associated with a decline in the target's stock price between the announcement and completion dates. *Min Target Return* is the cumulative minimum return on the target's stock, relative to the target's average trading price from 45 to 30 days pre-announcement. *Updated Equity Value* is one plus this return times the sponsor's equity commitment. The remaining columns are calculated as above in Panel A. The observations are reported in a descending sort on Reputation / Fund Size, and only those observations with a ratio > 1% are reported.

Panel D combines the results reported in Panels A, B, and C. The lower bound estimates are from Panels B and C, with $mm from Column (5), % Equity from Column (6), and % Fund from Column (7). The upper bound estimates are from Panel A, with $mm from Column (6), % Equity from Column (7), and % Fund from Column (8). If an estimate is derived from an observation involving multiple sponsors ("club deals"), the bidder names are indented in the first column, the $mm column is split equally among those bidders, but the % Fund is based on each sponsor's respective fund size.

Table 6 (*continued*)

Panel A: Upper bound reputation value estimates based on bidder-initiated deal terminations

Ann. Date	Club Deal / Single Bidder	Equity Commitment	Deal Debt	EV at Termination	Updated Equity Value	Termination Penalty	Net Gain on Default	Reputation / Equity	Reputation / Fund Size
		(1)	(2)	(3)	(4) =Max[(3)-(2), $0]	(5)	(6) =(1)-(4)-(5)	(7) =(6)/(1)	(8) =(6)/Fund
Apr 07	Single	$285.0	$950.0	$895.7	$0.0	$35.0	$250.0	87.72%	1.23%
Jul 07	Single	$310.8	$789.2	$899.0	$109.8	$21.0	$180.0	57.92%	9.00%
May 07	Club	$760.5	$2,150.0	$1,804.7	$0.0	$65.0	$695.5	91.45%	9.80%
Jul 07	Single	$1,500.0	$6,500.0	$5,994.1	$0.0	$100.0	$1,400.0	93.33%	18.67%
Jun 07	Club	$3,061.0	$7,100.0	$7,414.8	$314.8	$225.0	$2,521.2	82.37%	40.37%
Jul 07	Single	$346.0	$1,020.0	$1,151.7	$131.7	$15.0	$199.3	57.60%	N/A

Panel B: Lower bound reputation value estimates based on completed deals during target industry declines

Ann. Date	Club Deal / Single Bidder	Equity Commitment	Min Industry Return	Updated Equity Value	Termination Penalty	Potential Gain	Reputation / Equity	Reputation / Fund Size
		(1)	(2)	(3) =(1)*[1+(2)]	(4)	(5) =(1)-(3)-(4)	(6) =(5)/(1)	(7) =(5)/Fund
Dec 08	Single	$142.3	-33.86%	$94.1	$10.0	$38.2	26.84%	14.52%
Sep 07	Single	$560.0	-51.48%	$271.7	$0.0	$288.3	51.48%	5.77%
Jul 07	Single	$500.0	-21.06%	$394.7	$25.0	$80.3	16.06%	2.92%
Jun 07	Club	$2,700.0	-16.81%	$2,246.1	$200.0	$253.9	9.40%	2.33%
Feb 06	Single	$213.4	-7.17%	$198.1	$0.0	$15.3	7.17%	2.28%
Apr 07	Single	$7,171.0	-15.07%	$6,090.0	$700.0	$381.0	5.31%	2.16%
Oct 07	Single	$660.0	-15.02%	$560.8	$28.0	$71.2	10.78%	1.92%
Jun 06	Single	$76.5	-13.12%	$66.5	$0.5	$9.5	12.47%	1.91%

Panel C: Lower bound reputation value estimates based on completed deals following target trading price declines

Ann. Date	Club Deal / Single Bidder	Equity Commitment	Min Target Return	Updated Equity Value	Termination Penalty	Potential Gain	Reputation / Equity	Reputation / Fund Size
		(1)	(2)	(3) =(1)*[1+(2)]	(4)	(5) =(1)-(3)-(4)	(6) =(5)/(1)	(7) =(5)/Fund
Sep 07	Single	$560.0	-34.43%	$367.2	$0.0	$192.8	34.43%	3.86%
Jul 07	Single	$500.0	-22.18%	$389.1	$25.0	$85.9	17.18%	3.12%

Table 6 (*continued*)

Panel D: Reputation value ranges for private equity firms

PE Firm	Lower Bound			Upper Bound		
	$mm	% Equity	% Fund Size	$mm	% Equity	% Fund Size
Green Courte Partners	$38.2	26.84%	14.52%			
Sun Capital Partners	$288.3	51.48%	5.77%			
Platinum Equity	$85.9	17.18%	3.12%			
Citigroup Inc.	$42.3	9.40%	1.28%			
Deutsche Bank	$42.3	9.40%	N/A			
Madison Dearborn Partners	$42.3	9.40%	0.65%			
Merrill Lynch Global PE	$42.3	9.40%	N/A			
Pamlico Capital	$42.3	9.40%	3.85%			
Wachovia Capital Partners	$42.3	9.40%	N/A			
InterMedia Partners	$15.3	7.17%	2.28%			
Kohlberg Kravis Roberts & Co.	$381.0	5.31%	2.16%			
Vestar Capital Partners	$71.2	10.78%	1.92%			
Liberty Partners	$9.5	12.47%	1.91%			
Goldman Sachs Capital Partners				$250.0	87.72%	1.23%
GSO Capital Partners				$180.0	57.92%	9.00%
ValueAct Capital Partners				$347.8	91.45%	9.94%
Silver Lake Partners				$347.8	91.45%	9.66%
Cerberus Capital Management				$1,400.0	93.33%	18.67%
Fortress Investment Group				$1,260.6	82.37%	41.40%
Centerbridge Partners				$1,260.6	82.37%	39.39%

Table 7. Reputational Damage Reflected in Contracting

Panel A reports the contract terms granted to different categories of PE firms for transactions in 2008-2010. The categories are not mutually exclusive, as some bidders are in both single-bidder and club deals across different transactions. Panels B and C report similar transaction terms for transaction categories in 2004-2006 versus 2008-2010. Reverse termination fee is given as a percentage of deal enterprise value. In Panel C, arbitrage spreads scaled by offer prices are measured five days following transaction announcement dates. Means are listed first with medians in [brackets] below. P-Values are given for difference of means using t-tests and in [brackets] are given for difference of medians using Wilcoxon rank-sum tests.

			2008-2010 Transactions	
Panel A: Firm-Specific	**In 2004-2006 Transactions**	**In 2008-2010 Transactions**	**No 3rd Party Contract Enforcer**	**Reverse Termination Fee %**
Defaulting Single Bidders	N=20 19.8%	N=9 15.5%	77.8%	7.1% [6.8%]
Defaulting Club Deal Bidders	N=20 19.8%	N=5 8.6%	40.0%	4.2% [3.2%]
Non-Defaulting Bidders	N=86 85.2%	N=50 86.2%	68.0%	8.0% [4.7%]
Panel B: Median RTF %	**2004-2006**	**2008-2010**	**Difference**	
Defaulting Single Bidders	2.1%	6.8%	4.7% [0.001]	
Non-Defaulting Bidders	2.3%	4.7%	2.4% [0.000]	
Difference	-0.2% [0.806]	2.1% [0.194]	2.3%	
Panel C: Industry-Wide	**N**	**No 3rd Party Contract Enforcer**	**Reverse Termination Fee %**	**Arbitrage Spread (+5)**
2004-2006 Transactions	101 (44%)	43.6%	2.6% [2.2%]	2.2% 2.3%
2008-2010 Transactions	58 (26%)	65.5%	7.7% [4.7%]	2.6% 1.8%
P-Value		0.008	0.015 [0.000]	0.476 [0.457]

Table 8. Explaining the Size of Reverse Termination Fees

OLS regressions with the bidder's reverse termination fee / deal enterprise value as the dependent variable. *Bidder has Prior Default* equals one if the bidder previously terminated an acquisition attempt and zero otherwise. *Top-Tier Legal* indicates the party retained one of the top 10 ten law firms for the transaction, with ranking based on aggregate transaction values associated with each advisor over the entire sample period. *Experienced Target Legal Team* indicates that the target retained a legal firm that has experience representing both targets and acquirers in similar transactions during the sample period. Robust standard errors are clustered at the target industry level, defined using the Fama-French 38-industry classifications. P-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Reverse Termination Fee %			
	(1)	**(2)**	**(3)**	**(4)**
Intercept	0.006	0.030	0.012	0.037
	(0.685)	(0.366)	(0.384)	(0.246)
Log Transaction Value	-0.005 *	-0.000	-0.006 *	-0.001
	(0.060)	(0.941)	(0.085)	(0.678)
Debt Financing %		-0.119		-0.120
		(0.183)		(0.155)
Target Std Dev Returns	0.009	0.014 **	0.008	0.013 **
	(0.186)	(0.023)	(0.220)	(0.032)
Time to Agreement Expiration	0.002	0.002	0.002	0.002 *
	(0.102)	(0.100)	(0.117)	(0.079)
Announced in 2007	-0.001	0.002	0.000	0.003
	(0.851)	(0.603)	(0.995)	(0.433)
Announced in 2008-2010	0.046 **	0.030 **	0.026	0.003
	(0.046)	(0.022)	(0.304)	(0.853)
Bidder has Prior Default	-0.007	-0.010	-0.005	-0.007
	(0.413)	(0.423)	(0.554)	(0.576)
Top-Tier Legal, Target minus Top-Tier Legal, Acquirer	0.003	-0.003	-0.002	-0.008
	(0.252)	(0.416)	(0.787)	(0.243)
Experienced Target Legal Team	0.009	0.014	-0.003	0.001
	(0.320)	(0.289)	(0.622)	(0.943)
Top-Tier Legal * Announced in 2008-2010			0.018	0.013
			(0.410)	(0.512)
Experienced Target Legal Team * Announced in 2008-2010			0.040 ***	0.046 ***
			(0.001)	(0.000)
N	174	161	174	161
R^2	8.87%	15.10%	10.39%	16.55%

Table 9. Explaining Contract Enforceability

Probit models in which the dependent variable equals one if the merger agreement permits the target to seek third party enforcement of the contract (i.e., specific performance) and zero otherwise. *Bidder has Prior Default* equals one if the bidder previously terminated an acquisition attempt and zero otherwise. *Top-Tier Legal* indicates the party retained one of the top 10 ten law firms for the transaction, with ranking based on aggregate transaction values associated with each advisor over the entire sample period. *Experienced Target Legal Team* indicates that the target retained a legal firm that has experience representing both targets and acquirers in similar transactions during the sample period. Robust standard errors are clustered at the target industry level, defined using the Fama-French 38-industry classifications. P-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable = 1 if 3rd Party Contract Enforcement Available			
	(1)	**(2)**	**(3)**	**(4)**
Intercept	0.658	0.734	0.711	0.790
	(0.338)	(0.380)	(0.318)	(0.342)
Log Transaction Value	-0.107 *	-0.060	-0.108 *	-0.064
	(0.081)	(0.450)	(0.089)	(0.429)
Debt Financing %		-0.502		-0.524
		(0.150)		(0.122)
Target Std Dev Returns	0.366 ***	0.325 ***	0.360 ***	0.326 ***
	(0.000)	(0.001)	(0.000)	(0.001)
Time to Agreement Expiration	-0.013	-0.014	-0.013	-0.012
	(0.475)	(0.526)	(0.463)	(0.578)
Announced in 2007	-0.522 ***	-0.500 **	-0.527 ***	-0.500 **
	(0.009)	(0.015)	(0.008)	(0.014)
Announced in 2008-2010	-1.108 ***	-1.223 ***	-1.263 ***	-1.426 ***
	(0.005)	(0.000)	(0.008)	(0.000)
Bidder has Prior Default	0.109	0.171	0.123	0.205
	(0.506)	(0.428)	(0.425)	(0.301)
Top-Tier Legal, Target minus Top-Tier Legal, Acquirer	0.208 **	0.222 **	0.234 **	0.208 **
	(0.031)	(0.014)	(0.020)	(0.036)
Experienced Target Legal Team	-0.344 **	-0.372 **	-0.385 **	-0.448 **
	(0.013)	(0.022)	(0.032)	(0.029)
Top-Tier Legal * Announced in 2008-2010			-0.144	0.044
			(0.521)	(0.890)
Experienced Target Legal Team * Announced in 2008-2010			0.164	0.312
			(0.626)	(0.384)
N	224	200	224	200
R^2	11.51%	11.28%	11.58%	11.46%

Table 10. Fundraising and Dry Powder at PE Firms

Panel A reports descriptive statistics on 243 sponsors' total capital and dry powder across 886 firm-years. This data is on all private equity firms with U.S. buyout funds reported by Preqin. Total capital includes all funds closed by a PE firm in the trailing four years, and is CPI-adjusted to billions of 2010 US Dollars. Dry powder is the amount or percentage of total capital that has not yet been called up by the sponsor at the end of a given year.

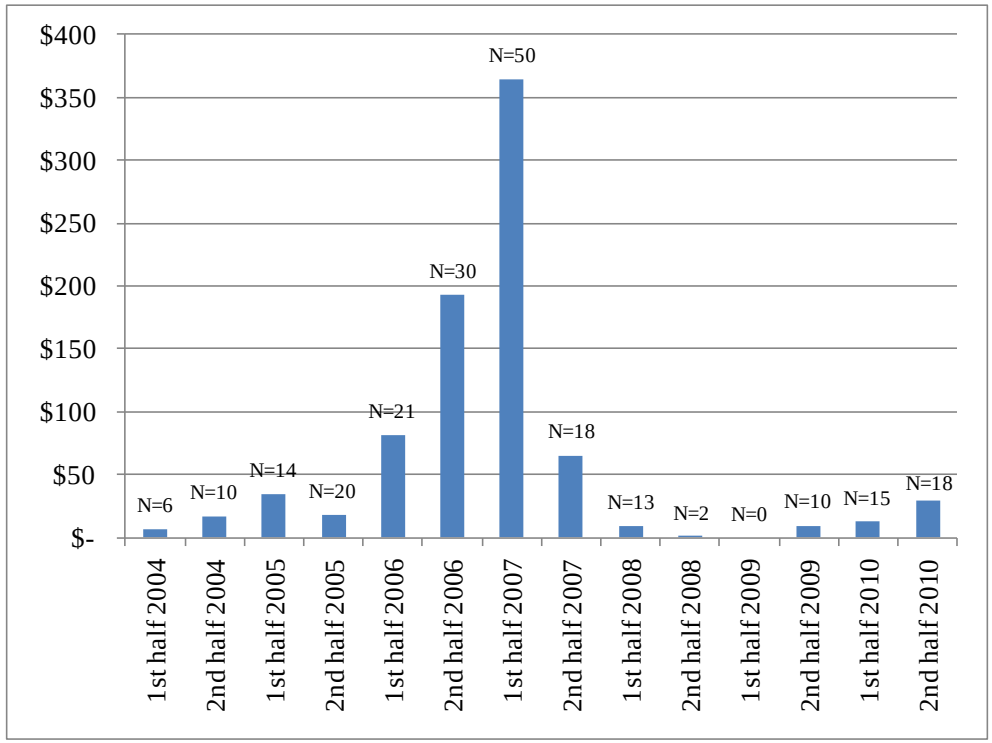
Panel B presents OLS panel regressions of sponsors' total capital in Column (1), dry powder in Column (2), and dry powder as a % of total capital in Column (3). *Bidder has Prior Default* equals one if the bidder previously terminated an acquisition attempt and zero otherwise. The year fixed effects are relative to 2004. All regressions also include firm fixed effects. Standard errors are clustered by firm and year. P-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Variable Distributions	**N**	**Mean**	**St. Dev.**	**Min**	**25th %**	**Median**	**75th %**	**Max**
Full Preqin Sample								
Total Sponsor Capital ($bb)	886	$2.26	$4.45	$0.01	$0.35	$0.78	$1.95	$36.70
Dry Powder ($bb)	886	$1.13	$2.30	-$0.21	$0.15	$0.38	$1.00	$19.91
Dry Powder (% of Capital)	886	51.39%	24.25%	-19.80%	32.60%	52.45%	69.90%	100.00%
Bidders with Prior/Future Defaults								
Total Sponsor Capital ($bb)	35	$9.84	$8.55	$0.78	$4.01	$7.00	$17.64	$30.05
Dry Powder ($bb)	35	$4.28	$5.06	-$0.21	$1.11	$1.68	$5.63	$18.02
Dry Powder (% of Capital)	35	45.51%	26.09%	-3.00%	28.50%	37.60%	69.83%	88.30%
Medians by Year		**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Full Preqin Sample								
Total Sponsor Capital ($bb)		$0.78	$0.82	$0.79	$0.78	$0.76	$0.78	$0.82
Dry Powder ($bb)		$0.37	$0.39	$0.41	$0.35	$0.30	$0.34	$0.48
Dry Powder (% of Capital)		46.70%	59.64%	54.00%	53.70%	50.24%	51.80%	53.19%
Bidders with Prior/Future Defaults								
Total Sponsor Capital ($bb)		$5.18	$4.09	$7.46	$7.30	$8.08	$11.00	$14.07
Dry Powder ($bb)		$2.67	$1.86	$5.11	$5.63	$1.54	$2.58	$3.03
Dry Powder (% of Capital)		49.75%	46.65%	64.17%	53.40%	28.46%	61.99%	35.74%

Table 10 (*continued*)

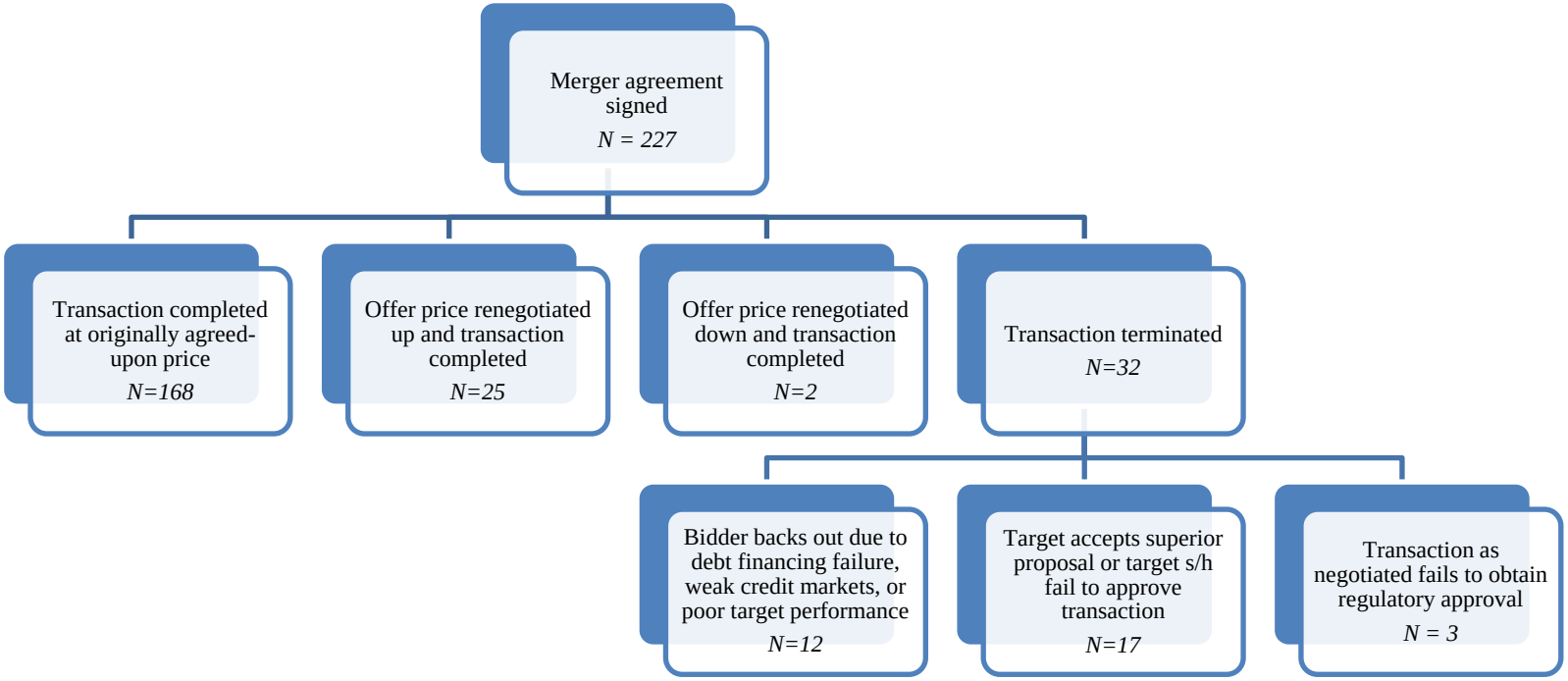
Panel B: OLS Regressions	**Capital $bb**	**Dry Powder $bb**	**Dry Powder %**
	(1)	**(2)**	**(3)**
Intercept	0.783 *	0.470 **	0.560 ***
	(0.062)	(0.025)	(0.000)
Bidder has Prior Default	1.967	-1.137	-0.075
	(0.237)	(0.377)	(0.477)
2005	0.023	0.055	0.033
	(0.920)	(0.739)	(0.469)
2006	1.200 **	0.818 **	-0.019
	(0.018)	(0.021)	(0.690)
2007	1.770 ***	0.865 ***	-0.039
	(0.001)	(0.002)	(0.388)
2008	1.673 ***	0.761 ***	-0.074 *
	(0.001)	(0.002)	(0.095)
2009	1.996 ***	0.922 ***	-0.089 **
	(0.001)	(0.003)	(0.029)
2010	2.238 ***	0.922 ***	-0.065
	(0.001)	(0.001)	(0.135)
Observations	886	886	886
Firms	243	243	243
R^2	81.42%	70.18%	43.67%

Figure 1. Aggregate Enterprise Value of Announced Transactions, in $Billions



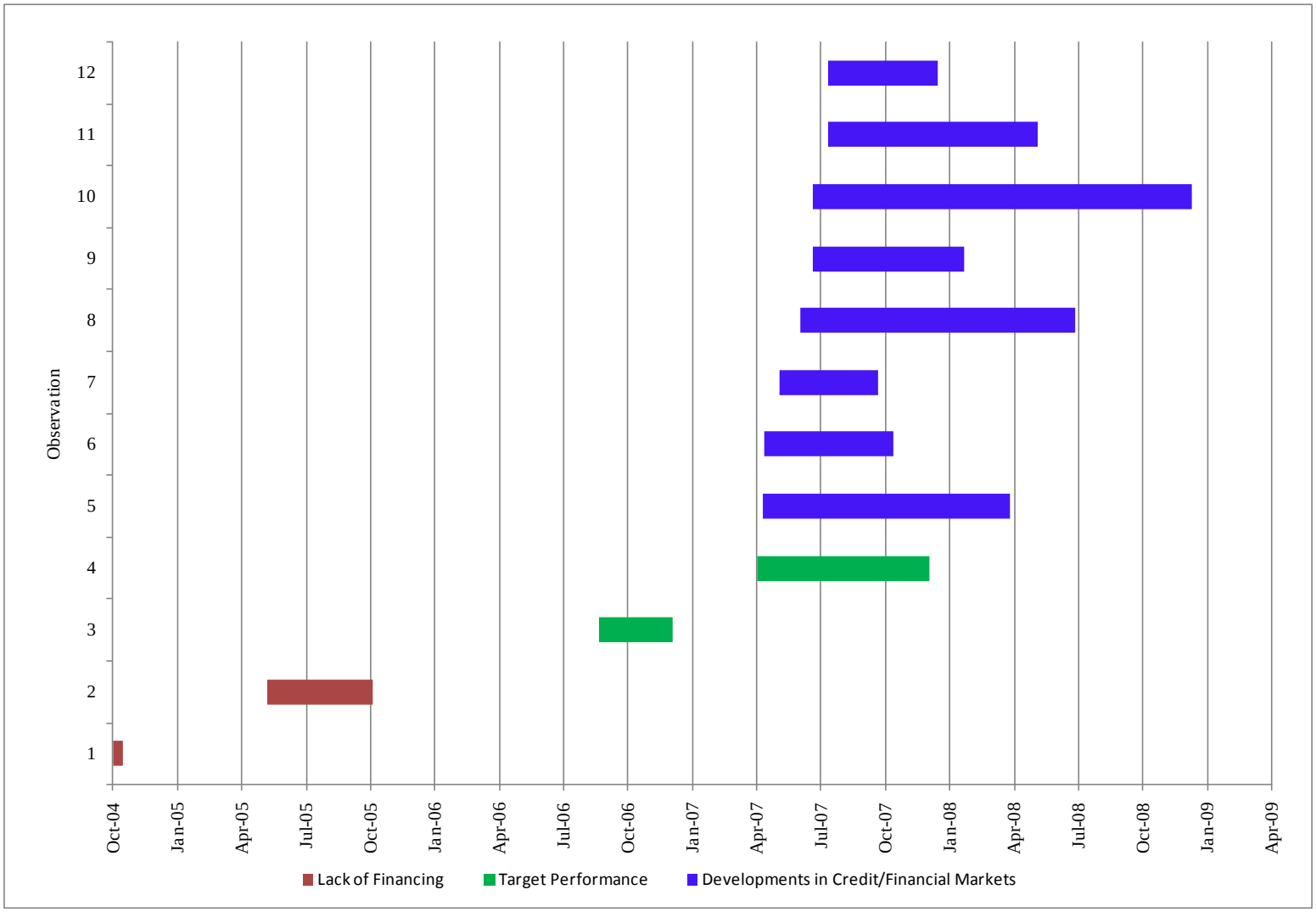
This figure shows the aggregate enterprise value of 277 private equity buyout transactions announced from 2004 through 2010. Data are from MergerMetrics. The sample is limited to buyouts with a transaction value of at least $100 million, an offer price of at least $5 per share, a target company which is publicly traded on the NYSE, AMEX, or NASDAQ, and deals for which a merger agreement is signed and publicly disclosed. Both completed and withdrawn buyouts are included. Enterprise Value equals total value offered to acquire the outstanding common stock of the target plus net debt.

Figure 2. Buyout Outcomes Over Full Sample Period



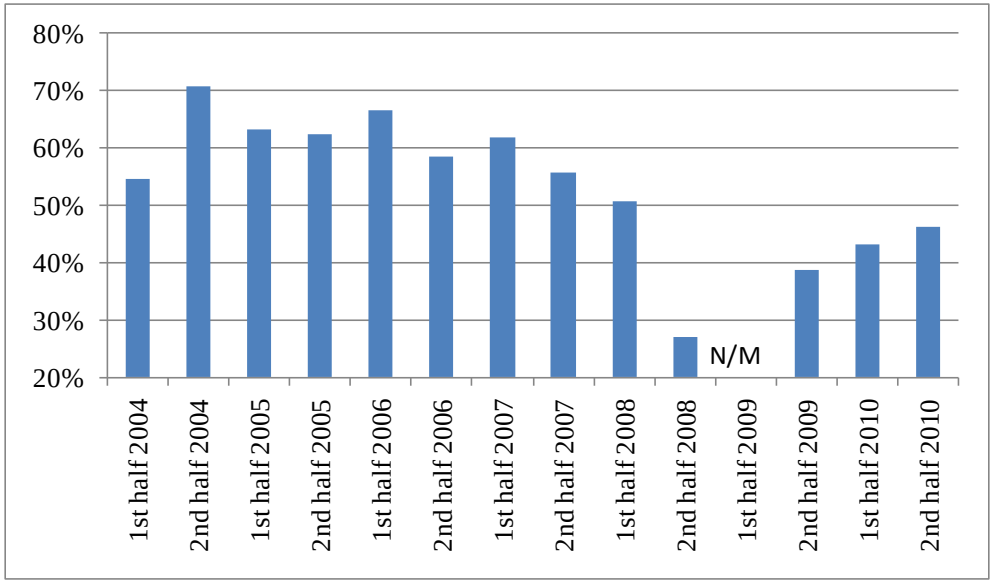
This chart details the frequency of various merger outcomes for the full buyout sample, the details of which are explained in Table 1.

Figure 3. Acquisition Announcements and Ensuing Bidder-Initiated Terminations



This figure provides a graphical illustration of the 12 bidder-initiated terminations. Each bar represents one transaction beginning on the public announcement and ending at the termination announcement. The details of the sample are explained in Table 1.

Figure 4. Average Debt Financing as a Percentage of Transaction Funding



This figure documents the mean debt financing ratios for announced transactions through time, measured as the level of new debt financing divided by the total amount of funds needed to close the transaction.