M&A deal initiation and managerial motivation

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Abstract

This paper contributes to our understanding of managers' motivations for initiating the sale of their company. Using a sample of 1,098 publicly-listed US target firms with completed deals, we show that deals initiated by the target firm rather than by outside bidders have higher CEO ownership. Furthermore, CEOs are motivated to offer their firms for sale also by higher golden parachutes, stock and stock option grants prior to takeovers. Our results suggest that motivated CEOs participate actively in deal negotiations, rather than being bribed not to resist the deal. In target-initiated deal firms, CEO ownership and equity grants are also positively correlated with takeover premiums.

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1. Introduction

The extant M&A literature assumes, implicitly or explicitly, that acquisitions are initiated by potential bidders outside target firms. Indeed, the market for corporate control is built on the premise of management resistance to takeovers, and that takeovers are initiated by corporate raiders motivated by future efficiency improvements in target firms (Jensen and Ruback, 1983). Other reasons for mergers and acquisitions, which consider synergies such as economies of scale or integration, complementarity of resources or diversification, also implicitly assume initiative on the side of the acquirer (Andrade et al., 2001). However, despite this assumption, a large proportion of takeovers is initiated by the target firms themselves. For example, Boone and Mulherin (2007) and Heitzman (2011) report that respectively 15% and 35% of M&A transactions in their samples were initiated by the target company. In our dataset, which includes relatively small firms, this proportion is as high as 44%. However, Masulis and Simsir (2015) are as yet alone in analyzing potential reasons for target firms initiating their own sales.

This paper investigates the motivations of selling-firm managers for initiating the sale of their firms. By explaining managers' incentives for target deal initiation, we extend the hypothesis of financial weaknesses of target-initiated deal firms (Masulis and Simsir, 2015). A firm facing potential financial distress has few viable alternatives to initiating a takeover that will preserve its value as a going concern and preempt financial distress costs (Pastena and Ruland, 1986). Without this key trigger, managers may prefer to remain in control or even strongly resist unsolicited takeover offers, whereas with the threat of financial distress, managers may prefer a takeover to bankruptcy. An additional incentive in the form of a managerial ownership stake may increase the likelihood of a deal initiation by the company because managers with an ownership stake will benefit from the takeover premium. Therefore, we conjecture that CEO ownership is an important determinant of the initiation decision.

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Ideally, a decision to initiate a deal under potential financial distress will be taken as a pre-emptive step before firm's performance and growth options have deteriorated (Masulis and Simsir, 2015). Although this may be in the best interests of shareholders, managers without ownership stakes may shy away from such preemptive decisions (Pastena and Ruland, 1986; Eckbo et al., 2016). As a consequence of a merger, target firm CEOs may need to give up substantial expected utility from future wages and ability to extract private benefits from the firm (Hartzell et al., 2004). However, the interests of CEOs with positive ownership stakes are more closely aligned with shareholders' interests through their participation in sizable takeover premiums. They may be motivated to trigger their company sale early, while company performance is still relatively high, so that growth options are preserved and premiums are higher. In contrast, the trade-off for CEOs without ownership stakes is tilted toward triggering the company sale later, when financial distress is inevitable. By triggering the sale later, they keep their in-work benefits for longer. With no ownership stake, they do not care about the premium being lower. Therefore, we conjecture that target-initiated deal firms with low CEO ownership exhibit poorer performance and lower growth options when the sale is initiated.

Our sample of 1,098 publicly-listed US targets with completed deals is drawn from the period 2005 to 2011. It covers 487 target- and 611 bidder-initiated deals. Our results show that firms with greater managerial ownership are more likely to initiate a deal. They also confirm that CEO ownership affects the relationship between firm performance (growth options) and target deal initiation. In line with our conjecture, CEOs without ownership stakes are associated with a negative effect of firm performance (growth options) on the odds of target initiation, whereas higher CEO ownership is associated with a positive effect of firm performance on the odds of target initiation. Moreover, we show that CEO incentives are pivotal. Non-executive ownership reinforces positive CEO ownership. However, firms without CEO ownership trigger initiation only when their performance has become quite poor and their growth options are fewer, whether or not non-executive directors also own a stake.

As a next step, we explore the role of equity grants around the deal initiation, and the role of golden parachutes. Previous research shows that extra remuneration just before a public deal announcement is associated with a higher probability of deal completion and compensates CEOs for earnings and private benefits lost as a result of the merger.[1] We conjecture that firms intending their own sale increase managers' incentives through additional equity grants, not only once deal negotiations are under way, but also in expectation of the strategic decision. The key feature of golden parachutes is that they are triggered only as a result of job termination in transactions resulting in a successful change in control. Therefore, golden parachutes may be a preferred option to incentivize managers without ownership stakes. They may be unnecessary for managers with high ownership stakes. Our analysis confirms the motivational role of equity grants. We also show that golden parachutes substitute for a lack of CEO ownership in incentivising target deal initiation.

The last question we address is whether managers are incentivized to participate *actively* in deal negotiations, or whether they are simply bribed not to resist the deal. The corporate governance consequences of the two alternatives are quite different. The latter would suggest overpayment and opportunism of entrenched managers, while the former would further justify incentives. As a prior, we favor active CEO participation in takeover negotiations. The intention to sell and the incentivization of managers for active takeover negotiations are likely to go hand in hand, especially in cases where managers may be pivotal to deal negotiations. Our results show that the probability of target deal initiation is higher for firms with higher CEO incentives precisely in informal sales, when the selling mechanism allows more scope for meaningful negotiations. In contrast, CEO incentives are not associated with higher odds of target initiation in highly competitive auctions where the outcomes depend on bidding competition rather than on negotiation skills. Importantly,

[1] In the period after deal initiation, target CEOs usually get unscheduled option grants (Fich et al., 2011) and extra cash payments in the form of merger bonuses or increased golden parachutes (Hartzell et al., 2004; Heitzman, 2011; Fich et al., 2013).

however, we also show that CEO ownership and equity grants in target initiated deals are associated with higher takeover premiums. Highly motivated managers deliver higher shareholder value.

Our main contribution to the literature is to show that CEO incentives are pivotal to target deal initiation. CEO ownership increases the odds of firms initiating their own sale. Furthermore, CEOs with ownership stakes trigger deals preemptively to preserve firm value as a going concern when financial distress is more likely, and they do so while firm performance and growth options are still relatively high. Importantly, CEO incentives in target-initiated deal firms are also reflected in higher takeover premiums. A vital general contribution to the wider M&A literature is to highlight that publicly-listed firms trigger their own sale relatively frequently, and that their CEOs have incentives for such decisions. Future research should take this perspective on active takeover decisions into account, as it is in sharp contrast with the usual premise of imposed disciplinary takeovers or bidder initiatives (Palepu, 1986; Ambrose and Megginson, 1992). We highlight that the managerial incentives for target- versus bidder-initiated deals are significantly different.

Our analysis contributes to recent empirical literature that explores deal initiations and their effect on deal premiums, selling procedures and the probability of deal success (Xie, 2010; Aktas et al., 2010; Fidrmuc et al., 2012; De Bodt et al., 2014; Masulis and Simsir, 2015). Masulis and Simsir (2015) argue that acquirers pay lower premiums for target-initiated deals in compensation for adverse selection. Good-quality target firms generally have strong incentives to avoid selling themselves at discounted prices, so acquirers infer that target firms initiating deals are more likely to be overvalued. Xie (2010) links lower premiums for target-initiated deals with both low selling-firm bargaining power and low bidder valuations. Our analysis shows that high CEO incentives mitigate the negative impact of target deal initiation on takeover premiums. Although, on average, target-initiated deals earn lower premiums, ownership stakes and equity grants motivate CEOs to trigger their takeovers preemptively while associated financial distress costs are low. Takeover premiums are then higher. Moreover, CEOs with higher incentives are also more likely to negotiate harder.

The remainder of this paper is organized as follows. Section 2 explains the economic intuition for our five hypotheses. Section 3 introduces the data, explains the coding process and methodology and provides basic summary statistics. Section 4 discusses the results and Section 5 draws conclusions.

2. Managerial motivation for deal initiation

The main aim of this paper is to deepen our understanding of target managers' motivations for initiating M&A deals. The extant literature provides several reasons why firms might be taken over, relating to corporate governance, industry dynamics, firm asset characteristics and financial constraints,[2] but provides few arguments for why firms might initiate their own sale. Masulis and Simsir (2015) have recently suggested that financial and competitive weaknesses lead firms to initiate M&A deals. They also argue that adverse selection effects result in initiation being associated with negative signals about firm prospects and valuation. The financial weakness explanation for target deal initiation builds on Shrieves and Stevens (1979) bankruptcy avoidance rationale for takeovers, arguing that a firm may prefer to be sold as a going concern rather than as a fire sale in order to preserve value and resolve uncertainty faster. Pastena and Ruland (1986) suggest that, from shareholders' perspective, distressed firms should take the initiative in trying to arrange a merger in preference to bankruptcy.[3] This is because target shareholders have incentives to consider an acquisition well before the firm shows any evidence of financial distress (Masulis and Simsir, 2015). Right timing is important for the preservation of firm value, and firm insiders have

[2]See, for example, Palepu (1986), Ambrose and Megginson (1992), Mitchell and Mulherin (1996), Hoberg and Phillips (2010), Almeida et al. (2011), Edmans et al. (2012), Bena and Li (2014), Khatami et al. (2014), Erel et al. (2015) and Jenter and Lewellen (2015).

[3]Pastena and Ruland (1986) were unable to confirm their conjecture empirically as data on deal initiations was unavailable at the time of their study.

more information than potential bidders about the urgency of a situation and the suitability of a sale.

Pastena and Ruland (1986) also point out that managers without ownership stakes may shy away from initiating a takeover for fear of losing their jobs. They prefer the chance to stay in control for longer and enjoy their private benefits. Therefore, our first conjecture is that firms are more likely to initiate their own sale if they have high managerial ownership. Ownership stakes align managers' and shareholders' interests through managers participating in takeover premiums. Target managers with ownership stakes have additional financial incentives to sell their firm preemptively when the odds of financial distress increase but bankruptcy is not yet imminent, while the firm still has value as a going concern (Shrieves and Stevens, 1979). Moreover, by actively initiating a takeover, managers with ownership stakes remain in control and may influence the choice of bidder and overall outcomes, such as offer price, method of payment and perhaps future employment with the merged entity. In contrast, managers of financially distressed firms that file for bankruptcy or restructure their debt are at high risk of losing their jobs and earning significantly less in the future (Gilson, 1989; Gilson and Vetsuypens, 1993; Eckbo et al., 2016). Managers without ownership stakes, however, will want to postpone a deal initiation somewhat longer. They will not be compensated for loss of employment benefits through participating in the takeover premium. Therefore, their trade-off is tilted toward keeping their employment benefits for longer. They opt for deal initiation only when financial distress becomes inevitable, by which time firm performance is poorer and growth options fewer.

Other alternatives to initiating a company sale in the case of financial distress may involve a disciplinary CEO replacement or some form of investor activism, often associated with a decrease in CEO pay, CEO departure, or a takeover (Brav et al., 2008; Klein and Zur, 2009). Both CEO replacement and investor activism are highly correlated with poor stock and accounting performance (Coughlan and Schmidt, 1985; Weisbach, 1988; Greenwood and Schor, 2009), and, therefore, would be more applicable to target-initiation situations, where there are low managerial ownership stakes.[4] In comparing available alternatives, managers will prefer a company sale because leaving their company due to a change in control has less negative impact on their wealth and future employment prospects than forced turnover (Hartzell et al., 2004). Moreover, guiding their firm through a successful friendly acquisition may provide them with valuable experience that enhances their future job prospects (Harford and Schonlau, 2013).

We summarize our conjectures so far in the following hypotheses:

Hypothesis 1a: CEO ownership increases the probability of target versus bidder deal initiation.

Hypothesis 1b: CEO ownership affects the link between firm performance (growth options) and target deal initiation. CEOs with higher ownership stakes are motivated to trigger their company sale sooner when firm performance (growth options) is (are) still relatively high.

It is important to note that the board of directors is ultimately responsible for deciding on important strategic alternatives, including a company sale. Therefore, ownership stakes by non-executive directors and their relationship with executives may also affect the initiation decision. High ownership by non-executive directors may reinforce our conjectured association between firm performance and the initiation decision (Hypothesis 1b). In other words, high ownership stakes by non-executive directors may additionally motivate preemptive deal initiation, and, will therefore be associated with better target-firm stock and accounting performance and higher growth options in target-initiated deal firms. However, in target firms without non-executive ownership, CEO trade-offs dominate the initiation decision, as control in such cases is very likely to be held by CEOs. Furthermore, we note that independent non-executive directors without ownership stakes lack direct motivation to push through a timely sale. Therefore, board independence, as opposed to non-executive ownership, is unlikely to produce a similar reinforcing effect. In short, we formulate the following hypothesis:

[4]Managers with high ownership stakes will prefer to preempt deterioration of firm performance and value.

Hypothesis 2: Non-executive director ownership reinforces the performance effect of CEO ownership.

Our first hypothesis stipulates that managerial ownership is positively associated with target deal initiation. However, we should also consider the role of equity grants before and after the initiation decision, and the role of golden parachutes in deal initiation. Hartzell et al. (2004) and Fich et al. (2011) explore ways of motivating target managers in all deals, regardless of initiation, to cooperate once the target firm is 'in play.' We argue that motivating managers is more important in the case of a target-initiated deal, and then also in the period before deal negotiations have actually started. In particular, we conjecture that in order to motivate managers for a takeover deal, target initiated deal firms award their managers more stocks and stock options both before and during the negotiation process. Increased ownership stakes align managers' interests with those of the firm's shareholders. As a result of the takeover, managers are still likely to lose the value of their remuneration and private benefits associated with controlling and running the target firm. With higher ownership stakes, they share in gains from takeover premiums, so their trade-off is tilted toward initiation. Equity grants fine-tune the incentive effect when CEO ownership is already in place.

Golden parachutes are an alternative tool that may motivate managers to accept takeover offers (Hartzell et al., 2004). With low managerial ownership, golden parachutes may compensate managers for lost salary and other perquisites. However, unlike equity grants, they are payable only in the case of a change in control. This makes them cheaper, and hence relatively attractive. Golden parachutes are perhaps unnecessary in the case of high managerial ownership, when managers are already incentivized for the sale by their prospective participation in takeover premiums. Thus, we conjecture that golden parachutes serve as an alternative incentive for deal initiation that substitutes in a lump sum for the motivational role of high managerial share ownership. The following hypotheses summarize our conjectures:

Hypothesis 3a: Golden parachutes serve as a substitute deal initiation incentive tool that provides CEO incentives when CEO ownership is low.

Hypothesis 3b: Target-initiated deal firms increase their CEOs' equity grants before and just after initiation of the sale.

So far we have considered managerial attitudes toward takeover initiation *per se*. Nevertheless, it is important to distinguish whether managers are motivated simply not to resist takeovers, or are actually incentivized for *active* participation in deal negotiations. In the former case, managers are plainly bribed not to resist the takeover, and the money they receive is not directly associated with any value they create. In the latter case, however, if managers participate actively in deal negotiations, with extra effort they may directly improve the deal offer.

In order to distinguish managerial motivation for takeover initiation in the form of active participation in deal negotiations from plain bribing for low deal resistance, we exploit procedural differences between formal full-scale auctions from less formal sales. Full-scale auctions are a very formalized, pre-determined and fixed way to sell firms (Hansen, 2001). They allow the selling company to commit credibly to executing the merger and maximize bidding competition. However, high bidding competition decreases the probability of winning for each potential bidder; therefore, it discourages more thorough and costly involvement and due diligence by each individual bidder in the bidding process. Consequently, it discourages more aggressive bidding behavior. Boone and Mulherin (2009) argue that restricting competition in controlled sales or one-to-one negotiations (we treat these together as informal sales) may bring the advantage that remaining bidders are willing to bid more aggressively and, in general, become more involved in and spend more resources on the sale process. With restricted competition, bidders are confident that their own offer will not be trumped by that of uninformed bidders, who would bid high only by chance rather than because they value the target highly. Moreover, Boone and Mulherin (2009) argue that this 'managed' sales process resembles book-building in IPOs and involves a two-way exchange of information between sellers and potential bidders. Thus, informal sales provide space for useful information flow and

negotiation.[5] CEOs with ownership stakes can participate actively in the negotiations and deliver sizeable takeover premiums. In contrast, formal full-scale auctions emphasize competition rather than negotiation skills as the main mechanism to capture value created in deals. Therefore, managerial ownership stakes are unlikely to play the same role in full-scale auctions as in informal sales. To summarize, we formulate the following hypothesis:

Hypothesis 4: CEOs with ownership stakes are motivated for active participation in deal negotiations. As a result, the positive relationship between CEO ownership and target deal initiation is present in informal sales but not in full-scale auctions.

In addition, active participation of managers in deal negotiations may naturally lead to higher takeover premiums. If we correctly conjecture that managers with higher ownership stakes are motivated for active participation in deal negotiations, we should see that higher managerial ownership in target-initiated deals is also associated with higher takeover premiums. A higher correlation between target initiation, CEO ownership and premiums in informal sales would also reinforce our sales mechanism argument above. Thus, our last hypothesis is:

Hypothesis 5: CEO ownership in target-initiated deals is positively associated with takeover premiums. This effect is stronger in informal sales than in full-scale auctions.

3. Data

Our sample includes US M&A deals announced between January 2005 and December 2011, which are covered by the Security Database Corporation (SDC) in Thomson ONE Banker. We apply the following three selection criteria: (i) both acquirer and target are US companies; (ii) all targets are publicly-listed firms before the deal, while acquirers may be publicly-listed or private firms; (iii) acquirers own 100% of targets' shares after the deal. We use COMPUSTAT (annual updates) and Center for Research in Security Prices (CRSP) to collect accounting and stock price data, respectively. Institutional ownership data come from FactSet, and insider ownership and stock and stock option grants data are drawn from Thomson Insider Filings. Corporate governance data and CEO characteristics are taken from a combination of ExecuComp, ISS Governance Services (formerly Risk-Metrics), Thomson Reuters Eikon and hand collection from SEC EDGAR company filings. Hand collection is necessary for small firms. Industry composition data are collected from the Hoberg-Phillips Data Library. Appendix A provides detailed information on data sources for each variable.

We also hand collect and code information concerning the selling process from the 'background of the deal' section of DEFM14A, PREM14A, SC14D9 and S-4 filings, which we recover from the EGDAR filing collection provided by the SEC.[6] We hand collect information concerning initiation, initiation date, selling mechanism, number of bidders contacted and the number of bidders signing a confidentiality agreement. Appendix B illustrates our coding system on examples of a target-initiated deal (between Applebees International Inc., the target, and IHOP Corp., the acquirer) and a bidder-initiated deal (between AirTran Holdings Inc., the target, and Southwest Airlines Co., the acquirer).

3.1. The selling process

The sale of a company is usually initiated either by the board of the company deciding that they want to be sold or by a prospective bidder proposing to take over the firm. We code the

[5] We do not have any direct way of confirming our conjecture that informal sales are associated with more space for managers' active participation in deal negotiations. Nevertheless, we have information on CEOs securing positions in merged firms for at least two years after completion of the deal. Supporting the conjecture of higher involvement of managers in takeover negotiations, CEOs of target-initiated deals manage to secure jobs with the merged company significantly more often in informal sales (15.9%) than in formal auctions (10.1%). The difference is significant at the 10% level.

[6] These SEC filings are mostly available only for completed deals; consequently, we decide not to cover withdrawn or canceled deals.

initiation decision based on actions by targets or bidders as described in the SEC filings. Usually, if a target firm plans to sell, the board considers various 'strategic alternatives' that include a possible sale of the company, and hire a financial advisor to evaluate these strategic alternatives. We classify a deal as target-initiated if the target company firmly decides on a sale, or at least hires a financial advisor to identify and contact potential bidders. We classify a deal as bidder-initiated when a buyer approaches the target firm with a takeover proposal, and the board considers the proposal and responds to the bidder. The target firm may then negotiate with the first bidder or contact other potential bidders to encourage wider competition. Whether the deal is initiated by the final acquirer or by another bidder, we define such deals as bidder-initiated. Over the period 2005-2011, of 2,003 completed deals identified in SDC we are able to find SEC filings on EDGAR for 1,260 deals. For 103 deals, we are unable to classify the initiator, and for further 59 targets, we are unable to obtain data from COMPUSTAT or CRSP. Altogether, our hand collection results in a sample of 1,098 deals, of which 487 are target-initiated and 611 are bidder-initiated.

Table 1 shows summary statistics of the selling process for target- versus bidder-initiated deals. Definitions of variables are provided in Appendix A. We test for differences in means using the t-test allowing for unequal variances and for differences in medians using the Mann-Whitney-Wilcoxon rank sum test. Target-initiated deals are significantly smaller (USD1.4 billion) than bidder-initiated deals (USD2.2 billion). In line with the literature (Masulis and Simsir, 2015; Fidrmuc et al., 2012) we find that target-initiated deals earn smaller premiums (27% versus 39%). Thirty-nine percent of all deals initiated by a potential bidder are eventually acquired by a different bidder.

- insert Table 1 about here -

Firms may be sold through full-scale auctions, controlled sales or private negotiations (Boone and Mulherin, 2009). A full-scale auction is a very structured process that follows multiple designed rounds and accommodates a relatively large number of bidders (Hansen, 2001). Controlled sales also involve competitive bidding, but from a limited number of bidders. In controlled sales, target firms canvas interest from a chosen number of bidders who then counter-bid against each other (Boone and Mulherin, 2009). Private negotiations involve only one bidder. Compared with bidder-initiated deals, target-initiated deals are more frequently sold in auctions (50% versus 20%, respectively) and less often sold through private negotiations (14% versus 42%, respectively). These statistics are consistent with Xie (2010).

The initiation date is the date when a company starts to consider a potential sale of its business (Boone and Mulherin, 2007). For target-initiated deals, it is usually the date when the board of directors decides that it wants to explore strategic alternatives. For bidder-initiated deals, the initiation date is established by a potential buyer directly expressing interest in buying the target firm. Table 1 shows that target-initiated deals take on average longer from initiation date to completion (595 versus 441 days), although they take fewer days between public announcement and completion. This is the case regardless of the selling mechanism.[7] Since the private selling process is relatively lengthy, and because of the difference in length between target- versus bidder-initiated deals, it is important to measure all firm characteristics that affect the initiation decision prior to the initiation date. Measuring firm characteristics at the announcement date may result in significant biases to key variables in our analysis.[8] For example, the difference in stock and accounting performance between the two types of target firms is smaller before the initiation date than it is just before the announcement date because it improves more in the meantime for bidder-initiated deal firms. The difference in leverage between the two groups is larger before initiation because target-initiated deal firms decrease their leverage more. Finally, R&D expenses decrease more for target-initiated deal firms, which means that the difference is larger before initiation than before the announcement.

[7] These statistics are not reported, but are available on request.

[8] Masulis and Simsir (2015) measure their firm characteristics at the SDC announcement date and so might be subject to this bias.

We also code the number of potential bidders that a target firm contacts during the selling process and the number of bidders with which a target firm signs a confidentiality agreement. The average number of bidders contacted (30 versus 9) and signing a confidentiality agreement (11 versus 4) is significantly higher for target-initiated deals. This is also the case when we control for the selling process. Bidder-initiated deals are more often bought by public acquirers (71% versus 65%). The payment consideration does not differ between the two groups. The majority of deals are paid for in cash (68% and 71%).

3.2. Methodology and matching

The main aim of the paper is to analyze determinants of the initiation decision, which may be estimated as a model with a binary dependent variable, setting the dependent variable to one for all target-initiated deals and zero for bidder-initiated deals. However, this standard regression technique may deliver inconsistent estimators if unobserved factors that affect the response (in our case, the type of deal initiation) are correlated with unobserved factors that affect the selection of the variable (Heckman, 1979). In fact, the type of deal initiation is observed only when a firm goes through a takeover. If unobserved factors affect both the odds of target initiation and the odds of takeovers in general (and thus the selection process), the coefficient estimates of a standard logit may be biased. To address this problem, we estimate a probit model with a selection treatment (Miranda and Rabe-Hesketh, 2006) that involves a system of two equations. The deal initiation decision represents the second stage. To control for possible selection bias, the first stage of the system models the odds of takeover, with the dependent variable equal to one for all target firms and zero for firms not involved in any takeover deal and remaining publicly listed. In order to estimate the first stage of the system concerning determinants of the takeover odds, we match each of our target firms with a firm that remains publicly listed.

Size is a very important matching requirement because it strongly affects the odds of becoming a takeover target. Small firms are more likely to be taken over (Palepu, 1986; Ambrose and Megginson, 1992; Cornett et al., 2011). The costs of absorbing a large firm into the acquirer's business or of a hostile takeover of a large firm are prohibitive. Moreover, size is usually correlated with other determinants, such as corporate governance, insider ownership and innovation, so it is important to compare small target firms with firms of similar size that remain publicly listed. Industry affiliation is also important for matching (Palepu, 1986). Therefore, our matching procedure is as follows. From the pool of all potential matching firms with available accounting and stock price data, we pick the firm that is in the same Fama-French 30 industry and is closest in terms of total assets in the same fiscal year using a +/–25% range. If we fail to find a matching firm, we repeat the process for the corresponding Fama-French 12 industry. If we still do not have a match, we apply the 4-digit SIC-code industry and then the 3-digit, 2-digit and finally 1-digit SIC-code industry. We also require that the same publicly-listed firm is not matched repeatedly with different target firms, and that target firms that drop out of our dataset due to unavailable SEC filing data are not included as matched firms.[9]

Panel A of Table 2, showing means for total assets, total sales, market capitalization and firm age, confirms insignificant size differences between deal and matched firms (Columns 5 and 6, with differences shown in Column 7). However, deal firms are significantly less valuable and younger than matched firms. Checking differences within the group of deal firms in Columns 2 and 3 (with differences shown in Column 4) reveals that target-initiated deal firms are smaller and less valuable than bidder-initiated deal firms. The difference in age is not significant.

- insert Table 2 about here -

An alternative to matching would be to include the population of all publicly-listed firms without takeover announcements. However, CEO and corporate governance characteristics are not available

[9] Altogether, 889 target firms are matched based on FF30 industry, 162 based on FF12, 28 based on 4-digit SIC, 2 based on 3-digit SIC, 7 based on 2-digit SIC and finally 10 targets based on 1-digit SIC.

in electronic datasets for smaller firms, as ISS Governance Services (formerly Risk-Metrics) covers only S&P 1500 firms, meaning that only around 15% of our target and matched firms are available electronically. Moreover, as target deal initiation is tilted toward smaller firms (see Table 1), it is important to keep as many small firms in the dataset as possible to avoid any unnecessary biases. To avoid time-consuming hand-collection of data, we create our counterfactual by matching each deal firm based on firm size (total assets) and target industry just before each deal initiation, and we hand collect data from Thomson Reuters Eikon and SEC EDGAR filings for small matched firms. Our decision is supported by Palepu (1986), who argues that any analysis based on matched samples should result in the right relative ranking of firms in terms of their acquisition probabilities. As we are not interested in forecasting the odds of takeover out of sample *per se*, our conclusions based on relative ranks of the outcomes are unlikely to lead to erroneous inferences, even when based on matched counterfactuals as opposed to a random (or full) sample.

To properly identify a system with a selection treatment, we need to choose an appropriate exclusion restriction that determines the odds of takeover in the first stage, but is not directly associated with the initiation choice in the second stage, only indirectly in terms of the takeover odds. Firm age fits the role very well – younger firms are naturally more prone to be taken over because they are usually more innovative (Bena and Li, 2014; Phillips and Zhdanov, 2013) and have higher growth options, but suffer from financial constraints (Palepu, 1986; Whited and Wu, 2006; Hadlock and Pierce, 2010). Nevertheless, in line with valid exclusion restriction requirements, all possible arguments for association between firm age and target deal initiation (such as innovation, growth prospects and financial constraints) feed through increased odds of takeover in general rather than through a direct path. For example, one might argue that young innovative firms are associated with increased odds of target initiation because they have many profitable projects but lack the resources to execute them. However, one might also argue that young innovative firms are very attractive targets for bidder-initiated deals. Therefore, it appears that firm age affects target initiation only indirectly, not directly, by increasing the odds of takeover in general. The last row in Panel A of Table 2 confirms the strong association between firm age and the odds of takeover (Column 5 versus 6). At the same time, firm age is not significantly different for target- versus bidder-initiated deals (Columns 2 and 3).

To be on the safe side, we add another exclusion restriction – industry M&A activity. The argument for its suitability as an exclusion restriction is similar to the argument for firm age. The literature provides strong evidence that industry M&A activity affects the odds of takeovers (Mitchell and Mulherin, 1996; Schingemann et al., 2002). However, it is difficult to come up with reasons why any industry disturbances should directly affect target rather than bidder initiation, or vice versa. A more active M&A market in a given industry may motivate target firms to put themselves up for sale because in buoyant markets they will be more likely to attract buyers. However, in buoyant markets, bidders are also more likely to approach prospective targets of their choice. High M&A activity seems to increase the odds of both target- and bidder-initiated deals, and is therefore correlated with target initiation only indirectly through higher takeover odds. The last row in Table 2 (Panel D) confirms that M&A activity is not significantly different for target- versus bidder-initiated deal firms (Columns 2 and 3), while all deal firms together (Column 5) experience periods of significantly higher M&A activity than non-deal firms (Column 6).

3.3. Univariate statistics

The existing literature suggests several potential candidates associated with the likelihood of a successful takeover deal in the first stage of our probit model with selection treatment. We group all determinants of takeovers into three categories. First, Jenter and Lewellen (2015) suggest that CEO age and corporate governance characteristics affect the likelihood of takeovers. Ownership and takeover defense characteristics, suggested by Ambrose and Megginson (1992), are also related, and are the main focus of our study with respect to deal initiation. Second, in line with our hypothesis development, we consider increased odds of financial distress measured in terms of leverage and interest coverage. To ensure that we pick up the effect of potential financial distress as conjectured, we also control for financial constraints (Erel et al., 2015; Khatami et al., 2014; Almeida et al.,

2011) and imminent financial distress measured by the Z-score (Altman, 1968). The third group of factors focuses on target-firm stock and operating performance and asset characteristics (Palepu, 1986; Ambrose and Megginson, 1992; Edmans et al., 2012; Bena and Li, 2014). This group should allow us to test Hypothesis 1b concerning the differential effect of managerial ownership on the relationship between firm performance (or growth options) and target deal initiation.

Panel B of Table 2 lists the first set of characteristics concerning ownership structure, corporate governance and CEO age. For all variables, we show their means across target- versus bidder-initiated deal firms (Columns 2 and 3, respectively). The differences in and statistical significance of the two means follows (Column 4). To complete the picture, we also report means of the variables for all deal firms together (Column 5) and for their matched firms (Column 6). The difference in means between deal and matched firms is reported in Column 7. Column 1 shows the number of available observations. All variables are measured just before the initiation date and are winsorized at 1% and 99%.

Panel B shows that target-initiated deal firms exhibit significantly higher CEO, executive and non-executive ownership, translating into higher insider ownership by all officers and directors together. At the same time, target-initiated deal firms exhibit lower institutional ownership. CEOs in target-initiated deal firms also receive higher equity grants both before and after the deal initiation date, but not after public announcement of the deal. Target-initiated deals have lower board independence, probably because of low institutional ownership. They are also more likely to have CEOs of retirement age. These differences between target- versus bidder-initiated firms translate mainly into significant differences between deal and matched firms. In addition, deal firms have larger boards and higher takeover defences as defined by Bebchuk et al. (2002).

Panel C focuses on financial distress and financial constraints. We see significant differences both between target- and bidder-initiated deal firms, and also between deal and non-deal firms. Target-initiated deal firms suffer higher financial distress signs – they exhibit higher leverage and net leverage, and lower interest coverage ratio. We also estimate abnormal net leverage, which should indicate deviations from optimal leverage given firm characteristics.[10] We confirm that target-initiated deal firms suffer significant excess leverage. They also have significantly higher SA indeces, indicating higher financial constraints, and are more likely to fall into the financial distress category with low Z-score. They issue more equity. The asset characteristics shown in Panel D suggest that differences between target- and bidder-initiated deals stem from higher R&D and lower profitability of target-initiated deals. The deal firms together are quite different from non-deal firms: they have lower stock performance, market-to-book ratios and asset tangibility, but higher R&D ratios. They also operate in less concentrated industries and industries with less similarity (Hoberg and Phillips, 2016).

4. Results

4.1. CEO ownership

Table 3 shows regression results from testing Hypothesis 1a, that higher managerial ownership increases the odds of target versus bidder deal initiation. Panel A focuses solely on the effect of ownership and corporate governance variables, while Panel B shows results in line with the financial weakness hypothesis (Masulis and Simsir, 2015). Panel C pools together all explanatory variables. For each specification, we report estimated coefficients for (i) a standard logit model (1^{st} column), limited to all target firms, with the dependent variable equal to one for all target-initiated deals and zero for bidder-initiated deals; and (ii) a probit model with selection treatment, which represents a system modeling not only the target initiation decision (the second stage, 2^{nd} column), but also the odds of takeover in general to control for selection issues (the first stage, 3^{rd} column). M&A activity

[10] Using all firms available on COMPUSTAT from 1950 to 2015, we estimate a simple net leverage model following Rajan and Zingales (1995) and then use the error terms of the model for our deal firms as a proxy for deviations from the optimal leverage level. The estimated model is described in the optimal leverage entry in Appendix A.

and firm age serve as exclusion restriction variables in the first stage of the probit model.[11] For all specifications, we report Hubert/White robust standard errors in parentheses and include time and industry dummies.[12] It is important to note that, for all specifications, the second-stage selection model estimates (2^{nd} column) hardly differ at all from estimates of the corresponding standard logit model (1^{st} column). Importantly, the correlation between residuals of the two stages of the model with selection treatment, reported at the bottom of each specification, is not significantly different from zero, which means that the second stage of target initiation may be considered as independent and we obtain unbiased estimates with standard logistic models.

Table 3 reveals that several factors significantly determine the odds of becoming a takeover target in the first stage of the treatment system (3^{rd} column), while only a few variables are significant in predicting the odds of target initiation in the second stage (2^{nd} column) or the standard logit (1^{st} column). This shows that the deal firms are quite alike in terms of target- or bidder-initiated deals, but they differ quite significantly and in important ways from non-acquired firms. Deal firms, as a group, tend to have CEOs of retirement age and large monitoring block holders and are younger, with less independent and larger boards. Good stock performance decreases the odds of becoming a successful takeover target, while good operating performance increases the odds. The takeover targets also appear to be more likely to have acquired other firms, divested assets and issued new equity or debt in the recent past. They operate in industries with higher takeover activity.

Focusing on differences between target- and bidder-initiated deal firms (Panel A of Table 3), we confirm Hypothesis 1a: higher CEO ownership increases the odds of target deal initiation. Specifications 1 and 2 show that the coefficient for CEO ownership is significantly positive at the 1% level, whether or not we include all corporate governance variables. In contrast, ownership by non-executive directors is not significant, even when included separately in Specification 3. However, in Specification 4, insider ownership by all officers and directors significantly increases the odds of target initiation. CEO ownership also remains significant in Panel C with all factors regressed together. Overall, we see that CEO ownership is a very important determinant of target deal initiation, while other corporate governance variables do not affect the initiation decision.[13]

- insert Table 3 about here -

Panel B shows the second set of significant factors for deal initiation, concerning potential financial distress and asset characteristics, as also suggested by Masulis and Simsir (2015). The first specification shows that higher leverage increases the odds of target initiation.[14] Interestingly, the SA index measuring financial constraints (Hadlock and Pierce, 2010) does not diminish the significance of leverage and by itself is not significant, even though it dominates the takeover odds in the first stage of the system with selection treatment (3^{rd} column). This result suggests that high leverage *per se* rather than financial constraint increases the odds of target deal initiation: a firm must face increased prospects of financial distress to be motivated to organize its own sale. A financing shock that triggers binding financial constraints but leads only to postponement of investments does not tend to push firms into deal initiation. Specifications 2 to 4 replace leverage with abnormal net leverage. The idea is that target-initiated deal firms should be not just leveraged, but over-leveraged. In line with this argument, abnormal net leverage measures the deviation of observed net leverage from its optimal level, where optimal net leverage is estimated, following Rajan and Zingales (1995), as the fitted value of a simple net leverage model, using all firms

[11] For discussion of the probit with selection treatment see Section 3.2.

[12] To preserve space, we do not report the industry and time effects in the table.

[13] In unreported regressions, we also explore the role of CEO tenure. One might argue that long tenure with a company might substitute for the motivational role of CEO ownership. Our analysis shows that the number of years in the job at the time of deal initiation does not affect the target deal initiation decision; nor does CEO tenure alter the other estimated coefficients. However, CEO tenure becomes positively significant when interacted with CEO ownership. CEOs with higher ownership stakes are even more likely to initiate their company sale when they have longer tenure.

[14] Replacing leverage with net leverage or interest coverage does not change the conclusion.

available on COMPUSTAT from 1950 to 2015.[15] We see that the odds of target deal initiation are increased for firms with higher abnormal net leverage. Leverage and abnormal net leverage also remain the key statistically significant variables in Panel C with all variables together.

Specification 4 in Panel B controls for imminent financial distress as it includes two dummy variables for low and high Altman's Z-scores (Altman, 1968). Both Z-score dummies are insignificant, suggesting that target-initiated deal firms are neither financially distressed nor very healthy. This result is quite important: although high leverage in target-initiated deal firms suggests increased possibility of financial distress, financial distress is not yet imminent. Specification 4 in Panel B also includes dummies for debt and equity issues over the three years prior to the deal initiation. The debt issue dummy is not significant, but the positive and significant coefficient for equity issues shows that target-initiated deal firms do try to dilute their leverage before organizing the acquisition. We also check for alternative strategies that may help to avoid the firm sale, such as asset sales or acquisitions of other firms. Neither the asset-sale nor acquirer dummy variables are statistically significant.[16] Panel B also shows that target-initiated deal firms have lower accounting performance but do not suffer from low stock performance.[17] We see some signs of better future prospects and growth options for target-initiated deal firms. R&D expenses and the long-run value-to-book component of the market-to-book ratio, following Rhodes-Kropf et al. (2005), are significant in Specifications 2 and 3, although their significance drops in Panel C with all variables regressed together.

Hypothesis 1b explores the relationship between firm performance (growth options) and target deal initiation through the effect of CEO ownership. In particular, Hypothesis 1b conjectures that managers with higher ownership stakes are motivated to trigger deal initiation while their firm's stock and accounting performance is still relatively good. However, managers without ownership stakes wait longer and trigger deal initiation only once financial distress is more imminent; thus, firm performance and growth options are poorer. In order to test this conjecture, we devide the group of target-initiated deal firms into firms with positive versus zero CEO ownership and contrast the two groups with all bidder-initiated deal firms. We are interested in the differential impact of stock and accounting performance and asset intangibility on target deal initiation across the two CEO ownership groups. Accordingly, Panel A in Table 4 shows the logistic regression results for the first group with positive CEO ownership stakes in Columns 1 to 5, and for the second group with zero CEO ownership stakes in Columns 6 to 10.[18]

- insert Table 4 about here -

Panel A confirms Hypothesis 1b: we see that past returns significantly increase the odds of target initiation for CEOs with ownership stakes, but significantly decrease the odds when CEOs do not own any shares in the target company. Operational income before interest expenses and depreciation is again significantly negative for target-initiated deal firms without CEO ownership stakes, but insignificant for those with CEO ownership stakes. Finally, asset intangibility, measured as long-run value-to-book, R&D ratio or asset tangibility, is significant for target-initiated deal firms with CEO ownership stakes, but insignificant when CEOs do not own any shares.

Panels B and C of Table 4 test Hypothesis 2, that non-executive director ownership reinforces the CEO ownership effect documented in Panel A. In Panel B, we take all target-initiated deal firms with positive CEO ownership stakes and further condition on non-executive ownership. Columns 1 to 5 contrast target-initiated deal firms that have positive CEO ownership *and* positive non-executive ownership with all bidder-initiated deal firms. Columns 6 to 10, in turn, contrast

[15] The estimated model is described in the optimal leverage entry in Appendix A.

[16] It is perhaps important to note that both the target- and bidder-initiated deal firms actively participate in asset sales and in acquisitions of other firms over the three years prior to initiation of the current deal, as shown in the first stage of the selection system in the 3^{rd} column.

[17] Unreported specifications also confirm that changing EBITDA to net income, or raw stock returns to abnormal returns adjusted for equally-weighted market return does not change the conclusions.

[18] Although, to preserve space, we do not report the selection models in this table, we do check and confirm that selection issues do not affect our coefficient estimates.

target-initiated deal firms that have positive CEO ownership *but zero* non-executive ownership with all bidder-initiated deal firms. The former five columns show better stock performance and higher growth options than the latter. We see that non-executive director ownership reinforces CEO motivation for preemptive target deal initiation: performance and growth options are higher when both CEOs and non-executive directors own company shares. Panel C conditions on zero CEO ownership in combination with positive (Columns 1-5) and zero (Columns 6-10) non-executive ownership. The two groups of target-initiated deal firms are again contrasted with all bidder-initiated deal firms. Now we see that, in contrast to our conjecture, positive non-executive ownership does not altogether substitute for CEO incentives: performance is quite poor, regardless of non-executive ownership stake. In summary, Hypothesis 2 is partially supported, as non-executive ownership reinforces positive CEO ownership but does not substitute for a lack of CEO ownership.

4.2. Equity grants and golden parachutes

The first two columns in Table 5 test Hypothesis 3a: they explore how CEO golden parachutes in place before deal initiation affect who initiates the deal.[19] Column 1 shows that although CEO ownership is associated with higher odds of deal initiation, golden parachutes are not. Following Powers (2005), at the bottom of the table we also report the marginal effects of CEO ownership and golden parachutes on the probability of target deal initiation. We see that a change from zero to positive CEO stake increases the probability of target initiation by 7%. This effect is significant at the 5% level. The effect is also economically significant, given that the overall probability of target deal initiation is 44%. The marginal effect of golden parachutes is positive, small and insignificant. However, Column 2, with an interaction term between the golden-parachute dummy and CEO-ownership dummy, shows that golden parachutes do not matter for deal initiation in firms with higher CEO ownership, but significantly increase the probability of target deal initiation in firms without CEO ownership. Again following Powers (2005), we report the marginal effects on the probability of target deal initiation at the bottom of the table.[20] We see that the average marginal effects of CEO ownership and golden parachutes do not change with the inclusion of their interaction term. However, we are interested in the conditional marginal effects of golden parachutes, given positive versus zero CEO ownership, which are reported below the average effects. We see that changing golden parachutes from zero to one when CEO ownership is zero increases the probability of target deal initiation by 9%. In contrast, the same change when CEO ownership is positive results in an insignificant change in target initiation probability. These results suggest that golden parachutes and CEO ownership are substitutes. CEOs receive golden parachutes to motivate them to initiate a deal when they do not own shares.

- insert Table 5 about here -

Columns 3 to 5 of Table 5 test Hypothesis 3b: they explore grants of stocks and stock options to CEOs over the period from two years before the initiation up to deal completion. Hypothesis 3b conjectures that if a board of directors perceives a future takeover deal to be more likely, it will grant its CEO extra stocks and stock options in order to align CEO and shareholder interests. Column 3 shows that equity grants are significantly higher in target-initiated deals. The average marginal effect indicates that a one standard deviation change in equity grants (2.3%) results in a 4.6% increase in probability of target initiation. Column 4 includes all interaction terms between equity grants, CEO ownership and golden parachutes and shows that equity grants are higher when CEO ownership is positive. The marginal effect of equity grants conditional on positive CEO ownership is significant at the 5% level, while the marginal effect of equity grants conditional on zero CEO ownership is insignificant. The marginal effects of equity grants conditional on a lack

[19] Again, as above, the selection issues do not exhibit any significant effect on the coefficient estimates. Although we run a sample selection model for each specification, to spare space, we report only standard logistic regressions coefficient estimates.

[20] Powers (2005) shows that relying on the interaction term may lead to false conclusions concerning the probability rather than the odds of the outcome variable.

versus presence of golden parachutes are both significant and their difference is not statistically significant. Golden parachutes do not change the effect of equity grants.

In Column 5, we divide all equity grants into (i) equity grants two years before the deal initiation, (ii) equity grants from initiation up to the deal announcement, and (iii) equity grants after the public announcement up to deal completion. Table 2 with summary statistics shows that target firm CEO ownership increases, on average, by 0.8% as a result of equity grants during the two years before initiation, and increases by 0.3% due to equity grants between takeover initiation and announcement, but increases by only 0.1% following equity grants after the deal announcement. In the regression in Column 5, only the second coefficient for stock and stock option grants after deal initiation but before public announcement is significant. In order to preserve space in the table, we report only the second coefficient (under the heading 'Equity grants') and leave the two insignificant coefficients unreported. Target-initiated deal firms do not grant their CEOs more stocks and stock options before the deal initiation, but they do grant them more equity-based compensation after the selling process has started. This result might indicate bribing of CEOs to accept the deal. We further explore the issue in Section 4.3, where we divide the sample between auctions and informal sales. Further unreported regressions with interaction terms for equity grants over the three periods and CEO ownership and golden parachutes do not produce any significant results.

4.3. Active managerial participation in deal negotiations

So far we have shown that higher managerial ownership, golden parachutes and equity grants are important determinants of firms initiating their own sale. In this section, we test Hypothesis 4, which explores further whether these incentives simply increase CEOs' willingness to accept a deal initiation, or whether they are also associated with CEOs' active participation in the negotiation process. We use the choice of the selling mechanism to test this hypothesis. We conjecture that a positive relationship between equity incentives and target deal initiation in informal sales (versus full-scale auctions) indicates active participation of CEOs in deal negotiations because equity incentives will be higher when CEOs are able to influence takeover outcomes, including the offer price. The first two specifications in Table 6 focus on CEO ownership and golden parachutes and divide the sample according to the selling mechanism: Column 1 includes deals sold in formal full-scale auctions, while Column 2 includes only informal sales (one-to-one negotiations and controlled sales).[21] Comparing Column 1 for formal auctions with Column 2 for informal sales, we see large differences. CEO ownership and golden parachutes do not significantly increase the probability of target deal initiation in formal auctions, while they are significant in informal sales.[22] These results are in line with managerial motivation for *active* participation. Incentives matter for target deal initiation with less formal selling mechanisms, where negotiators may potentially impact on the overall outcome. We see evidence of managerial motivation for active participation, rather than of bribery to accept takeovers. Neither CEO ownership nor golden parachutes increase the odds of target initiation in deals sold in formal auctions, which leave little space for active negotiations.

- insert Table 6 about here -

Columns 3 and 4 of Table 6 again divide the sample into formal auctions versus informal sales, but also include equity grants and corresponding interaction terms. Because there are several interaction terms, it is easier to rely on the computed marginal effects of our key variables with respect to the probability of target initiation, as reported at the bottom of the table. The results suggest that the CEO ownership effect with equity grants comes from informal sales, as shown in Column 4: when active CEO participation in negotiations is valuable, equity grants reinforce the effect of CEO ownership on target initiation. The conditional marginal effect of equity grants

[21] Again, the selection issues do not exhibit any significant effect on the coefficient estimates. Although we run the sample selection model for each specification, we report only standard logistic regression results.

[22] Indeed, positive CEO ownership is associated with a significant decrease in probability of target deal initiation in formal auctions. For informal sales, the effect of golden parachutes is significant, conditional only on zero CEO ownership, as in Section 4.2.

is significant only when CEO ownership is positive. Additional equity grants to CEOs without ownership do not significantly increase the probability of target initiation in informal sales. The conditional marginal effects of equity grants with golden parachutes are not significant (Column 4). In formal auctions (Column 3), equity grants tend to substitute for both CEO ownership and golden parachutes: the conditional marginal effects are positive and significant when both CEO ownership and golden parachutes are zero. In our view, these results for formal auctions suggest that equity grants are paid to bribe CEOs not to resist deals in the absence of CEO ownership or golden parachutes.

Columns 5 and 6 of Table 6 again divide the equity grants into the three periods around deal initiation and announcement. The results show that target-initiated deal firms grant their CEOs significantly more equity compensation between initiation and announcement only in informal sales (Column 6), when active CEO participation in negotiations is valuable. It is possible that the boards make implicit agreements with their CEOs, promising equity grants in preparation for the firm sale, but start to grant them only once the selling process has definitely started. A decision to sell a company may also be quite unexpected and therefore unplanned, due to the unpredictability of financial distress shocks. In such situations, increased equity grants close to the time of deal initiation are the only option. Equity grants just after deal initiation may still impact on active CEO participation. They are awarded regardless of CEO ownership – both marginal effects are significant and do not differ from each other. They are also significant, conditional on positive golden parachutes, but insignificant when golden parachutes are zero. In formal auctions (Column 5), CEOs of target-initiated deals are awarded more equity grants only after the public announcement. This suggests that, in such cases, equity grants are not used to motivate managers to participate actively in the deal negotiations.

4.4. Premiums

In this section, we test Hypothesis 5, that more incentivized managers in target-initiated deals are associated with higher realized premiums. This is particularly important, given that the literature suggests that target- versus bidder-initiated deals attract lower premiums on average (Masulis and Simsir, 2015). The premium regression in Column 1 of Table 7 includes the CEO ownership and golden parachute dummies and their interaction terms with target initiation.[23] We see that the target initiation dummy is significantly negative, but the interaction term with CEO ownership is positive and highly statistically significant, with the overall effect (target-initiated + CEO ownership x target-initiated) being statistically insignificant. Thus, CEO ownership in target-initiated deals mitigates the negative effect of target initiation on premiums. Moreover, CEO ownership is significantly negative, but its significantly positive interaction term with target initiation shows that CEO ownership enhances premiums in target-initiated deals. The overall effect of CEO ownership in target-initiated firms (CEO ownership + CEO ownership x target-initiated) is significantly positive at the 5% level.

We also include a dummy variable for CEOs who keep their jobs with the merged entity for at least two years after completion of the merger. This controls for the possibility that managers are willing to forgo higher premiums in exchange for future jobs. We see that the dummy variable and its interaction term with target deal initiation are not statistically significant. CEO job retention is not associated with the premium. The coefficient remains insignificant regardless of deal initiation. Golden parachutes have a significantly positive effect on premiums, but only for bidder-initiated deals. Columns 2 and 3, partitioning for formal auctions and informal sales, respectively, confirm the link between CEO motivation and active participation only for informal sales. The positive interaction term between CEO ownership and target initiation is due to a stronger effect in informal sales (Column 3). Interestingly, target initiation is not significant in formal auctions. Auctions seem to lever up competition regardless of deal initiation.

[23]Control variables in the model are consistent with the literature (Boone and Mulherin, 2007; Masulis and Simsir, 2015). We try several specifications, but the control variables do not alter the main conclusions.

- insert Table 7 about here -

Columns 4 to 6 explore the premium improvement effect of equity grants by including the equity grant variable and its interaction term with target initiation. We again estimate the regression for all deal firms, as well as separately for formal auctions and informal sales. We see that equity grants have a significant effect on premiums only for target-initiated deals sold through informal sales. The interaction term in Column 6 is significantly positive and the overall effect of equity grants in target-initiated firms is also significantly positive. This suggests that equity grants to CEOs in target-initiated deals when sold through informal sales improve takeover premiums for their shareholders. This is not the case for bidder-initiated deals or for formal auctions.

Columns 7 to 9 consider partitioning of equity grants into three periods based on deal initiation and public announcement dates. Again, only informal sales (Column 9) exhibit any significant effects. The interaction term for equity grants two years before initiation is significantly positive, while the direct effect of equity grants over this period is insignificantly negative. The overall positive and statistically significant effect suggests that target-initiated deal firms that grant their CEOs stock or stock options over the two years prior to deal initiation obtain higher premiums. The overall effect of equity grants from deal initiation up to public announcement in target-initiated deals is also significantly positive, although the interaction term is not significant. Equity grants before public announcement seem to enhance takeover premiums, but only with target initiation in informal sales. As a refinement of Fich et al. (2011), we show that target initiation matters in linking equity grants to higher takeover premiums. In summary, our results strongly suggest that CEOs are motivated to participate actively in deal negotiations when firms decide to offer themselves for sale.

5. Conclusions

The main contribution of the paper is to show that top managers' incentives play an important role in decisions to initiate the sale of a company. On a sample of 1,098 publicly-listed US target firms with completed deals over the period from 2005 to 2011, we show that target-initiated deal firms exhibit significantly higher CEO ownership and equity grants around the initiation date. This result is in line with the conjecture that ownership stakes motivate managers to initiate mergers in order to preempt bankruptcy and financial distress costs. Also in line with this conjecture is our result that higher CEO ownership is associated with a more positive relationship between firm performance (or growth options) and target deal initiation. Notably, ownership by non-executive directors is not a significant determinant of the initiation decision, but it reinforces the effect of CEO ownership on the performance-initiation relationship.

Further analysis shows that CEO incentives increase the odds of target deal initiation only in informal sales but not in formal full-scale auctions. This suggests that managerial incentives are higher when CEOs' active participation in takeover negotiations is more valuable. Managers appear to be incentivized for active deal negotiations. In contrast, managerial incentives are not significantly associated with target deal initiation in formal full-scale auctions. Auctions rely on competition rather than skilful negotiations to maximize payoffs. Finally, we show that, when firms offer themselves for sale, CEO incentives are indeed associated with higher takeover premiums. The adverse selection effect on premiums is mitigated in target-initiated deal firms with higher CEO incentives.

Appendices

Appendix A Variable definitions

We use the following abbreviations: OC for 'own computations', HC for 'hand collection', ISS for 'ISS Governance Services (formerly RiskMetrics)', TRE for 'Thomson Reuters Eikon' and TIF for 'Thomson Insider Filings'.

Variable	Definition	Source
Abnormal net leverage	Net leverage minus optimal net leverage estimated based on Rajan and Zingales (1995). For details on estimation of optimal net leverage see its entry below.	COMPUSTAT, OC
Acquirer	Dummy variable equal to 1 in case the firm acquires another firm within 3 years before the initiation date.	SDC, OC
Altman's Z-score	1.2 * working capital/total assets + 1.4 * retained earnings/total assets + 3.3 * EBIT/total assets + 0.6 * market capitalization/book value of debt + 0.999 * total sales/total assets. Based on Altman (1968).	COMPUSTAT, OC
Asset sale	Dummy variable equal to 1 in case the firm sells a part of its assets within 3 years before the initiation date.	SDC, OC
Asset tangibility	Net plant and property divided by total assets one fiscal year before the initiation date.	COMPUSTAT
Auction	Dummy variable equal to 1 in case the company is sold in a formal full-scale auction with pre-set rules and 0 otherwise. Based on Hansen (2001).	HC
Bidders contacted	The number of bidders that the target firm contacts during the selling process.	HC
Bidder-initiated deal	Deal for which, at the beginning of the selling process, a potential buyer approaches the target firm and proposes an M&A transaction.	HC
Bidders with confid. agreement	The number of bidders that the target firm signs confidentiality agreement with during the selling process.	HC
Board independence	The number of independent board members (directors that are not officers) over the total number of board members. In regressions used as a dummy that is set to one in case at least 50% of board members are independent directors and zero otherwise.	ISS, TRE
Board size	The total number of board members.	ISS, TRE
Cash offer	Dummy variable equal to 1 in case the acquirer offers only cash as the payment consideration and 0 otherwise.	SDC
CEO/chair duality	Dummy variable equal to 1 in case CEO of the firm is also its chairman.	ExecuComp, TRE, HC
CEO job retained	Dummy variable equal to 1 in case CEO, who is in position at the initiation of the deal, is retained as a manager of the merged firm for at least 2 years after the deal resolution date. Collected only for deal firms.	ExecuComp, TRE, HC
CEO ownership	The total fraction of shares outstanding owned by the CEO just before the initiation date. In Tables 4 to 7 used as a dummy variable that is set to 1 in case CEO ownership is positive and 0 otherwise.	TIF
CEO retirement	Dummy variable equal to 1 in case CEO's age is larger than 64 and 0 otherwise. Based on Jenter and Lewellen (2015).	ExecuComp, TRE, HC
CEO tenure before initiation	The number of years since appointment to the CEO position at the time of deal initiation. Collected only for deal firms.	ExecuComp, TRE, HC
Controlled sale	Dummy variable equal to 1 in case the target company decides to discreetly canvass a limited number of bidders that target management believes to have a serious interest in acquiring the company and 0 otherwise. Based on Boone and Mulherin (2009).	HC
Debt issue	Dummy variable equal to 1 in case a firm issues new debt within 3 years before the private date and 0 otherwise.	SDC
EBITDA	Earnings before interest, tax, depreciation and amortization over total assets in the accounting year just before the initiation date.	COMPUSTAT

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Variable	Definition	Source
Equity grants	The total number of shares granted to the CEO in stock and stock options as a fraction of ordinary shares outstanding over the period from 2 years before the initiation date to the resolution date.	TIF
Equity grants before initiation	The total number of shares granted to the CEO in stocks and stock options as a fraction of ordinary shares outstanding over the period from 2 years before the initiation date to the initiation date.	TIF
Equity grants after initiation	The total number of shares granted to the CEO in stocks and stock options as a fraction of ordinary shares outstanding over the period from the initiation date to the SDC announcement date. Based on Heitzman (2011).	TIF
Equity grants after public announcement	The total number of shares granted to the CEO in stocks and stock options as a fraction of ordinary shares outstanding over the period from the SDC announcement date to the resolution date. Based on Heitzman (2011).	TIF
Equity issue	Dummy variable equal to 1 in case a firm issues equity within 3 years before the private date and 0 otherwise.	SDC
Executive ownership	The total fraction of shares outstanding owned by firms' executives just before the initiation date.	TIF, OC
Firm age	The number of years from first appearance in CRSP. Based on Edmans et al. (2012).	CRSP, OC
Firm-specific error	The first component of the decomposition by Rhodes-Kropf et al. (2005) based on Model 1 with FF12 industries; it estimates the deviation of the firm specific pricing from short-run industry pricing.	COMPUSTAT, OC
Golden parachutes	Dummy variable equal to 1 in case the CEO receives severance pay and cash bonuses due to the termination of his/her employment after the takeover, 0 otherwise. Collected only for deal firms.	HC
High Altman's Z-score	Dummy variable equal to 1 in case Altman's Z-score is larger than 2.99 and 0 otherwise. Indicator of good financial health.	COMPUSTAT, OC
Industry concentration	Herfindahl-Hirschman index based on TNIC-3 industry. Based on Hoberg and Phillips (2016).	Hoberg-Phillips Data Library
Industry similarity	Cumulative firm-by-firm pairwise similarity score for all peers for the firm's TNIC-3 industry using the 10-K firm product words. In regressions scaled by 1000. Based on Hoberg and Phillips (2016).	Hoberg-Phillips Data Library
Insider ownership	The total fraction of shares outstanding owned by the board members and other officers just before the initiation date.	TIF
Institutional ownership	The total fraction of shares outstanding owned by institutional blockholders just before the initiation date.	FactSet
Inst. ownership change	The change in institutional ownership over one year before the initiation date.	FactSet
Leverage	Long term debt over total assets in the accounting year just before the initiation date.	COMPUSTAT
Long-run value-to-book	The third component of the decomposition by Rhodes-Kropf et al (2005) based on Model 1 with FF12 industries; it measures the deviation of the long-run value of the industry from the book value of the firm and so measures the long-run growth prospects of the firm.	COMPUSTAT, OC
Low Altman's Z-score	Dummy variable equal to 1 in case Altman's Z-score is smaller than 1.81 and 0 otherwise. Indicator of financial distress.	COMPUSTAT, OC
Low interest coverage	Dummy variable equal to 1 in case the interest coverage ratio (EBIT over interest payment due in the accounting year just before the initiation date) is smaller than 2 and 0 otherwise.	COMPUSTAT
M&A activity	The total number of firms with a takeover in the same first three-digit SIC code as the sample firm over one year just before the initiation date divided by the total number of firms in the same first three-digit SIC code in COMPUSTAT. Based on Schlingemann et al. (2002).	COMPUSTAT, SDC, OC
Market-to-book ratio	Market capitalization over the book value of equity in the accounting year just before the initiation date.	COMPUSTAT

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Variable	Definition	Source
Market capitalization	Stock price times shares outstanding on the initiation date.	CRSP
Net leverage	Long term debt minus cash and marketable securities over total assets in the accounting year just before the initiation date.	COMPUSTAT
Non-executive ownership	The total fraction of shares outstanding owned by independent directors just before the initiation date. In some regressions used as a dummy variable that is set to one in case non-executive ownership is positive and zero otherwise.	TIF, OC
Optimal net leverage	-0.346 + 0.562 × asset tangibility − 0.001 × M/B + 0.042 × ln(total sales) − 0.071 × EBITDA, where M/B is market capitalization plus book value of debt over total assets. The model is estimated based on all firms in COMPUSTAT over the period 1950-2015. Firm fixed effects and year dummies are included in the estimation. Based on Rajan and Zingales (1995).	COMPUSTAT, OC
Past abnormal return	Raw buy and hold stock return over 1 year before the initiation date adjusted by the equally weighted market return over the same period.	CRSP, Eventus, OC
Past raw return	Raw buy and hold stock return over 1 year before the initiation date.	CRSP, Eventus
Premium	The final offer price relative to the stock price 8 weeks before the SDC announcement date in percentage points.	SDC
Private equity acquirer	Dummy variable equal to 1 in case a firm is acquired by a private equity investor and 0 otherwise. Based on Fidrmuc et al. (2012).	SDC
Private negotiation	Dummy variable equal to 1 in case the company is sold in a privately negotiated sale with one bidder and 0 otherwise. Based on Boone and Mulherin (2009).	HC
Private selling process length	Length in days from the initiation date to the SDC announcement date.	HC
Public acquirer	Dummy variable equal to 1 in case the company is acquired by a public firm and 0 otherwise.	SDC
Pubic selling process length	Length in days from the SDC announcement date to the resolution date.	HC
R&D ratio	Research and development expenses over total assets in the accounting year just before the initiation date.	COMPUSTAT
SA index	-0.737 * size + 0.043 * size^2 − 0.04 * age, where size is the natural log of inflation adjusted (to USD 2004) book value of total assets and age is the number of years the firm has been on COMPUSTAT with a non-missing stock price. We winsorize size from the top at ln4500 and age at 37. Based on Hadlock and Pierce (2010).	COMPUSTAT, OC
Sector error	The second component of the decomposition by Rhodes-Kropf et al. (2005) based on Model 1 with FF12 industries; it estimates the deviation between the short-run versus long-run pricing of the firm's industry.	COMPUSTAT, OC
Selling process length	The length in days from the initiation to resolution date.	HC
Takeover defenses	Dummy variable equal to 1 for targets incorporated in Delaware, Idaho, Indiana, Maryland, Nevada, Ohio, Pennsylvania, South Dakota, Tennessee and Wisconsin that have strong takeover impediments and 0 otherwise. Based on Bebchuk et al. (2002).	SDC
Target-initiated deal	The board of the target firm decides to sell the company and consequently contacts potential buyers.	HC
Third-party initiated deal	Bidder initiated deal that ends up with a buyer that is not the primary initiator of the deal.	HC
Total assets	Book value of total assets. In the analysis used as a natural log of USD millions.	COMPUSTAT
Total sales	The sum collected for providing goods and services.	COMPUSTAT
Transaction value	Total value paid by the acquirer less fees and expenses.	SDC
Years job retained	The number of years the CEO, who is in position at the initiation of the deal, is retained as a manager of the merged entity after the deal resolution date. Collected only for deal firms.	ExecuComp, TRE, HC

Appendix B Initiation coding example

B.1 Applebees International: a target-initiated deal

The following paragraph from the SEC filing of Applebees International Inc. describes the initial decision: "*Our Board held its annual strategic retreat on August 23-25, 2006. ... The strategic alternatives discussion focused on two potential alternatives: (1) a leveraged recapitalization involving an expanded share repurchase program that would involve increasing the total debt to EBITDA leverage ratio to approximately three times and (2) a confidential market test for a possible sale of the company.*" The text shows that Applebees took the initiative and started considering a potential sale as a way forward for the company. We code the deal as target-initiated and August 23, 2006 as the initiation date. Applebees also retained financial advisors to solicit potential merger candidates.

The following section of the filing indicates that the number of bidders contacted is 35 and the number of bidders with confidentiality agreements is 26. "*During the next several weeks and in accordance with the Committee's instructions, Citi and Banc of America Securities contacted 35 potential purchasers of Applebee's. ... Twenty-six potential purchasers executed a confidentiality agreement and received an offering memorandum with non-public information during the week of March 18, 2007.*"

Applebee's was sold in an auction, as documented in the following text: "*On April 14, 2007, Citi and Banc of America Securities informed the Committee that we received four preliminary indications of interest in purchasing our company. ... Five other potential bidders asked for additional time to submit an indication of interest ... As is typical, these indications of interest were non-binding and contained numerous conditions, including due diligence conditions. ... After reviewing the initial indications of interest with Citi's assistance, the Committee decided to allow these four bidders, including IHOP, to continue to the next phase of the sale process which involved more detailed due diligence, including access to a data room and participation in multi-day management presentations. ... This conclusion was driven in large part by the fact that at that point in time the contemplated deadline for final submission of bids was shortly before the date of Applebee's annual meeting ... During April and May, all four remaining potential bidders continued their due diligence activities. In addition, all four received a draft merger agreement and were asked to submit final, definitive offers, including a proposed contract, by June 11.* "

B.2 AirTran Holdings: a bidder-initiated deal

In this case, we code the initiation based on the following section from the SEC filing of AirTran Holdings Inc: "*On April 21, 2010, Gary Kelly, Southwest's Chairman, President and CEO, telephoned Robert L. Fornaro, AirTran's Chairman, President and CEO, and asked Mr. Fornaro if he would meet with him in person to discuss a potential business matter, without indicating the specific nature of the matter. On May 6, 2010, Mr. Kelly and Mr. Fornaro met in a suburb of Dallas, Texas, and Mr. Kelly asked Mr. Fornaro if AirTran would be open to discussions regarding an acquisition by Southwest. Mr. Fornaro replied that he believed that management of AirTran had a duty to consider any adequately priced and financed acquisition offer and should such an offer be forthcoming from Southwest, management of AirTran would so consider it.*" Since it was Sothwest's Chairman who solicited potential merger candidates for the company, the deal as bidder-initiated. The initiation date is May 6, 2010.

AirTran was sold in a private negotiation, which can be implied from the following lengthy process: "*Following Southwest's and its advisors' evaluation of AirTran, Southwest determined to propose to AirTran that Southwest commence a preliminary due diligence investigation of AirTran. ... AirTran directed its counsel to establish an electronic data room for various documents to be made available to Southwest in connection with this due diligence. ... During the next three weeks, Southwest conducted its preliminary due diligence investigation of AirTran. ... On July 31, 2010, AirTran's senior management held a conference call with Morgan Stanley and Smith Gambrell to review and discuss the proposal received from Southwest and related matters. ... On August 13, 2010, Vinson&Elkins distributed an initial draft of a merger agreement to AirTran and its*

representatives. . . . On August 27, 2010, Vinson&Elkins distributed a revised draft of the merger agreement to AirTran and its representatives, which reflected Southwest's responses to the AirTran comments received on August 21, 2010. . . . On September 4, 2010, Vinson&Elkins distributed a revised draft of the merger agreement in response to the discussions between the parties. . . . Also on September 23, 2010, Vinson&Elkins sent a revised draft of the merger agreement to AirTran and its representatives reflecting all discussions between the parties on open items up to that date. . . . The merger agreement was executed on behalf of Southwest and AirTran shortly after conclusion of the respective September 26, 2010 meetings of the AirTran and Southwest boards of directors. The merger was publicly announced in the early morning of September 27, 2010." In a private negotiation, the number of bidders contacted and signing confidentiality agreements are both one.

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References

Aktas, N., E. de Bodt, and R. Roll, 2010: Negotiations under the threat of an auction. *Journal of Financial Economics*, **98**, 241–255.

Almeida, H., M. Campello, and D. Hackbarth, 2011: Liquidity mergers. *Journal of Financial Economics*, **102**, 526–558.

Altman, E. I., 1968: Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance*, **23**, 589–609.

Ambrose, B. W. and W. L. Megginson, 1992: The role of asset structure, ownership structure, and takeover defenses in determining acquisition likelihood. *Journal of Financial and Quantitative Analysis*, **27**, 575–589.

Andrade, G., M. Mitchell, and E. Stafford, 2001: New evidence and perspectives on mergers. *Journal of Economic Perspectives*, **15**, 103–120.

Bebchuk, L. A., A. Cohen, and A. Ferrell, 2002: Does the evidence favor competition in corporate laws? *California Law Review*, **90**, 1775–1821.

Bena, J. and K. Li, 2014: Corporate innovations and mergers and acquisitions. *Journal of Finance*, **69**, 1923–1960.

Boone, A. L. and J. H. Mulherin, 2007: How are firms sold? *Journal of Finance*, **62**, 847–875.

Boone, A. L. and J. H. Mulherin, 2009: Is there one best way to sell a company? Auctions versus negotiations and controlled sales. *Journal of Applied Corporate Finance*, **21 (3)**, 28–37.

Brav, A., W. Jiang, F. Partnoy, and R.Thomas, 2008: Hedge fund activism, corporate governance and firm performance. *Journal of Finance*, **63**, 1729–1775.

Cornett, M. M., B. Tanyeri, and H. Tehranian, 2011: The effect of merger anticipation on bidder and target firm announcement period returns. *Journal of Corporate Finance*, **17**, 595–611.

Coughlan, A. T. and R. M. Schmidt, 1985: Executive compensation, management turnover, and firm performance: An empirical investigation. *Journal of Accounting and Economics*, **7**, 43–66.

De Bodt, E., J. G. Cousin, and D. B. I. Demidova, 2014: M&A outcomes and willingness to sell. *Finance*, **35 (1)**.

Eckbo, B. E., K. S. Thorburn, and W. Wang, 2016: How costly is corporate bankruptcy for the CEO? *Journal of Finanicial Economics*, **121**, 210–229.

Edmans, A., I. Goldstein, and W. Jiang, 2012: The real effects of financial markets: The impact of prices on takeovers. *Journal of Finance*, **67**, 933–971.

Erel, I., Y. Jang, and M. S. Weisbach, 2015: Do acquisitions relieve target firms financial constraints? *Journal of Finance*, **70**, 289–328.

Fich, E. M., J. Cai, and A. L. Tran, 2011: Stock option grants to target CEOs during private merger negotiations. *Journal of Financial Economics*, **101**, 413–430.

Fich, E. M., T. Nguyen, and M. Officer, 2013: Large wealth creation in mergers and acquisitions. Working Paper, EFA Meeting Cambridge.

Fidrmuc, J. P., P. Roosenboom, R. Paap, and T. Teunissen, 2012: One size does not fit all: Selling firms to private equity versus strategic acquirers. *Journal of Corporate Finance*, **18**, 828–848.

Gilson, S. C., 1989: Management turnover and financial distress. *Journal of Financial Economics*, **25**, 241–262.

Gilson, S. C. and M. R. Vetsuypens, 1993: CEO compensation in financially distressed firms: An empirical analysis. *Journal of Finance*, **48**, 425–458.

Greenwood, R. and M. Schor, 2009: Investor activism and takeovers. *Journal of Financial Economics*, **92**, 362–375.

Hadlock, C. J. and J. R. Pierce, 2010: New evidence on measuring financial constraints: Moving beyond the KZ index. *Review of Financial Studies*, **23**, 1909–1940.

Hansen, R., 2001: Auctions of companies. *Economic Enquiry*, **39**, 30–43.

Harford, J. and R. J. Schonlau, 2013: Does the director labor market offer ex post settling-up for CEOs? The case of acquisitions. *Journal of Financial Economics*, **110**, 18–36.

Hartzell, J. C., E. Ofek, and D. Yermack, 2004: What's in it for me? CEOs whose firms are acquired. *Review of Financial Studies*, **17**, 37–61.

Heckman, J. J., 1979: Sample selection bias as a specification error. *Econometrica*, **47**, 153–162.

Heitzman, S., 2011: Equity grants to target CEOs during deal negotiations. *Journal of Financial Economics*, **102**, 251–271.

Hoberg, G. and G. Phillips, 2010: Product market synergies and competition in mergers and acquisitions: A text-based analysis. *Review of Financial Studies*, **23**.

Hoberg, G. and G. Phillips, 2016: Text-based network industries and endogenous product differentiation. *Journal of Political Economy*, **124 (5)**, 1423–1465.

Jensen, M. C. and R. S. Ruback, 1983: The market for corporate control: The scientific evidence. *Journal of Financial Economics*, **11**, 5–50.

Jenter, D. and K. Lewellen, 2015: CEO preferences and acquisitions. *Journal of Finance*, **70**, 2813–2852.

Khatami, S. H., M. T. Marchica, and R. Mura, 2014: Corporate acquistions and financial constraints. Working Paper, Manchester Business School.

Klein, A. and E. Zur, 2009: Entrepreneurial shareholder activism: Hedge funds and other private investors. *Journal of Finance*, **64**, 187–229.

Masulis, R. W. and S. A. Simsir, 2015: Deal initiation in mergers and acquisitions. Working Paper no. 371, European Corporate Governance Institute.

Miranda, A. and S. Rabe-Hesketh, 2006: Maximum likelihood estimation of endogenous switching and sample seletion models for binary, ordinary and count variables. *The Stata Journal*, **5 (3)**, 285–308.

Mitchell, M. L. and H. J. Mulherin, 1996: The impact of industry shocks on takeover and restructuring activity. *Journal of Financial Economics*, **41**, 193–229.

Palepu, K. G., 1986: Predicting takeover targets. *Journal of Accounting and Economics*, **8**, 3–35.

Pastena, V. and W. Ruland, 1986: The merger/bankruptcy alternative. *Accounting Review*, **61**, 288–301.

Phillips, G. and A. Zhdanov, 2013: R&D and the incentives from merger and acquisition activity. *Review of Financial Studies*, **26**, 34–78.

Powers, E. A., 2005: Interpreting logit regressions with interaction terms as seen in the management turnover literature. *Journal of Corporate Finance*, **11**, 504–522.

Rajan, R. G. and L. Zingales, 1995: What do we know about capital structure? Some evidence from international data. *Journal of Finance*, **50**, 1421–1460.

Rhodes-Kropf, M., D. T. Robinson, and S. Viswanathan, 2005: Valuation waves and merger activity: The empirical evidence. *Journal of Financial Economics*, **77**, 561–603.

Schingemann, F. P., R. M. Stulz, and R. A. Walkling, 2002: Divestitures and the liquidity of the market for corporate assets. *Journal of Financial Economics*, **64**, 117–144.

Shrieves, R. E. and D. L. Stevens, 1979: Bankruptcy avoidance as a motive for merger. *Journal of Financial and Quantitative Analysis*, **14**, 501–515.

Weisbach, M. S., 1988: Outside directors and CEO turnover. *Journal of Financial Economics*, **20**, 431–460.

Whited, T. M. and G. J. Wu, 2006: Financial constraints risk. *Review of Financial Studies*, **19**, 531–559.

Xie, K., 2010: The deal process, asymmetric bidders and target premia. Working paper, Olin Business School, Washington University.

Table 1: Selling-process summary statistics.

This table presents summary statistics for hand collected target- (487) and bidder-initiated (611) deals. All variables are defined in Appendix A and winsorized at the 1^{st} and 99^{th} percentiles, except all dummy variables. We test for differences in means using the t-test allowing for unequal variances and in medians using the Mann-Whitney-Wilcoxon rank sum test. The significance of differences in means (medians) between target- versus bidder-initiated deals is indicated in the mean (median) column for bidder-initiated deals. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent level.

	Target-initiated deals			Bidder-initiated deals		
	Mean	Median	St. dev	Mean	Median	St.dev
Transaction value(million USD)	1,409	286	3,973	2,165^{a}	509^{a}	4,992
Premium	26.6%	27.0%	58.2%	39.0%^{a}	34.0%^{a}	45.2%
Third-party initiated	0	0	0	0.39	0	0.49
Auction	0.50	1	0.50	0.20^{a}	0^{a}	0.40
Controlled sale	0.36	0	0.48	0.38	0	0.49
Private negotiation	0.14	0	0.34	0.42^{a}	0^{a}	0.49
Private selling process length	478	342	409	314^{a}	220^{a}	333
Public selling process length	117	103	67	127^{b}	104	83
Selling process length	595	464	407	441^{a}	350^{a}	342
Bidders contacted	30	14	43	9^{a}	2^{a}	18
Bidders with confid. agreement	11	4	17	4^{a}	1^{a}	8
Private equity acquirer	0.26	0	0.44	0.23	0	0.42
Public acquirer	0.65	1	0.48	0.71^{b}	1^{b}	0.46
Cash offer	0.68	1	0.47	0.71	1	0.45

Table 2: Summary statistics for target-initiated, bidder-initiated and matched firms.

This table shows mean values across target-initiated (Column 2) versus bidder-initiated deal firms (Column 3) with their differences reported in Column 4. For reference, Column 5 reports means for all deal firms which is compared to matched firms in Column 6 with their differences reported in Column 7. Column 1 shows the number of valid observations. We test for differences in means using the t-test allowing for unequal variances. All variables are defined in Appendix A and winsorized at the 1^{st} and 99^{th} percentiles, except for dummy variables. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent level.

Variable	(1) # obs	(2) Target-initiated	(3) Bidder-initiated	(4) Target vs bidder	(5) All deal firms	(6) Matched firms	(7) Deal vs matched
			Panel A: Size and age				
Total assets (USD million)	2196	1473	1995	-522^{c}	1763	1870	-107
Total sales (USD million)	2196	715	1111	-396^{a}	935	1054	-119
Market cap (USD million)	2196	921	1315	-394^{b}	1140	1477	-337^{b}
Firm age	2190	16	17	-1	17	22	-6^{a}
			Panel B: Ownership and corporate governance				
CEO ownership	2196	0.022	0.011	0.011^{a}	0.016	0.015	0.001
Positive CEO ownership dummy	2196	0.577	0.524	0.053^{c}	0.547	0.390	0.157^{a}
Executive ownership	2196	0.047	0.026	0.021^{b}	0.035	0.031	0.005
Non-executive ownership	2196	0.037	0.026	0.011^{b}	0.031	0.023	0.008^{a}
Insider ownership	2196	0.083	0.053	0.030^{a}	0.067	0.053	0.014^{a}
Institutional ownership	1999	0.456	0.572	-0.117^{a}	0.521	0.413	0.108^{a}
Inst. ownership change	1999	0.001	0.000	0.001	0.001	-0.001	0.001
Equity grants (%)	2196	1.747	1.255	0.492^{a}	1.473	0.883	0.590^{a}
Equity grants before initiation (%)	2196	0.922	0.768	0.154^{c}	0.837	0.505	0.331^{a}
Equity grants after initiation (%)	2196	0.441	0.247	0.193^{a}	0.333	0.218	0.115^{a}
Equity grants after public ann. (%)	2196	0.065	0.071	-0.005	0.068	0.049	0.019^{c}
Golden parachutes	1098	0.575	0.583	-0.008	0.579	n.a.	n.a.
CEO tenure before initiation	1027	11.1	10.3	0.8	10.7	n.a.	n.a.
Years job retained	1027	0.4	0.5	-0.1	0.5	n.a.	n.a.
CEO job retained	1027	0.130	0.150	-0.021	0.141	n.a.	n.a.
Board size	1969	8	8	0	8	6	2^{a}
Board independence	1969	0.217	0.290	-0.073^{a}	0.258	0.546	-0.288^{a}
Takeover defenses	2196	0.684	0.687	-0.004	0.686	0.467	0.219^{a}
CEO/chair duality	1795	0.413	0.420	-0.007	0.417	0.412	0.005
CEO retirement	1786	0.180	0.137	0.044^{c}	0.156	0.101	0.055^{a}

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Variable	(1) # obs	(2) Target-initiated	(3) Bidder-initiated	(4) Target vs bidder	(5) All deal firms	(6) Matched firms	(7) Deal vs matched
			Panel C: Financial distress and financial constraints				
Leverage	2196	0.188	0.160	0.028^{b}	0.173	0.149	0.024^{a}
Low interest coverage	2196	0.376	0.293	0.083^{a}	0.330	0.274	0.056^{a}
Net leverage	2196	0.051	0.018	0.033^{c}	0.032	0.007	0.025^{b}
Optimal net leverage	2160	-0.040	-0.016	-0.025^{b}	-0.027	-0.016	-0.011
Abnormal net leverage	2160	0.099	0.034	0.065^{a}	0.063	0.029	0.033^{a}
SA index	2185	-3.300	-3.404	0.104^{a}	-3.358	-3.530	0.173^{a}
Altman's Z-score	2187	2.051	3.306	-1.255^{a}	2.747	4.105	-1.358^{a}
Low Altman's Z-score	2187	0.512	0.395	0.117^{a}	0.447	0.397	0.050^{b}
High Altman's Z-score	2187	0.319	0.428	-0.109^{a}	0.379	0.450	-0.070^{a}
Debt issue	2196	0.008	0.003	0.005	0.005	0.004	0.002
Equity issue	2196	0.452	0.398	0.054^{c}	0.422	0.142	0.280^{a}
Acquirer	2196	0.078	0.061	0.017	0.068	0.005	0.063^{a}
Asset sale	2196	0.255	0.255	-0.001	0.255	0.131	0.124^{a}
			Panel D: Asset characteristics				
Past abnormal return	1575	0.080	0.053	0.027	0.065	0.156	-0.091^{a}
Past raw return	1579	0.103	0.074	0.028	0.087	0.179	-0.092^{a}
Market-to-book ratio	2181	2.915	2.661	0.254	2.775	3.110	-0.335^{c}
Firm-specific error	2092	-0.036	-0.020	-0.016	-0.027	0.064	-0.091^{a}
Sector error	2092	0.072	0.058	0.014	0.064	0.072	-0.008
Long-run value/book	2092	0.689	0.675	0.014	0.681	0.661	0.020
Asset tangibility	2195	0.172	0.188	-0.016	0.181	0.219	-0.038^{a}
R&D ratio	2195	0.071	0.054	0.017^{b}	0.062	0.052	0.010^{b}
EBITDA	2196	0.020	0.061	-0.041^{a}	0.043	0.041	0.001
Industry concentration	1730	0.171	0.165	0.006	0.167	0.199	-0.032^{a}
Industry similarity	1730	898	772	126	827	1074	-248^{a}
M&A activity	2196	0.781	0.845	-0.064	0.817	0.727	0.089^{b}

Table 3: Analysis of factors influencing the likelihood of deal initiation: target- versus bidder-initiated deals.

This table reports estimation results for logistic models and probit models with sample selection. For each specification, the first column reports estimated coefficients for the logistic model, while the second and third columns report coefficients for the second and first stage of the selection probit model, respectively. Therefore, the dependent variable in each first and second column equals 1 for target-initiated and 0 for bidder-initiated deal firms (tar.in.), while in each third column it equals 1 for takeover firms and 0 for matched firms (takeover). The data set covers 1,098 matched firms, 487 target-initiated and 611 bidder-initiated deal firms. Hubert/White robust standard errors are reported in brackets. All variables are defined in Appendix A and are winsorized at the 1^{st} and 99^{th} percentiles, except for all dummy variables. Both year and industry dummies are included in the regressions but are not reported. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent level.

	(1)			(2)			(3)			(4)		
	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover
Panel A: Ownership and corporate governance												
Constant	-1.089^{c}	-0.776^{c}	-0.138	-1.157^{b}	-0.884^{b}	-0.152	-1.000	-0.706^{c}	-0.100	-1.139^{c}	-0.787^{b}	-0.118
	(0.629)	(0.400)	(0.279)	(0.560)	(0.365)	(0.217)	(0.632)	(0.395)	(0.278)	(0.630)	(0.399)	(0.279)
CEO ownership	5.683^{a}	3.132^{a}	1.265	4.225^{a}	2.486^{a}	0.463						
	(2.147)	(1.043)	(0.803)	(1.640)	(0.872)	(0.611)						
Non-exec. ownership	0.509	0.310	-0.224	0.943	0.681	1.121^{a}	0.639	0.383	-0.149			
	(1.005)	(0.597)	(0.527)	(0.936)	(0.551)	(0.416)	(1.006)	(0.594)	(0.526)			
Insider ownership										1.762^{a}	1.054^{a}	0.124
										(0.643)	(0.380)	(0.316)
Inst. ownership	-0.611^{c}	-0.378	1.504^{a}	-0.636^{b}	-0.299	1.057^{a}	-0.715^{b}	-0.423^{c}	1.480^{a}	-0.556	-0.342	1.497^{a}
	(0.340)	(0.244)	(0.176)	(0.280)	(0.219)	(0.120)	(0.340)	(0.240)	(0.175)	(0.346)	(0.244)	(0.176)
Inst. ownership change	0.631	0.411	0.102	0.650	0.372	-0.430	0.554	0.335	0.095	0.685	0.420	0.088
	(1.141)	(0.644)	(0.622)	(0.974)	(0.551)	(0.427)	(1.083)	(0.644)	(0.620)	(1.112)	(0.645)	(0.621)
Board size	0.011	0.010	0.229^{a}				0.003	0.007	0.227^{a}	0.004	0.007	0.227^{a}
	(0.029)	(0.024)	(0.018)				(0.029)	(0.023)	(0.018)	(0.029)	(0.023)	(0.018)
Board independence	0.039	0.004	-2.259^{a}				0.097	0.019	-2.245^{a}	0.075	0.025	-2.243^{a}
	(0.279)	(0.280)	(0.152)				(0.277)	(0.274)	(0.152)	(0.278)	(0.278)	(0.151)
CEO/chair duality	-0.142	-0.089	0.025				-0.106	-0.064	0.032	-0.105	-0.067	0.033
	(0.162)	(0.097)	(0.083)				(0.160)	(0.097)	(0.082)	(0.160)	(0.097)	(0.082)
CEO retirement	0.260	0.191	0.494^{a}				0.279	0.200	0.500^{a}	0.282	0.200	0.499^{a}
	(0.204)	(0.131)	(0.120)				(0.204)	(0.130)	(0.120)	(0.206)	(0.130)	(0.120)
Takeover defenses	-0.009	-0.019	0.133				0.010	-0.008	0.133	0.002	-0.015	0.131
	(0.173)	(0.107)	(0.085)				(0.171)	(0.106)	(0.085)	(0.173)	(0.106)	(0.085)
Total assets	-0.114^{c}	-0.059	-0.162^{a}	-0.096^{c}	-0.061^{c}	-0.043^{c}	-0.108	-0.059	-0.162^{a}	-0.117^{c}	-0.062	-0.162^{a}
	(0.068)	(0.044)	(0.034)	(0.057)	(0.036)	(0.023)	(0.068)	(0.044)	(0.034)	(0.069)	(0.044)	(0.034)
M&A activity	-0.117		0.118^{b}	-0.064		0.100^{a}	-0.082		0.125^{a}	-0.092		0.123^{b}
	(0.103)		(0.049)	(0.093)		(0.037)	(0.103)		(0.048)	(0.103)		(0.048)
Firm age	0.008		-0.028^{a}	0.005		-0.031^{a}	0.008		-0.029^{a}	0.008		-0.028^{a}
	(0.007)		(0.004)	(0.006)		(0.003)	(0.007)		(0.004)	(0.007)		(0.004)
Residual correlation (ρ)		0.041			0.160			0.064			0.045	
		(0.229)			(0.200)			(0.223)			(0.227)	
# observations	821	1,491		1,004	1,994		821	1,491	1,491	821	1,491	1,491
χ^2	74.34^{a}	77.15^{a}		83.72^{a}	84.88^{a}		72.77^{a}	70.00^{a}		78.39^{a}	75.92^{a}	
Panel B:Financial distress and asset characteristics												
Constant	-0.955	-0.399	1.040^{a}	-0.718	-0.338	0.919^{b}	-2.015	-0.742	0.991^{c}	0.010	0.026	1.122^{a}
	(0.862)	(0.465)	(0.366)	(0.867)	(0.451)	(0.367)	(1.411)	(0.794)	(0.563)	(0.713)	(0.335)	(0.310)

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	(1)			(2)			(3)			(4)		
	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover
Leverage	1.118^{a}	0.664^{c}	0.575^{a}									
	(0.433)	(0.342)	(0.191)									
Abnormal net leverage				0.943^{a}	0.587^{b}	0.533^{a}	0.627^{c}	0.504^{c}	0.556^{a}	0.703^{b}	0.429^{a}	0.069
				(0.333)	(0.280)	(0.144)	(0.366)	(0.290)	(0.158)	(0.278)	(0.165)	(0.128)
SA index	-0.520	-0.237	0.531^{a}	-0.399	-0.186	0.469^{a}	-0.344	-0.025	0.506^{a}	-0.127	0.128	0.563^{a}
	(0.400)	(0.416)	(0.169)	(0.398)	(0.380)	(0.167)	(0.397)	(0.395)	(0.169)	(0.335)	(0.194)	(0.145)
Low Altman's Z-score										0.175	0.084	-0.069
										(0.200)	(0.121)	(0.095)
High Altman's Z-score										-0.267	-0.173	-0.098
										(0.198)	(0.116)	(0.091)
Debt issue										-0.123	0.060	0.585^{a}
										(0.174)	(0.134)	(0.085)
Equity issue										0.341^{b}	0.364^{a}	0.744^{a}
										(0.138)	(0.123)	(0.071)
Asset sale										0.092	0.148	0.451^{a}
										(0.158)	(0.109)	(0.084)
Acquirer										0.343	0.432^{b}	1.387^{a}
										(0.241)	(0.206)	(0.223)
Past raw return	0.063	0.046	-0.202^{a}	0.028	0.018	-0.182^{a}	-0.004	-0.017	-0.201^{a}			
	(0.139)	(0.112)	(0.059)	(0.134)	(0.103)	(0.059)	(0.136)	(0.108)	(0.060)			
EBITDA	-1.687^{a}	-1.006^{a}	0.303									
	(0.539)	(0.365)	(0.221)									
R&D ratio				2.059^{b}	1.254^{b}	0.337						
				(0.876)	(0.556)	(0.406)						
Long-run value/book							1.877^{c}	1.077^{c}	0.019			
							(1.089)	(0.653)	(0.435)			
Asset tangibility										0.395	0.165	-0.259
										(0.432)	(0.256)	(0.178)
Total assets	-0.254^{a}	-0.144	0.156^{a}	-0.216^{b}	-0.123	0.170^{a}	-0.099	-0.022	0.173^{a}	-0.199^{b}	-0.074	0.116^{a}
	(0.094)	(0.100)	(0.040)	(0.094)	(0.102)	(0.040)	(0.110)	(0.108)	(0.047)	(0.086)	(0.056)	(0.038)
M&A activity	0.014		0.092^{b}	0.006		0.096^{b}	-0.070		0.082^{c}	-0.031		0.070^{c}
	(0.099)		(0.042)	(0.101)		(0.042)	(0.105)		(0.043)	(0.089)		(0.038)
Firm age	-0.007		-0.019^{a}	-0.004		-0.021^{a}	-0.004		-0.019^{a}	0.003		-0.018^{a}
	(0.013)		(0.005)	(0.013)		(0.005)	(0.013)		(0.005)	(0.011)		(0.005)
Residual correlation (ρ)		-0.048			0.001			0.175			0.457	
		(0.629)			(0.583)			(0.619)			(0.322)	
# observations	819	1,577		816	1,569		790	1,531		1,078	2,147	
χ^2	64.96^{a}	70.40^{a}		63.78^{a}	65.12^{a}		52.56^{a}	51.63^{a}		78.85^{a}	98.98^{a}	
Panel C: Pooled regressions												
Constant	-0.842	-0.625	0.799^{c}	-0.711	-0.529	0.175	-0.524	-0.625	-0.342	-0.286	-0.354	0.123
	(0.922)	(0.417)	(0.452)	(0.533)	(0.350)	(0.219)	(1.047)	(0.643)	(0.418)	(0.463)	(0.294)	(0.188)
CEO ownership	6.376^{a}	3.504^{a}	1.222	7.365^{b}	4.263^{a}	-0.373	4.836^{a}	2.964^{a}	0.572	4.479^{a}	2.733^{a}	0.417
	(2.098)	(1.077)	(0.823)	(2.916)	(1.392)	(0.772)	(1.604)	(0.926)	(0.633)	(1.513)	(0.891)	(0.614)
Non-exec. ownership	0.433	0.325	-0.144	0.907	0.688	0.967^{c}	1.677^{c}	1.183^{b}	1.369^{a}	1.024	0.732	1.088^{a}
	(0.965)	(0.609)	(0.539)	(1.167)	(0.767)	(0.524)	(0.993)	(0.596)	(0.442)	(0.922)	(0.554)	(0.417)

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	(1)			(2)			(3)			(4)		
	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover	Tar.in.	Tar.in.	Takeover
Inst. ownership	-0.706^{c}	-0.599^{b}	1 .635^{a}	-0.836^{b}	-0.421	0.941^{a}	-0.437	-0.105	1.275^{a}	-0.665^{b}	-0.304	1.056^{a}
	(0.372)	(0.274)	(0.189)	(0.342)	(0.259)	(0.146)	(0.296)	(0.249)	(0.128)	(0.283)	(0.221)	(0.121)
Inst. ownership change	0.762	0.442	0.204	0.398	0.324	0.662	0.797	0.523	0.018	1.082	0.627	-0.328
	(1.177)	(0.645)	(0.632)	(1.645)	(0.941)	(0.675)	(1.101)	(0.635)	(0.467)	(0.993)	(0.560)	(0.433)
Board size	0.002	-0.018	0.236^{a}									
	(0.031)	(0.028)	(0.019)									
Board independence	-0.085	0.208	-2.233^{a}									
	(0.280)	(0.339)	(0.152)									
CEO/chair duality	-0.119	-0.075	0.025									
	(0.165)	(0.097)	(0.084)									
CEO retirement	0.232	0.099	0.507^{a}									
	(0.208)	(0.142)	(0.121)									
Takeover defenses	-0.070	-0.054	0.141									
	(0.175)	(0.106)	(0.087)									
Leverage	1.050^{b}	0.604^{b}	0.233	1.562^{a}	0.982^{a}	0.355^{c}						
	(0.491)	(0.304)	(0.258)	(0.455)	(0.284)	(0.202)						
Abnormal net leverage							0.884^{a}	0.573^{a}	0.255^{c}	1.027^{a}	0.662^{a}	0.355^{a}
							(0.341)	(0.207)	(0.146)	(0.289)	(0.177)	(0.124)
SA index	-0.424	-0.346^{b}	0.356^{c}									
	(0.411)	(0.172)	(0.198)									
Low Altman's Z-score	-0.137	-0.044	-0.175				0.198	0.118	-0.112			
	(0.254)	(0.156)	(0.133)				(0.220)	(0.132)	(0.099)			
High Altman's Z-score	-0.191	-0.062	-0.361^{a}				-0.210	-0.157	-0.262^{a}			
	(0.236)	(0.148)	(0.124)				(0.208)	(0.127)	(0.092)			
EBITDA	-1.548^{b}	-1.039^{a}	0.934^{a}									
	(0.618)	(0.382)	(0.340)									
Past raw return				-0.090	-0.064	-0.153^{b}						
				(0.146)	(0.089)	(0.060)						
R&D ratio	0.986	0.694	0.109	1.883^{b}	1.177^{b}	0.130						
	(1.050)	(0.637)	(0.591)	(0.872)	(0.546)	(0.394)						
Long-run value/book							0.535	0.399	0.555			
							(0.963)	(0.577)	(0.396)			
Asset tangibility										0.256	0.124	-0.359^{b}
										(0.459)	(0.285)	(0.175)
Total assets	-0.167	-0.093^{c}	-0.146^{a}	-0.069	-0.047	-0.040	-0.087	-0.056	-0.035	-0.091	-0.059	-0.043^{c}
	(0.107)	(0.055)	(0.052)	(0.070)	(0.044)	(0.029)	(0.087)	(0.053)	(0.036)	(0.058)	(0.036)	(0.023)
M&A activity	-0.084		0.086^{c}	-0.004		0.076^{c}	-0.095		0.072^{c}	-0.075		0.083^{b}
	(0.108)		(0.051)	(0.109)		(0.043)	(0.102)		(0.039)	(0.094)		(0.038)
Firm age	-0.001		-0.020^{a}	0.004		-0.032^{a}	0.006		-0.030^{a}	0.006		-0.030^{a}
	(0.014)		(0.006)	(0.007)		(0.003)	(0.006)		(0.003)	(0.006)		(0.003)
Residual correlation (ρ)		-0.283			0.145			0.234			0.180	
		(0.320)			(0.235)			(0.218)			(0.205)	
# observations	820	1,488		769	1,486		939	1,888		996	1,967	
χ^2	83.98^{a}	91.83^{a}		78.69^{a}	80.80^{a}		89.19^{a}	87.22^{a}		92.33^{a}	86.52^{a}	

Table 4: Analysis of factors influencing the likelihood of target deal initiation: managerial ownership effects on performance.

This table reports estimation results for logistic models. In Panel A, the dependent variable equals 1 for target-initiated deals with positive (zero) CEO ownership and 0 for bidder-initiated deals in Columns 1-5 (6-10). In Panel B, the dependent variable equals 1 for target-initiated deal firms with positive CEO ownership and positive (zero) non-executive ownership in Columns 1-5 (6-10). In Panel C the dependent variable equals 1 for target-initiated deals with zero CEO ownership and positive (zero) non-executive ownership in Columns 1-5 (6-10). The data set covers 487 target-initiated and 611 bidder-initiated deals. In Panel A, 281 (206) target-initiated deal firms have positive (zero) CEO ownership. In Panel B, 241 (40) target-initiated deal firms with positive CEO ownership have also positive (zero) non-executive ownership. The corresponding number for Panel C with zero CEO ownership is 115 (91). We report Hubert/White robust standard errors in brackets. All variables are defined in Appendix A and are winsorized at the 1^{st} and 99^{th} percentiles, except for all dummy variables. Both year and industry dummies are included in the regressions but are not reported. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent levels.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Positive CEO ownership					Zero CEO ownership				
					Panel A: CEO ownership					
Constant	-1.487^{a}	-2.475^{b}	-2.079^{b}	-0.928^{b}	-1.409^{a}	-0.758	-0.695	-0.301	-0.166	-0.526
	(0.569)	(1.065)	(0.821)	(0.441)	(0.504)	(0.661)	(1.297)	(0.927)	(0.490)	(0.529)
Past raw return	0.276^{c}	0.257^{c}				-0.636^{b}	-0.610^{b}			
	(0.154)	(0.154)				(0.251)	(0.251)			
EBITDA	-0.832	-0.604	-0.886	-0.186	-0.820	-2.640^{a}	-2.467^{a}	-2.916^{a}	-2.071^{a}	-2.441^{a}
	(0.746)	(0.723)	(0.558)	(0.670)	(0.582)	(0.877)	(0.929)	(0.668)	(0.680)	(0.620)
Long-run value/book		1.647^{b}	1.380^{c}				0.522	0.375		
		(0.839)	(0.733)				(1.077)	(0.893)		
R&D ratio				1.770^{c}					0.575	
				(1.073)					(1.243)	
Asset tangibility					0.006					0.936^{c}
					(0.545)					(0.563)
Abnormal net leverage	1.283^{a}	1.236^{a}	1.222^{a}	1.181^{a}	1.177^{a}	0.695	0.563	0.995^{b}	0.858^{b}	0.946^{b}
	(0.397)	(0.426)	(0.364)	(0.328)	(0.336)	(0.509)	(0.560)	(0.442)	(0.372)	(0.379)
Non-exec. ownership	2.160^{c}	2.991^{b}	2.812^{b}	2.127^{b}	2.270^{b}	-0.302	-0.226	0.531	0.105	0.067
	(1.303)	(1.380)	(1.104)	(0.956)	(1.009)	(1.662)	(1.721)	(1.346)	(1.241)	(1.238)
Inst. ownership	-0.636	-0.467	-0.432	-0.564^{c}	-0.535	-0.967^{c}	-0.867^{c}	-1.005^{b}	-1.011^{b}	-0.970^{b}
	(0.414)	(0.410)	(0.324)	(0.342)	(0.346)	(0.502)	(0.510)	(0.398)	(0.419)	(0.418)
Inst. ownership change	2.700	2.310	2.064^{c}	2.445^{b}	2.498^{b}	-1.320	-1.260	-0.185	0.346	0.439
	(1.859)	(1.817)	(1.236)	(1.064)	(1.081)	(1.993)	(2.027)	(1.390)	(1.230)	(1.271)
Total assets	0.030	0.137	0.108	0.035	0.011	-0.092	-0.076	-0.045	-0.111	-0.123
	(0.077)	(0.097)	(0.081)	(0.067)	(0.068)	(0.098)	(0.119)	(0.094)	(0.082)	(0.082)
# observations	642	625	782	819	819	557	540	692	736	736
χ^2	58.97^{a}	51.84^{a}	59.12^{a}	61.95^{a}	67.44^{a}	75.02^{a}	64.31^{a}	76.73^{a}	89.29^{a}	89.81^{a}

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Positive non-executive ownership					Zero non-executive ownership				
	Panel B: Positive CEO ownership									
Constant	-15.333^{a}	-1.097	-3.104^{b}	-0.859^{b}	-1.141	-4.416^{b}	-3.810^{a}	-5.248	-4.204^{a}	-3.320^{b}
	(1.039)	(1.653)	(1.238)	(0.372)	(1.664)	(1.895)	(1.462)	(3.216)	(1.513)	(1.479)
Past raw return	0.314^{b}		0.314^{b}			-0.175		-0.263		
	(0.160)		(0.159)			(0.451)		(0.422)		
EBITDA		-0.574	-0.157	0.207	-0.609		-1.119	-2.482	0.391	-0.764
		(0.616)	(0.778)	(0.740)	(0.618)		(1.347)	(1.813)	(1.425)	(1.423)
Long-run value/book			2.308^{b}					0.705		
			(1.173)					(3.879)		
R&D ratio				2.457^{b}					3.945	
				(1.138)					(2.444)	
Asset tangibility					0.204					-2.737^{b}
					(0.574)					(1.292)
Abnormal net leverage	1.057^{b}	1.074^{a}	0.999^{b}	1.069^{a}	1.092^{a}	2.984^{a}	2.264^{a}	2.757^{a}	2.492^{a}	2.129^{a}
	(0.434)	(0.358)	(0.470)	(0.345)	(0.360)	(0.886)	(0.781)	(1.007)	(0.812)	(0.787)
Inst. ownership	-0.874^{b}	-0.735^{b}	-0.881^{b}	-0.704^{b}	-0.729^{b}	1.210	0.696	1.355	0.527	0.642
	(0.430)	(0.366)	(0.417)	(0.353)	(0.367)	(1.056)	(0.803)	(1.232)	(0.806)	(0.827)
Inst. ownership change	3.656^{c}	3.014^{a}	3.165^{c}	3.145^{a}	3.041^{a}	-3.439	-0.240	-2.963	0.014	-0.555
	(1.957)	(1.104)	(1.865)	(1.076)	(1.110)	(3.896)	(2.005)	(3.547)	(2.113)	(1.947)
Total assets	0.038	0.041	0.187^{c}	0.033	0.039	-0.290	-0.268	-0.181	-0.224	-0.245
	(0.083)	(0.073)	(0.102)	(0.071)	(0.073)	(0.268)	(0.189)	(0.264)	(0.192)	(0.196)
# observations	616	782	600	782	782	459	595	447	595	595
χ^2	401.9^{a}	68.40^{a}	48.88^{a}	51.69^{a}	68.40^{a}	45.53^{a}	33.60^{a}	59.68^{a}	33.04^{a}	50.77^{a}

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Positive non-executive ownership					Zero non-executive ownership				
	Panel C: Zero CEO ownership									
Constant	-12.026^{a}	-11.627^{a}	-11.262^{a}	-1.560^{c}	-1.030^{b}	-3.273^{b}	-2.401^{b}	-6.361^{c}	-2.399^{b}	-2.781^{b}
	(1.125)	(0.998)	(1.838)	(0.845)	(0.513)	(1.349)	(1.118)	(3.400)	(1.129)	(1.156)
Past raw return	-0.612^{b}		-0.503^{c}			-1.203^{b}		-0.865^{b}		
	(0.302)		(0.298)			(0.473)		(0.436)		
EBITDA		-2.460^{a}	-2.878^{a}	-2.059^{b}	-2.152^{a}		-1.886^{b}	-1.688	-1.893^{b}	-2.147^{b}
		(0.770)	(1.049)	(0.868)	(0.677)		(0.858)	(1.571)	(0.958)	(0.867)
Long-run value/book			-1.982					4.095		
			(1.437)					(3.330)		
R&D ratio				1.246					-0.022	
				(1.433)					(1.793)	
Asset tangibility					1.174^{c}					1.611^{c}
					(0.646)					(0.832)
Abnormal net leverage	0.551	0.741^{c}	0.249	0.768^{c}	1.005^{b}	1.299	0.919^{c}	1.204	0.918^{c}	1.076^{c}
	(0.621)	(0.449)	(0.609)	(0.452)	(0.472)	(0.869)	(0.540)	(0.955)	(0.547)	(0.552)
Inst. ownership	-0.629	-0.726	-1.071^{c}	-0.752	-1.013^{b}	-1.324^{c}	-1.200^{c}	-0.855	-1.199^{c}	-1.179^{c}
	(0.595)	(0.498)	(0.600)	(0.500)	(0.462)	(0.739)	(0.687)	(0.806)	(0.686)	(0.676)
Inst. ownership change	0.780	2.642^{c}	3.053	2.615^{c}	2.819^{c}	-5.216^{b}	-1.209	-4.935^{b}	-1.209	-1.004
	(2.498)	(1.445)	(2.712)	(1.422)	(1.445)	(2.249)	(1.385)	(2.275)	(1.389)	(1.447)
Total assets	-0.202^{c}	-0.158^{c}	-0.151	-0.150	-0.092	-0.067	-0.062	0.142	-0.063	-0.077
	(0.109)	(0.094)	(0.137)	(0.093)	(0.087)	(0.139)	(0.130)	(0.202)	(0.130)	(0.125)
# observations	509	663	494	663	663	481	631	468	631	631
χ^2	176.2^{a}	314.2^{a}	195.5^{a}	64.18^{a}	54.72^{a}	58.75^{a}	61.02^{a}	51.37^{a}	61.37^{a}	62.95^{a}

Table 5: Analysis of factors influencing the likelihood of target deal initiation: equity grants and golden parachutes.

This table reports estimation results for logistic models with the dependent variable equal to 1 for all target-initiated and 0 for bidder-initiated deals. The data set covers 487 target-initiated and 611 bidder-initiated deals. We report Hubert/White robust standard errors in brackets. Based on Powers (2005), for several variables of interest, we also report their average or conditional marginal effects on target-initiation probability at the bottom of the table. In Column 5, we partition 'equity grants' into 'EG before initiation', 'EG after initiation' and 'EG after public announcement' and find that only the coefficient for 'EG after initiation' is significant. To preserve space, Column 5 reports 'EG after initiation' under the label of 'Equity grants' and does not report the other two EG coefficients. All variables are defined in Appendix A and are winsorized at the 1^{st} and 99^{th} percentiles, except for all dummy variables. Both year and industry dummies are included in the regressions but are not reported. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent levels.

	(1)	(2)	(3)	(4)	(5)
Constant	-0.882^{c}	-1.019^{b}	-1.198^{b}	-1.320^{a}	-1.370^{a}
	(0.460)	(0.461)	(0.485)	(0.483)	(0.486)
CEO ownership	0.299^{b}	0.613^{a}	0.248^{c}	0.532^{b}	0.527^{b}
	(0.141)	(0.214)	(0.143)	(0.238)	(0.217)
Golden parachutes	0.097	0.392^{c}	0.110	0.399^{c}	0.364^{c}
	(0.141)	(0.205)	(0.141)	(0.220)	(0.206)
Golden parachutes x CEO ownership		-0.543^{b}		-0.552^{b}	-0.519^{c}
		(0.276)		(0.279)	(0.278)
Equity grants			8.900^{a}	7.453	35.151^{a}
			(3.105)	(4.608)	(11.506)
Equity grants x CEO ownership				2.386	
				(6.298)	
Equity grants x golden parachutes				0.559	
				(6.400)	
Non-exec. ownership	0.937	0.868	0.804	0.736	0.606
	(0.897)	(0.902)	(0.885)	(0.886)	(0.886)
Institutional ownership	-0.859^{a}	-0.850^{a}	-0.804^{a}	-0.787^{a}	-0.855^{a}
	(0.283)	(0.282)	(0.286)	(0.286)	(0.285)
Inst. ownership change	0.777	0.881	0.761	0.870	0.990
	(0.920)	(0.920)	(0.916)	(0.914)	(0.930)
Total assets	-0.081	-0.086	-0.062	-0.068	-0.062
	(0.055)	(0.056)	(0.056)	(0.056)	(0.057)
# observations	1,005	1,005	1,005	1,005	1,005
χ^2	81.55^{a}	82.43^{a}	87.34^{a}	87.25^{a}	84.67^{a}
Average marginal effect on target initiation probability					
CEO ownership	0.067^{b}	0.067^{b}	0.055^{c}	0.055^{c}	0.050
Golden parachutes	0.022	0.019	0.025	0.022	0.016
Equity grants			1.995^{a}	2.035^{a}	7.812^{a}
Conditional marginal effect on target initiation probability					
Golden parachutes | CEO ownership = 1		-0.034		-0.033	-0.035
Golden parachutes | CEO ownership = 0		0.086^{c}		0.090^{b}	0.080^{c}
Difference		-0.121^{b}		-0.122^{b}	-0.114^{c}
Equity grants | CEO ownership = 1				2.284^{b}	
Equity grants | CEO ownership = 0				1.722	
Difference				0.562	
Equity grants | Golden parachutes = 1				2.100^{c}	
Equity grants | Golden parachutes = 0				1.945^{b}	
Difference				0.155	

Table 6: Analysis of factors influencing the likelihood of target deal initiation: active CEO participation.

This table reports estimation results for logistic models with the dependent variable equal 1 for all target-initiated deals and 0 for bidder-initiated deals. The data covers 487 target-initiated and 611 bidder-initiated deals. We report Hubert/White robust standard errors in brackets. Based on Powers (2005), for several variables of interest, we also report their average or conditional marginal effects on target-initiation probability at the bottom of the table. All variables are defined in Appendix A and are winsorized at the 1^{st} and 99^{th} percentiles, except for all dummy variables. Both year and industry dummies are included in the regressions but are not reported. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent levels.

	(1)	(2)	(3)	(4)	(5)	(6)
	Auction	Inf.sale	Auction	Inf.sale	Auction	Inf.sale
Constant	-1.712^{b}	-1.336^{b}	-1.840^{b}	-0.838	-1.805^{c}	-1.070^{c}
	(0.868)	(0.594)	(0.887)	(0.561)	(0.929)	(0.587)
CEO ownership	-0.204	0.837^{a}	-0.095	0.721^{b}	0.116	0.709^{b}
	(0.424)	(0.281)	(0.472)	(0.307)	(0.488)	(0.326)
Golden parachutes	0.169	0.550^{b}	0.246	0.464^{c}	0.238	0.499^{c}
	(0.425)	(0.264)	(0.441)	(0.278)	(0.462)	(0.283)
GP x CEO ownership	-0.452	-0.654^{c}	-0.396	-0.716^{b}	-0.498	-0.758^{b}
	(0.554)	(0.361)	(0.566)	(0.363)	(0.575)	(0.373)
Equity grants			24.045^{c}	0.557		
			(13.915)	(8.060)		
EG x CEO ownership			-12.860	9.570		
			(13.382)	(9.258)		
EG x GP			-6.585	3.359		
			(11.003)	(9.108)		
EG b.initiation					26.051	4.388
					(25.425)	(10.801)
EG a.initiation					22.680	42.142
					(34.961)	(31.211)
EG a.public ann.					366.319^{a}	-176.611
					(140.930)	(113.825)
EG b.ini. x CEO ow.					-24.645	3.888
					(20.655)	(13.601)
EG a.ini. x CEO ow.					-2.752	-15.530
					(35.214)	(36.611)
EG a.pub.ann. x CEO ow.					-417.674^{a}	219.684^{c}
					(144.530)	(125.732)
EG b.ini. x GP					-6.840	-6.126
					(20.366)	(13.483)
EG a.ini. x GP					-3.987	24.432
					(32.167)	(32.409)
EG a.pub.ann. x GP					86.832	34.773
					(93.550)	(88.576)
Non-exec. ownership	2.509	0.524	2.406	0.363	2.412	0.198
	(2.127)	(1.073)	(2.227)	(1.033)	(2.165)	(1.056)
Institutional ownership	-1.521^{b}	-0.816^{b}	-1.457^{b}	-0.802^{b}	-1.502^{b}	-0.860^{b}
	(0.573)	(0.385)	(0.586)	(0.388)	(0.583)	(0.396)
Inst. ownership change	1.958	0.644	1.986	0.613	2.031	0.964
	(1.810)	(1.128)	(1.847)	(1.097)	(1.875)	(1.156)
Total assets	0.248^{b}	-0.090	0.286^{b}	-0.075	0.277^{b}	-0.055
	(0.122)	(0.072)	(0.126)	(0.073)	(0.129)	(0.075)
# observations	331	674	331	674	331	674
χ^2	38.59^{c}	73.96^{a}	40.96^{c}	72.02^{a}	46.55^{c}	76.61^{a}

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	(1)	(2)	(3)	(4)	(5)	(6)
	Auction	Inf.sale	Auction	Inf.sale	Auction	Inf.sale
	Average marginal effect on target initiation probability					
CEO ownership	-0.090^{c}	0.089^{b}	-0.099^{b}	0.087^{b}	-0.098^{b}	0.071^{c}
Golden parachutes	-0.020	0.035	-0.019	0.021	-0.020	0.020
Equity grants			2.286^{b}	1.544^{c}		
Equity grants b.initiation					1.265	0.581
Equity grants a.initiation					3.472	9.065^{a}
Equity grants a.pub.ann.					30.514^{b}	-5.911
	Conditional marginal effect on target initiation probability					
GP | CEO ow.= 1	-0.056	-0.022	-0.053	-0.042	-0.057	-0.043
GP | CEO ow.= 0	0.030	0.098^{b}	0.026	0.093^{c}	0.028	0.095^{b}
Difference	-0.086	-0.120^{c}	-0.079	-0.135^{c}	-0.086	-0.139^{c}
EG | CEO ow.= 1			1.412	2.466^{b}		
EG | CEO ow.= 0			3.398^{c}	0.477		
Difference			-1.986	1.989		
EG | GP = 1			1.795	1.820		
EG | GP = 0			3.023^{c}	1.197		
Difference			-1.228	0.623		
EG b.ini. | CEO ow.= 1					-0.547	0.989
EG b.ini. | CEO ow.= 0					3.649	0.120
Difference					-4.196	0.869
EG a.ini. | CEO ow.= 1					3.450	8.162^{b}
EG a.ini. | CEO ow.= 0					3.370	10.265^{c}
Difference					0.080	-2.104
EG a.pub.ann. | CEO ow.= 1					0.333	12.671
EG a.pub.ann. | CEO ow.= 0					69.202^{a}	-28.013
Difference					-68.869^{a}	40.684^{c}
EG b.ini. | GP = 1					0.721	0.076
EG b.ini. | GP = 0					2.079	1.268
Difference					-1.358	-1.192
EG a.ini. | GP = 1					3.194	11.326^{b}
EG a.ini. | GP = 0					3.877	6.175
Difference					-0.683	5.152
EG a.pub.ann. | GP = 1					36.220^{b}	-4.235
EG a.pub.ann. | GP = 0					21.369^{c}	-8.334
Difference					14.851	4.099

Table 7: CEO motivation in target-initiated deals and takeover premium.

This table reports OLS estimation results with takeover premium, defined as the final offer price relative to the stock price 8 weeks before the deal public announcement, as the dependent variable. The data set covers 487 target-initiated and 611 bidder-initiated deals. Hubert/White robust standard errors are reported in brackets. All variables are defined in Appendix A and are winsorized at the 1^{st} and 99^{th} percentiles, except for all dummy variables. Both year and industry dummies are included in the regressions but are not reported. ^{a}, ^{b} and ^{c} indicate significance at the one-, five- and ten-percent levels.

	(1) All obs.	(2) Auction	(3) Inf.sale	(4) All obs.	(5) Auction	(6) Inf.sale	(7) All obs.	(8) Auction	(9) Inf.sale
Constant	0.437^{c}	0.325	0.278	0.440^{b}	0.393	0.318	0.421^{c}	0.378	0.301
	(0.226)	(0.296)	(0.265)	(0.224)	(0.301)	(0.267)	(0.222)	(0.310)	(0.214)
Target-initiated deal	-0.220^{b}	-0.176	-0.239^{c}	-0.111^{b}	-0.035	-0.140^{b}	-0.136^{a}	-0.082	-0.147^{b}
	(0.088)	(0.172)	(0.124)	(0.044)	(0.081)	(0.070)	(0.047)	(0.089)	(0.072)
CEO ownership	-0.073^{c}	-0.167	-0.040	0.030	-0.003	0.034	0.026	-0.008	0.033
	(0.040)	(0.122)	(0.042)	(0.038)	(0.073)	(0.042)	(0.037)	(0.072)	(0.044)
CEO ownership x target-initiated	0.227^{a}	0.202	0.285^{b}						
	(0.080)	(0.152)	(0.110)						
CEO job retained	-0.021	-0.028	-0.002	0.021	0.057	0.017	0.010	0.047	-0.004
	(0.059)	(0.120)	(0.067)	(0.049)	(0.093)	(0.060)	(0.048)	(0.097)	(0.057)
CEO job retained x target-initiated	0.062	0.103	0.058						
	(0.090)	(0.148)	(0.122)						
Golden parachutes	0.090^{b}	0.155	0.062						
	(0.041)	(0.113)	(0.045)						
GP x target-initiated	-0.041	-0.071	-0.030						
	(0.075)	(0.140)	(0.111)						
Equity grants				-1.326	-1.237	-1.007			
				(0.910)	(2.244)	(0.980)			
EG x target-initiated				1.298	-2.078	5.302^{b}			
				(1.712)	(2.935)	(2.338)			
EG before initiation							-2.383	-3.817	-1.619
							(1.475)	(3.558)	(1.726)
EG after initiation							-0.688	-1.661	3.471
							(4.137)	(7.630)	(4.318)
EG after public announcement							0.513	3.727	-4.419
							(6.931)	(9.104)	(9.556)

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	(1) All obs.	(2) Auction	(3) Inf.sale	(4) All obs.	(5) Auction	(6) Inf.sale	(7) All obs.	(8) Auction	(9) Inf.sale
EG b.initiation x tar-initiated							5.045	1.494	7.566^{c}
							(3.167)	(5.408)	(3.949)
EG a.initiation x tar-initiated							3.289	-0.879	5.568
							(5.231)	(8.725)	(6.981)
EG a.pub.ann. x tar-initiated							-19.440	-14.247	-21.807
							(17.354)	(15.512)	(27.552)
Private equity acquirer	-0.057	0.041	-0.145^{b}	-0.067	0.048	-0.158^{b}	-0.065	0.041	-0.159^{a}
	(0.046)	(0.074)	(0.062)	(0.046)	(0.071)	(0.062)	(0.046)	(0.075)	(0.061)
Cash offer	0.041	0.008	0.090^{c}	0.041	0.008	0.092^{c}	0.045	-0.0004	0.094^{c}
	(0.045)	(0.103)	(0.049)	(0.045)	(0.107)	(0.047)	(0.045)	(0.111)	(0.048)
EBITDA	-0.350^{b}	-0.081	-0.434^{a}	-0.353^{b}	-0.147	-0.440^{a}	-0.348^{b}	-0.139	-0.435^{a}
	(0.139)	(0.336)	(0.134)	(0.139)	(0.320)	(0.137)	(0.140)	(0.331)	(0.132)
Firm-specific error	-0.033	-0.032	-0.065^{b}	-0.029	-0.013	-0.056^{c}	-0.027	-0.021	-0.047
	(0.031)	(0.083)	(0.030)	(0.031)	(0.077)	(0.031)	(0.031)	(0.081)	(0.030)
Sector error	0.243	0.162	0.280	0.231	0.196	0.256	0.232	0.155	0.291
	(0.174)	(0.417)	(0.180)	(0.177)	(0.413)	(0.187)	(0.177)	(0.421)	(0.185)
Long-run value/book	-0.075	0.059	0.088	-0.060	0.092	0.017	-0.043	0.128	0.020
	(0.238)	(0.359)	(0.278)	(0.234)	(0.351)	(0.269)	(0.232)	(0.359)	(0.170)
Industry concentration	-0.071	0.078	-0.211	-0.078	0.068	-0.217	-0.082	0.059	-0.175
	(0.102)	(0.108)	(0.164)	(0.101)	(0.102)	(0.167)	(0.102)	(0.105)	(0.168)
Industry similarity	-0.039^{c}	0.0002	-0.064^{b}	-0.043^{c}	-0.001	-0.072^{a}	-0.042^{c}	0.0003	-0.070^{a}
	(0.022)	(0.019)	(0.027)	(0.022)	(0.018)	(0.027)	(0.022)	(0.018)	(0.026)
Acquirer	-0.056	-0.147	-0.015	-0.066	-0.161	-0.043	-0.068	-0.157	-0.069
	(0.059)	(0.163)	(0.056)	(0.060)	(0.174)	(0.053)	(0.060)	(0.178)	(0.052)
Total assets	0.013	0.004	0.025	0.013	-0.0002	0.023	0.016	0.002	0.025
	(0.019)	(0.027)	(0.023)	(0.019)	(0.026)	(0.023)	(0.019)	(0.027)	(0.018)
# observations	834	278	556	834	278	556	834	278	556
F	3.104^{a}	1.543^{b}	3.006^{b}	3.198^{a}	1.946^{a}	3.008^{a}	3.097^{a}	1.655^{b}	2.859^{a}
R^2	0.140	0.106	0.194	0.127	0.101	0.187	0.133	0.095	0.182