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# Bidder Contests in International Mergers and Acquisitions: The Impact of Toeholds, Preemptive Bidding, and Termination Fees

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# Bidder Contests in International Mergers and Acquisitions:

## The Impact of Toeholds, Preemptive Bidding, and Termination Fees

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**Abstract**

We study for a sample of international mergers and acquisitions the effectiveness of three takeover bidding strategies first in preventing bidder contests and second, if a contest has occurred, in increasing the probability of a successful offer. Our results indicate that support for the preemptive bidding hypothesis (signaling with a high cash offer) is limited to bidder contests, where a higher percentage of cash payment increases the likelihood of bidder success. However, evidence that a high initial offer preempts competition is confined to the civil law countries. We find strong evidence for the toehold and termination fee hypotheses, especially after controlling for bidder heterogeneity in bidder contests. Nevertheless, the effect of termination fee provision on deterring competition and on offer success varies across time and countries, while we observe no variation with respect to toeholds. Moreover, we find that latent (but unobservable) competition from financial and foreign buyers is generally not sufficient to curb the influence of actual bidder competition on offer success as well as on target and bidder wealth. We also analyze the impact of acquisition experience and of the expertise offered by reputable financial advisors, and find that serial acquirers are more likely to avoid bidder contests and both, experienced acquirers and bidders employing a reputable advisors, complete a larger proportion of deals. Overall, our results offer new and complementary evidence on the role of strategic bidding in international mergers and acquisitions.

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## 1. INTRODUCTION

One of the most widely recognized empirical facts about mergers and acquisitions is that the expected synergy gains seem to accrue largely to target shareholders and that acquirers of publicly listed targets only break even on average. This has been attributed, among others, to the high competitiveness of the market for corporate control. However, there are also explanations for irrational overbidding in corporate takeovers. Roll (1986) proposes the hubris hypothesis for explaining why acquirers of listed targets tend to bid more aggressively and offer larger takeover premiums. His argument is that when the managers of bidding firms are infected by hubris they may not properly account for the winner's curse and irrationally overbid for acquiring the target company.[1] Respectively, Malmendier and Tate (2008) and Billett and Qian (2008) provide evidence that CEO overconfidence can explain value-destroying acquisitions in which acquirers pay too much. Although a number of recent studies suggest that through repetitive acquisitions CEOs can learn from experience and develop performance persistence, self-interested or inexperienced managers may overpay for acquisitions (Jaffe, Pedersen and Voetmann, 2013; Aktas, de Bodt and Roll, 2013; 2011; 2009).

Both the hubris hypothesis and the competitive market hypothesis for corporate takeovers suggest that competition increases takeover premiums, although only the hubris hypotheses predicts a negative relation between bidder returns and the number of competing bidders. A problem with testing these hypotheses is that competition is inherently difficult to measure. Among the earlier papers, Bradley, Desai and Kim (1988) report a negative correlation between bidder returns and the presence of multiple bidders, and Schwert (1996; 2000) shows that observable bidder competition increases target returns and takeover premiums. These studies focus on the post-bid competition that is observed after the initial bidder has started a takeover contest for the target. However, Moeller, Schlingemann and Stulz (2004) argue that latent but unobservable competition is generally a better proxy for competition because in an active market for corporate control, prospective bidders may increase the offer premium to preempt competition and no actual bidder competition may be observed ex post. They report a negative relation between bidder returns and their measure for industry liquidity, which is based on the value of all corporate control deals scaled by the book value of all assets in that industry. Along the same lines, Alexandridis, Petmezas and Travlos (2010) develop an international proxy for competition that is based on the percentage of listed firms acquired in a country and find that acquirers beyond the most competitive markets - in their analysis, the

[1] The concept of winner's curse is based on the notion that when each bidder receives private and noisy signals about the true, common value of the target, the bidder with the highest valuation error will win the auction.

U.S., U.K. and Canada - pay lower premiums and realize gains on average.[2] The major issue with competition is that while offering a large initial premium may be sufficient to prevent competition, the bidder risks overpayment and wealth losses. On the other hand, if losing the target to a rival is costly because it places the losing bidder at a competitive disadvantage, the bidder may overpay rationally, and winning can be better than losing (Akdoğu, 2011; 2009).

We examine two research questions that are related to the role of strategic bidding in the takeover bidding process:

(a) How can bidders prevent competition?

(b) How do bidders increase their probability of success?

Because bidder contests can be costly and entail the risk of failure to acquire the target, designing the initial offer in a way that preserves the first-mover advantage is a strategically and financially important challenge. After the target is "in play", investigation costs are generally lower, toeholds have to be acquired at a higher price, and the target may decline negotiations that could lead to the provision of termination fees or other deal protection devices in favor of competitive bidding. Thus, Eckbo (2009, p.150) notes that "[t]o the extent that strategic bidding behavior exists, it is more likely to be evident in the first offer". If the initial offer fails to preempt competition, various bidding strategies may have an effect on which bidder/offer is successful. For example, the signaling models of Fishman (1989) and Berkovitch and Narayanan (1990) suggest that raising the cash premium of an offer can signal a higher valuation of the target compared to a risky securities offer. Also, sufficiently large differences in toeholds or other forms of bidder heterogeneity, including superior access to information about the target, may influence the auction outcome. Dasgupta and Tsui (2003) and Povel and Singh (2006) show that even small bidder asymmetries can have a large impact on bidding behavior, and the better positioned bidder may have the advantage of acquiring the target cheaply. Importantly, toeholds and termination fees also alter the payoff for the losing bidder in case a rival bidder wins, given that the loser would still receive a positive payoff from selling his toehold or in the form of the breakup fee. We concentrate on three takeover bidding strategies that have the potential to affect the risk of post-bid competition and the

[2] An alternative approach is to examine the level of private competition before the public announcement of a takeover offer. Fidrmuc, Roosenboom, Paap and Teunissen (2012), Aktas, de Bodt and Roll (2010), Boone and Mulherin (2008; 2007b; 2007a), among others, examine the private takeover process and report that the market for corporate control is more competitive than what can be inferred from the public takeover bidding process. However, a caveat is that information on the private takeover process for the U.S. is collected from SEC filings, while no such data source exists for the international takeover market.

likelihood of offer success: (1) toeholds, (2) preemptive bidding with a high cash offer, and (3) termination fees.

For an international sample of 15,626 takeover contests in 42 countries, we provide evidence on the effectiveness of toeholds and termination fees in reducing the risk that an offer attracts competition, and, if a contest occurs, increasing the likelihood that it is successful. In line with prior evidence for the U.S., we find no direct evidence for the proposition that initial offers are high enough, on average, to preempt competition. However, for the subsample of 713 bidder contests, we observe that a higher cash component increases the probability of winning, consistent with the preemptive bidding hypothesis. Further, we show that the evidence in favor of the toehold and termination fee hypotheses becomes stronger after controlling for bidder heterogeneity in contested deals. We model bidder asymmetries as the difference between competing bidders with respect to a broad set of bidder and deal characteristics, including the fraction of cash payment, toeholds, and termination fee size. This provides novel evidence on the relevance of various sources of bidder asymmetries for auction outcomes.

We contribute to the literature in multiple ways. First, we provide evidence on the effectiveness of toeholds and termination fees in the international market for corporate control. Our results suggest that toehold bidding is a widely used strategy in many parts of the world, while termination fees are predominantly associated with common law countries, especially the U.S. This suggests that termination fee provision does not seem to be an impediment to toehold acquisition in the rest of the world, and there must be other reasons for the surprisingly low prevalence of toeholds (Betton, Eckbo and Thorburn, 2009). Second, our evidence complements the findings of Alexandridis, Petmezas and Travlos (2010) that bidders beyond the most competitive takeover markets pay lower premiums and realize gains on average. We show that direct evidence for the preemptive bidding hypothesis that high initial offers preempt competition is confined to civil law countries, where the market for corporate control is generally less active. Third, we examine the various dimensions of competition in international takeover contests, including actual and latent competition from foreign and financial buyers. We document that the effect of latent competition on offer success as well as on target and bidder wealth is generally not sufficient to curb the influence of post-bid competition. This indicates that bidder contests are costly, and not subsumed by latent (but unobservable) competition in the rest of the world. Fourth, we investigate the role of acquisition experience and expertise in M&A deal-making. Our results indicate that serial acquirers are able to avoid competition more often than single bidders, and that they complete a larger proportion of their

deals. This suggests that learning through repetitive acquisitions may have an effect on the takeover bidding process that is hitherto unexplored in the literature. In contrast, while reputable financial advisors generally help to facilitate deal completion they do not reduce the risk of competition.

The structure of the paper is organized as follows. In the next section, we develop the hypotheses based on a review of the literature. In section 3, we describe the sample, the methodology, and the variables used in our empirical analyses. The empirical results for competition likelihood and the probability of success are presented and discussed in section 4. We complement these findings with an analysis of wealth effects in section 5, and provide various robustness checks in section 6. Finally, section 7 concludes.

## 2. HYPOTHESES DEVELOPMENT

Because competition for a takeover target may be costly for bidders, preventing bidder contests in the first place should be a strategic priority in the M&A decision-making process. If the initial offer fails to preempt competition, it is of major importance which strategies help to succeed. At the same time prospective bidders have to take into account the winner's curse and the possibility that the target management rejects the offer when deciding how to approach the target and in designing the initial offer. Several factors have been proposed in the literature as determinants of the likelihood that a takeover offer develops into a bidder contest (post-bid competition) and that it is successful (bid success).[3] We concentrate on the three most important takeover bidding strategies: (1) toeholds, (2) preemptive bidding with a high cash offer, and (3) termination fees. In this section we discuss the literature and derive our hypotheses with respect to how these three strategies affect the propensity of post-bid competition (hypotheses *H1a*, *H2a*, and *H3a*) and how they influence the likelihood of a successful offer (hypotheses *H1b*, *H2b*, and *H3b*).

### 2.1. Toeholds

Prior to their public takeover announcement, some bidders acquire an ownership stake in the target (a toehold) as part of their bidding strategy. Toehold bidding is commonly seen as an aggressive bidding strategy because it allows the toehold bidder to bid above its private

[3] Although a related question, we do not examine the target management rejection decision because this is more likely a governance issue, and we focus on takeover contests that are ultimately successful. Nevertheless, we control for target management rejection by including a dummy for takeover offers that are unsolicited or hostile.

valuation of the target conditional on winning. This is because the offer premium does not have to be paid for the fraction of target shares that the bidder already owns. Further, when a rival bidder wins the takeover contest, the toehold bidder can make a profit when selling his stake in the target to the winning bidder. When the potential for value improvements in the target does not only depend on private synergies (a common value component), the toehold bidder's incentive to overbid increases the winner's curse for any non-toehold bidder, prompting them to bid more conservatively. As a consequence, bidders with toeholds are more likely to win. They may get away with acquiring the target at a lower price than in a full scale auction. And if the initial bidder has a sufficiently large toehold it may prevent competition. Because the target's share price will increase at the announcement of the initial offer, competing bidders generally cannot acquire a toehold at a comparable price, giving the initial bidder a first-mover advantage.

Burkart (1995) and Singh (1998) analyze toehold bidding in the context of a private-value setting, where bidders have private synergies with the target. They show that because of the incentive to overbid a toehold bidder may actually win a takeover contest even if he has a lower valuation of the target. Bulow, Huang and Klemperer (1999) document that in a common-value setting even a small difference in toeholds is sufficient to increase the probability of winning, and if only one bidder has a substantial toehold he may get away with paying a lower price. They argue that for the target to extract a higher selling price, it should "level the playing field" by giving the rival bidder the opportunity to acquire a toehold cheaply. Consistent with these conjectures Betton and Eckbo (2000) report that toeholds are largest for successful single bidders. And when a rival bidder enters into a contest with a toehold bidder the toehold is typically of similar size. In addition, toeholds can help to overcome the free-rider problem in the target company, according to which atomistic shareholders will not tender their shares if they do not receive close to the full share of expected synergies as the premium. This is because if the bidder acquires a toehold at a rumor-free, pre-bid price he can still make a profit on his toehold when paying the full share of expected synergies.

Despite the compelling case for acquiring a toehold, it is puzzling to observe that toehold bidding is quite rare and that is has markedly declined over time (see Betton, Eckbo and Thorburn, 2009). Several studies analyze the trade-offs in acquiring a toehold which could explain their absence in the vast majority of takeovers. Ravid and Spiegel (1999) analyze how a toehold purchase that creates rumors of a pending bid can result in pre-bid run-ups that increase the total takeover costs. Bris (2002) discusses how stock market liquidity can help bid-

ders to conceal their toehold acquisition and avoid rumors of a pending takeover which could make the takeover more costly. Goldman and Qian (2005) argue that target management rejection of a takeover offer can cause losses on the acquired stake, for example, if the target implements value reducing defensive strategies. Further, Betton, Eckbo and Thorburn (2009) develop a model where acquiring a toehold increases the likelihood that the target declines negotiations and the bidder incurs rejection costs such as the opportunity loss of a termination fee. Consequently, bidders may rationally abstain from acquiring a toehold. We investigate the following hypotheses:

H1a: Toeholds reduce the probability of post-bid competition.

H1b: Higher toeholds increase the probability to win the contest.

### 2.2. Preemptive Bidding (Signaling with a High Cash Offer)

In a competitive market for corporate control, the majority of the gains accrue to the target, and the bidder merely breaks even on average. How much of the expected synergies are offered to the target is largely the outcome of a bargaining process between the two parties. However, there is also a strategic dimension in choosing the initial offer price. Because a high offer premium increases the risk of overpayment but may also discourage rival bidders from entering the contest, and a low offer premium increases the risk of target management rejection as well as of attracting competing bids, the design of the initial offer can have a non-trivial effect on the takeover bidding process. Eckbo (2009, p.150) notes: "To the extent that strategic bidding behavior exists, it is more likely to be evident in the first offer". Preemptive bidding refers to a strategy of raising the initial offer price to a level that is likely to deter competition. If there were no signaling incentives or benefits from making a high initial offer, it would be rational to begin with a low offer and raise it subsequently if there is competition or target bargaining power.

The signaling models of Daniel and Hirshleifer (1998), Hirshleifer and Png (1989) and Fishman (1988) suggest that the presence of substantial entry or bidding costs provides an incentive for making a high initial offer. Entry costs may arise from the time and money spent on evaluating a potential takeover target before making a bid. Bidding costs include, among others, advisory fees, opportunity costs, as well as financing costs that arise from subsequent bids. In his model of the takeover bidding process, Fishman (1988) shows that when the costs to acquire information about the target are sufficiently high, the first bidder can make a high initial offer to signal a high valuation of the target, and preempt competing bidders. Further,

Liu (2012) argues that signaling incentives could also arise from the bidder's financing needs and managerial concerns such as selling insider shares immediately after the takeover. In his review of the literature, Eckbo (2009) argues that testing preemptive bidding directly is difficult because it is not possible to observe offers that did not materialize. Nevertheless, he concludes that the evidence on significant bid jumps and rapid rival entry in bidder contests is consistent with the presence of bidding costs but rather low investigation costs; requiring a relatively high initial offer to preempt competition. The signaling incentive for offering a high premium also extends to the method of payment choice. Fishman (1989) shows that an all-cash offer may signal a high valuation of the target and preempt competition in the presence of substantial investigation costs. In contrast, the value of a securities offer depends on the synergistic gains from the takeover, and may be used by low value bidders to reduce the risk of overpayment. In the model of Berkovitch and Narayanan (1990) the cash component of the offer and the fraction of cash payment increase with the actual and latent competition for the target, up to the point where all but the lowest value bidders make an all-cash payment. Overall, this suggests that the fraction of cash payment increases with the valuation of the target, and all-cash bidders are more likely to bid successfully. We analyze the following hypotheses:

*H2a: High initial offers reduce the probability of post-bid competition.*

*H2b: A higher fraction of cash payment increases the probability to win the contest.*

### 2.3. Termination Fees

Termination fee provisions are a typical deal protection device in merger agreements that specify how the parties are to be compensated if the proposed merger is not completed.[4] In its most common form - the target termination fee - the bidder is entitled to a breakup fee in case the target shareholders do not approve the transaction, regulatory approval is not granted, or another bidder acquires the target. Bidder termination fee provisions where the target receives compensation from the bidder in the event that the bidder terminates the agreement are less frequent or controversial. Therefore, we focus on target termination fees in the following. The possibility that a target termination provision may not be in shareholders' interest has sparked an intense debate about the role and consequences of termination provisions in the takeover process. To the extent that termination fees are used to deter competition or to pro-

[4] Other commonly employed deal protection devices include lockup options that provide the bidder with a right to acquire a certain number of shares or assets of the target at a specific price, no-shop provisions where the target agrees not to solicit other bidders to make a superior offer, go-shop provisions where the target is explicitly allowed to solicit other bidders over a limited period of time, and shareholder voting agreements in which a shareholder in the target company commits to vote in favor of a specific bidder (see Jeon and Ligon, 2011).

tect a favored deal, allowing an entrenched management to exclusively negotiate with a specific bidder in exchange for job security or a severance package, target shareholders could be worse off from the forgone benefits of competitive bidding. However, it is also possible that termination fees encourage participation in the takeover process and that they actually increase competition. This is because the information costs associated with takeover bidding and the potential free-riding by rival bidders may reduce the incentives of prospective bidders to reveal valuable private information with an offer or even to make an offer in the first place. Moreover, target termination provisions may credibly signal the target's commitment to the deal. According to this view, termination fees provide the bidder with a compensation for the time and money spend on evaluating and negotiating with the target, and target shareholders are better off.

The evidence in Officer (2003) and Bates and Lemmon (2003) is largely consistent with the information/commitment explanation. They document that the average premium and deal completion rate are higher in merger deals that include a termination fee. Based on a comprehensive analysis of termination fee provisions on the private and public takeover process, Boone and Mulherin (2007a) report that terminations fees are actually positively associated with their broader competition measures including private, pre-bid competition. In contrast, Officer (2003) provides weak evidence on a deterrent role of target termination fees. Further, Jeon and Ligon (2011) find that larger termination fees reduce post-bid competition although small and moderate fees do not, and that the probability of offer success increases with termination fee size. Overall, these studies indicate that termination fees can either have an efficient contracting or a deterrent role in the takeover process, and that they can influence the likelihood that an initial offer develops into a bidder contest and whether the offer is successful. We examine the following hypotheses:

*H3a: Termination fees reduce the probability of post-bid competition.*

*H3b: Higher termination fees increase the probability to win the contest.*

## 3. DATA AND METHODOLOGY

In this section, we describe the sample of competed and uncontested takeovers (3.1), and the methodology applied to analyze (i) why bids develop into competition, (ii) when they

are successful, and (iii) how competitive bidding affects the wealth of bidders and targets (3.2). Then, we specify the set of variables used to examine these questions (3.3).

### 3.1. Sample Description

Our sample is based on all successful and unsuccessful takeovers recorded in the Thomson One global mergers & acquisitions database for the period from 1990 to 2012. We group all transactions into unique takeover contests using the following criteria: (1) the bidder owns less than 50 percent of the target's shares before the transaction and intends to hold more than 50 percent upon completion of the transaction; (2) when more than 1 bidder attempts to acquire the target, we include all bids announced within 12 months after the previous bid into the takeover contest; (3) when more than 2 bidders are recorded for the target we include all bids until the effective date of the successful bid into the takeover contest; (4) the target is ultimately acquired, meaning the winning bidder holds more than 50 percent upon completion of the transaction following the approach by Dittmar, Li and Nain (2012). The initial sample consists of 713 successful takeover contests. We further require that the target is publicly listed, and that the bidder is a corporate or financial buyer, excluding privatizations and joint ventures. In accordance with Fidrmuc, Roosenboom, Paap and Teunissen (2012) we identify financial buyers through one of the following flags in the Thomson One database: (1) the "acquirer is a leveraged buyout firm" flag, (2) the "acquirer is a financial sponsor" flag, and (3) the "acquirer is an investor group" flag. Whenever one of these flags returns "yes" we classify the respective bidder as a financial (private equity) buyer. The remaining bidders constitute corporate (strategic) buyers. Imposing these additional restrictions leaves 15,626 successful listed target acquisitions.

We further truncate our sample based on whether more than one bidder competes for the target. In this case we include the target and all of the respective bidders in the "competition" subsample. If no competing bidder could be identified and the target is successfully acquired we include both the target and the bidder in the "single bidder" subsample. We denote all successful bidders in the competition subsample as "competition winners" and all competition bidders that are not successful in acquiring the target as "competition losers". Our final sample consists of 1,324 competition bidders for 713 unique targets and a control sample of 14,913 single bidders and targets. About 60 percent of the bidders are publicly listed corporate buyers. For 5,897 bidders we also have stock returns to calculate their respective wealth effects. The remaining firms are split fairly evenly among unlisted corporate buyers and financial buyers. For 85 percent of the competition deals we observe two bidders, and another

12 percent include three distinct bidders (untabulated). In comparison, Alexandridis, Petmezas and Travlos (2010) compute the yearly country-level competition index based on a sample of 13,058 takeover targets for the period from 1990 to 2007. Their analysis of bidder and target returns builds on a total of 4,577 domestic takeovers completed by publicly listed corporate bidders. In contrast, we include both domestic and cross border takeovers. We complement the deal data from Thomson One with stock return data from Datastream and accounting data from Worldscope. Country-level investor protection variables are from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) and La Porta, Lopez-de-Silanes and Shleifer (2006). All accounting variables and abnormal returns are winsorized at the upper and lower 0.5 percent level.

Table 1 presents the sample distribution by year, country, and industry. In Panel a, the number of competition bidders, competition targets, and single bidders are listed for each year from 1990 to 2012. The highest competition activity is observed for 1997 to 2000 before the stock market crash and the 9/11 terrorist attack brought the first truly international merger wave to an end (Martynova and Renneboog, 2008). Then again competition for takeover targets surged in 2006 and 2007 before the onset of the financial crisis. This recent merger wave was characterized by an increased participation from financial buyers in the global M&A market. Since then competition activity has trended downward. The pattern of single bidder activity looks very similar. Panel b describes the country distribution of our sample. The majority of firms are from the U.S. with approximately 40 percent of bidders and targets, followed by the U.K., Canada, and Australia, representing over 40 percent of firms in competition activity and about 25% in single bidder activity. The remaining 20 to 35 percent of the sample are split fairly evenly among the other countries. Overall, we record 40 countries with competition activity and 42 countries in total. For comparison, Alexandridis, Petmezas and Travlos (2010) calculate their competition index for 47 countries and report the median premium for 33 countries. In Panel c the industry distribution of our sample is presented based on the Fama-French 17 industry classification. About half of all firms are from the "Other" and "Finance" industries.[5] Another 20 percent are from "Oil", "Machinery", and "Mines". The remaining firms are spread fairly evenly among the other industries.

*<Insert Table 1 about here>*

[5] Among the firms classified in the "Other" category, the majority have 2-digit SIC codes 28 "Chemical & Allied Products", 35 "Industrial Machinery & Equipment", 36 "Electronic & Other Electric Equipment", 48 "Communications", or 73 "Business Services".

### 3.2. Methodology

To analyze the factors that explain post-bid competition and bid success, respectively, we estimate the following probit model (see Greene, 2008, pp.772-775):

$$(1) \qquad Prob(Y = 1|\boldsymbol{x}) = \int_{-\infty}^{\boldsymbol{x'\beta}} \phi(t)dt = \Phi(\boldsymbol{x'\beta}) \,,$$

where the function $\Phi(.)$ denotes the standard normal distribution function and $Y$ is a binary variable that is equal to 1 for takeover bids that develop into competition (that are successful), and zero otherwise. The estimated probability $y$ can be interpreted as the propensity of a bid to develop into competition (to be successful). Economic significance is assessed with marginal effects which represent the change in the estimated probability $y$ arising from a change in the independent variables $\boldsymbol{x}$. We evaluate marginal effects at the sample means of all explanatory variables, and compute the marginal effects for a one standard deviation change around the mean for continuous variables, and for a change from zero to one for all dummy variables. In all regressions we use heteroscedasticity-consistent standard errors and include dummy variables for year, industry, and country.[6]

For the analysis of wealth effects associated with winning or losing a takeover contest we calculate the abnormal return ($AR$) based on the market-adjusted returns model by subtracting the corresponding country's Datastream value-weighted total market index return $r_m$ from the return of event firm $i$ at day $t$:

$$(2) \qquad \mathrm{AR_{i,t}} = \mathrm{r_{i,t}} - \mathrm{r_{m,t}} \,.$$

We sum up the abnormal returns over days $t-2$ to $t+2$ where day $t$ is the M&A announcement date to obtain the five-day cumulative abnormal return (CAR) for each event firm $i$, which we then weight equally across all events:

$$(3) \qquad \mathrm{CAR_{i,(-2,+2)}} = \sum_{\tau=t-2}^{t+2} \mathrm{AR_{i,\tau}} \quad \text{with} \quad \mathrm{CAR_{(-2,+2)}} = \frac{1}{N}\sum_{i=1}^{N} \mathrm{CAR_{i,(-2,+2)}} \,.^{7}$$

To test for statistical significance, we employ a parametric t-test and a non-parametric Mann-Whitney U test when comparing the CARs of different bidder or target groups.

[6] For robustness, we also run these regressions using robust standard errors that cluster by country, industry or year. Our results are qualitatively the same - except for the coefficient on *Termination fee* which loses much of its significance in the competition model when standard errors are clustered by industry. For the sake of brevity we do not present the results here but they are available from the authors upon request.

[7] The results are robust to using a 3-day or 21-day window around the announcement (also see Figure 1).

### 3.3. Variable Definitions

We analyze a comprehensive set of bidder, deal, and target characteristics that is largely comparable with the variables used in Officer (2003) and Schwert (2000) to examine the likelihood of post-bid competition and of a successful bid. Our hypotheses are tested with the following variables: *Initial premium* (*Final premium*) is the ratio of initial (final) offer price per share to the target's stock price 4 weeks prior to the announcement minus 1, and winsorized for values beyond the range [0, 2] as in Officer (2003). *Cash in payment* is the fraction of cash payment in the transaction value. *Toehold* is the fraction of target shares hold by the bidder prior to the announcement. *Termination fee* is a dummy variable equal to 1 when the bidder has a target termination fee provision. Alternatively, we use *Termination fee size* defined as target termination fee amount divided by transaction value. All other variables are defined as follows: *Hostile* is a dummy variable that takes the value of 1 when the takeover bid is hostile or unsolicited as recorded in Thomson One. *Same industry* is a dummy variable equal to 1 when the bidder and target share the same industry based on the Fama-French 17 industry classification. For bidders and targets we use the following firm characteristics: *Size* is the natural logarithm of total assets. *M/B ratio* is market value of equity (stock price multiplied by number of stocks) over book value of equity. *Profitability* is net income scaled by total assets. *Cash holdings* is the ratio of cash and equivalents to total assets. *Market leverage* is total debt divided by market value of assets, which is defined as total assets minus book value of equity plus market value of equity. *Relative size* is defined as transaction value divided by bidder market value prior to the announcement.[8]

In addition, we build (1) country-specific proxies for latent competition, include (2) controls for international and financial (actual) competition, and add (3) measures for acquisition experience and expertise. First, we create proxies for the competitiveness of a country's market for corporate control to examine how latent (but unobservable) competition influences takeover contests. Moeller, Schlingemann and Stulz (2004) argue that whether a takeover takes place in an active market for corporate control is a better proxy for competition than actual post-bid-competition because in a competitive market bidders may offer high premiums to deter competition. They measure the liquidity index for the target as the value of all U.S. corporate control transactions in an industry during that year divided by the aggregate book value of assets in that industry and year. Alexandridis, Petmezas and Travlos (2010) construct a country-specific competition index defined as the yearly percentage of listed firms acquired.

[8] In the robustness section we also report on the use of alternative variable definitions in our probit regressions. Our findings are robust to these alternative definitions. The results are available from the authors upon request.

Aktas, de Bodt and Roll (2010) use the aggregate investment by U.S. private buyout funds scaled by the aggregate NYSE, Amex, and Nasdaq market value as an additional proxy for latent competition. We calculate the *Corporate competition index* similar to Alexandridis, Petmezas and Travlos (2010) on a yearly basis as the percentage of listed firms acquired in a country (using the number of listed firms reported in the World Bank's WDI database), but do not include leveraged buyouts. In contrast, we follow Aktas, de Bodt and Roll (2010) and compute the annual *Buyout activity index* as the aggregate investment by private buyout funds in a country (from the Thomson One VentureXpert database), scaled by the aggregate stock market capitalization of that country (from World Bank's WDI database). This better reflects the time-varying nature of latent competition from corporate and financial buyers.

Second, we include measures of actual competition from foreign and financial buyers, controlling for country-level investor protection. Ferreira, Massa and Matos (2010) provide evidence that foreign institutional investors increase the likelihood that a cross border takeover offer is successful, suggesting that institutional investors facilitate cross border transactions. Dinc and Erel (2013) show that foreign bidders are less likely to be successful if the government of the target's country opposes the transaction on the basis of economic nationalism, i.e., preferring the target to remain domestically owned). *Cross border bidder* is a dummy variable that takes the value of 1 when the bidder and target are from different countries. Gorbenko and Malenko (2013) provide evidence on a higher dispersion of corporate buyers' valuations of the target in auctions compared to financial buyers, consistent with financial buyers being more interchangeable. Fidrmuc, Roosenboom, Paap and Teunissen (2012) find that observable target characteristics impact buyer type indirectly through the selling mechanism with financial buyers being more (less) likely to win in a controlled sale (full-scale auction). Dittmar, Li and Nain (2012) argue that corporate buyers may actually benefit from competition with financial buyers if they can exploit the potential for value improvement in targets identified by financial buyers. *Financial buyer* is a dummy variable equal to 1 when the bidder is a private equity firm, which we identify through several screens in the Thomson One global M&A database as described in the sample description. Rossi and Volpin (2004) find that the market for corporate control is less active and competitive in countries with low investor protection which they explain with higher costs of raising external financing and private benefits of control. We use the *Anti-self-dealing index* from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) as our measure of investor protection because it is theoretically better grounded and conceptually clearer than the anti-director rights index. This index

measures the legal protection of minority shareholders against expropriation by corporate insiders and ranges from 0 (lowest) to 1 (highest).

Third, we add variables that reflect M&A experience and expertise in the M&A deal-making process. Kale, Kini and Ryan (2003) and Servaes and Zenner (1996) find that financial advisors are used more often in complex transactions such as large and hostile takeovers, and when firms have less acquisition experience. Moreover, they argue that deal characteristics are often the responsibility of the advisor. Rau (2000) measures reputation by the annual average market share of the value of transactions advised, and ranks each investment bank into brackets - the top 5 forming the "bulge bracket". Accordingly, we calculate on a yearly basis *Advisor reputation* by ranking investment banks into brackets of 5 based on their market share of the value of all global M&A transactions advised. Our reputation measure takes the value of 5 for ranks 1 – 5, 4 for ranks 6 – 10, and so forth until rank 21 or lower for which we assign the value of 1. When the firm employs more than one advisor we assign the value of the highest ranked advisor. If the bidder (target) does not hire an advisor, we assign the sample mean of bidder (target) advisor reputation in that year in line with Kale, Kini and Ryan (2003). Alternatively, we use their definition of *Relative advisor reputation* which is computed as the ratio of bidder advisor to target advisor market share to better reflect the bargaining nature of takeover contests. Aktas, de Bodt and Roll (2013; 2011; 2009) and Jaffe, Pedersen and Voetmann (2013) find evidence for CEO learning through repetitive acquisitions. We calculate *Acquisition experience* as the number of completed M&As prior to the announcement.

## 4. EMPIRICAL RESULTS

In this section we test our hypotheses on the effectiveness of the three takeover bidding strategies in preventing competition and increasing the likelihood of offer success. We begin with a univariate analysis of firm and deal characteristics (4.1), followed by multivariate probit regressions on the likelihood of competition (4.2) and the probability of bid success (4.3). Then, we turn to the specific influence of bidder asymmetries on bid success (4.4).

### 4.1. Univariate Analysis of Bidder, Deal and Target Characteristics

Table 2 presents descriptive statistics for all bidder, deal and target variables included in the probit regressions. In Panel a, we compare the respective means and medians for the

groups of single bidders and initial competition bidders to see in which dimensions competed bids differ from uncontested takeover bids. Consistent with the three takeover bidding strategies being associated with a lower risk of competition, single bidders offer slightly higher initial premiums, hold larger toeholds on average and obtain termination fees more often than initial competition bidders. There is also evidence that latent competition does not substitute for actual competition in that single bidders acquire targets from countries with lower buyout activity and competition indexes on average. In addition, their targets exhibit weaker country-level investor protection, which is typically associated with a less active and effective market for corporate control (Rossi and Volpin, 2004). Regarding the importance of M&A experience and expertise, while we observe that single bidders engage less reputable financial advisors on average they also have more acquisition experience. Initial competition bidders offer a larger percentage of payment in cash, consistent with anticipated competition, make more hostile offers, and are more profitable than single bidders on average. Competition targets are larger (both, absolutely and relative to the bidder), hold less cash and are more profitable on average. This can be explained with the interpretation of target size as a proxy for deal complexity or the cost of acquiring information. The larger the target the less likely the bidder is to complete its offer quickly, leaving more time for rival bidders to make a competing offer.

In Panel b we compare the competition winners and losers to see how they differ with respect to the bidder, deal and target characteristics. We find consistent evidence that the three competitive bidding strategies are also related to the probability of offer success. Competition winners offer a slightly higher percentage of payment in cash, hold larger toeholds and obtain termination fees more often than losers on average. Competition winners are also more experienced with acquisitions and employ financial advisors with slightly higher reputation. This suggests learning increases the probability of winning when competing with other bidders, for example through superior deal structuring and bargaining with the target. Unsurprisingly, the winning offer contains a higher final premium and is hostile less often. Further, competition winners share the same industry with the target more often, hold less cash and are larger on average than their competitors. This is consistent with competition winners having higher synergies potential with the target and with prior evidence that large firms complete more acquisitions (Moeller, Schlingemann and Stulz, 2004). The correlation matrix for all variables is presented in the Appendix (Table A.1).

*<Insert Table 2 about here>*

### 4.2. What Determines Post-bid Competition?

We estimate different specifications of the probit regression model with the post-bid competition dummy as the dependent variable and the set of explanatory variables we described before. Because deal and target characteristics are not available for the whole sample, and bidder characteristics are limited to the subset of publicly listed bidders, we introduce each set of characteristics separately; beginning with the full sample of initial bids and then focusing on the group of public (listed) bidders. Models I and II include *all single bidders and initial competition bidders*. In model I we control for deal characteristics in testing our hypotheses (*H1a*, *H2a*, and *H3a*), and in model II we also add target characteristics. In contrast, models III to VI include *only public single bidders and initial competition bidders*. In model III we test our hypotheses controlling for deal characteristics, while including deal and target characteristics in model IV, and controlling for deal and bidder characteristics in model V. Finally, we use all deal, bidder, and target variables in model VI.

The evidence in Table 3 suggests that the average *Initial premium* is not sufficiently high to prevent competition, so that we cannot accept hypothesis *H2a* that preemptive bidding is an effective deterrent. The coefficient is close to zero and insignificant. In addition, our finding of a significantly positive coefficient on *Cash in payment* in all but the second model also does not support the related argument of a preemptive cash offer. Apart from Jennings and Mazzeo (1993) reporting a negative (weakly positive) effect of the premium (cash payment) on competition, there is also no strong support for preemptive bidding in other studies. Jeon and Ligon (2011) even document a weakly positive association with the premium. In his review of the literature, Eckbo (2009) concludes that testing preemption directly is difficult because deterred bids cannot be readily observed, but the prevailing evidence indicates that the preemptive effect of the premium is rather weak on average. Our findings for an international sample of takeover contests reconfirm this result. However, our findings support hypotheses *H1a* and *H3a*, that both toeholds and termination fees reduce the likelihood of post-bid competition. The coefficient on *Toehold* is negative and significant in all models, with marginal effects ranging from 1.05 to 1.51 percent for a one standard deviation change around the mean. Thus, when the initial bidder holds a toehold the probability of a rival bidder entering the contest is substantially reduced (the base probability lies between 2.05 and 3.24 percent). This is in line with the observation in Betton and Eckbo (2000) that when a rival bidder enters into a takeover contest with a toehold, it is of comparable size to the initial bidder's toehold so as to "level the playing field". The coefficient on *Termination fee* is significantly

negative in all but the first model. The marginal effect on the probability of post-bid competition is between 0.65 and 1.84 percent, and always smaller than the marginal effect of toeholds except for model IV. Therefore, we provide evidence on the effectiveness of termination fees in deterring competition. Jeon and Ligon (2011) and Officer (2003) also document a negative association of termination fees with competition. Neither of these studies provides evidence for a deterrent effect of toeholds. However, Betton, Eckbo and Thorburn (2009) report a positive influence of toeholds on the probability that the initial bidder wins, when grouping all bids for the same target into takeover contests as in our definition. This includes contests where a single bidder wins; the majority of their sample. Hence, their result is also consistent with the effectiveness of toeholds in preventing competition.

Among the control variables, we find a positive association between our proxies for latent and post-bid competition. The coefficient on *Corporate competition index* is positive and significant in all but the second model. This provides evidence that potential competition may develop into actual competition, and that the design of the average initial bid may not be sufficient to keep away prospective rival bidders. The effect of the target's country-level investor protection on post-bid competition is less clear, with the coefficient on *Anti-self-dealing index* turning from significantly negative in models V and VI to significantly positive in model II, and insignificant in all other models. Nevertheless, we show that our findings are not driven by differences in investor protection. With respect to observable international and financial competition, we find no evidence to suggest that a *Cross border bidder* attracts more post-bid competition. However, the coefficient on *Financial buyer* is positive and significant in models I and II where all bidder types are included. The marginal effect is 1.51 and 2.01 percent, respectively, indicating that the probability of post-bid competition is substantially higher if the target is "put into play" by a financial buyer. To the extent that financial buyers indicate a high common value component, i.e., targets with a generally high potential for value improvement, rival bidders may free-ride on the information by entering the takeover contest and reaping the benefits from acquiring the target themselves as argued by Dittmar, Li and Nain (2012). Regarding the influence of acquisition experience and expertise, we find no reliable evidence that *Advisor reputation* affects the likelihood of competition.Bidder advisor reputation is only significant in model II, and target advisor reputation loses significance after controlling for bidder or target characteristics. However, the coefficient on *Acquisition experience* is significantly negative in all but the sixth model. Thus, it appears that serial acquirers are able to avoid post-bid competition more often than single acquirers.

With respect to the remaining bidder, deal and target control variables, we observe significantly positive coefficients on *Hostile*, *Bidder profitability* and *Target size*, and a negative and significant coefficient on *Target profitability*. The marginal effect of hostility is always quite strong and ranges from 24.00 to 29.36 percent - if all sample transactions were hostile - indicating that hostility is the single most important determinant of whether a takeover offer develops into a bidder contest. Officer (2003) and Schwert (2000) report a strong, positive association between hostility and competition albeit acknowledging that causality could go in either direction, i.e., the target of a hostile takeover attempt may seek out a friendly white knight bidder or it may bargain more aggressively to extract a higher premium in bidder contests. Further, Officer (2003) also documents a positive influence of target size on competition, which is consistent with target size being a proxy for deal complexity and more complex deals taking longer to close, giving rival bidders the opportunity to enter the contest.[9]

*<Insert Table 3 about here>*

### 4.3. Which Bidder/Bid Is Successful?

We estimate different specifications of the probit regression model with the bid success dummy as the dependent variable and the set of explanatory variables as described before. Due to data availability we start with the full sample of competition bidders, and then focus on the group of publicly listed bidders, again introducing deal and bidder characteristics separately to examine their incremental effect. A closely related question is whether a certain takeover offer is successful without conditioning on bidder contests or grouping deals into takeover contests. This approach is more standard in the literature, so we include it for comparability.[10] Specifically, within a similar setup we also include the successful single bidders. Model I includes *all competition bidders* and we control for deal characteristics in testing our hypotheses (*H1b*, *H2b*, and *H3b*). In contrast, models II and III include *only public competition bidders*. In model II we control for deal characteristics, while also adding bidder characteristics in model III. Model IV includes *all competition bidders and single bidders*, and we control for deal characteristics in testing our hypotheses. In contrast, models V and VI include

[9] A related but methodically different question is whether a target is sold in a private auction prior to the announcement of a deal. Fidrmuc, Roosenboom, Paap and Teunissen (2012) report a significantly positive association with financial buyers, the liquidity index that proxies for latent competition, target profitability and target leverage. Aktas, de Bodt and Roll (2010) find a significantly positive relation between relative size or stock payment and the likelihood of negotiation. Boone and Mulherin (2008; 2007b) document a negative (positive) influence of stock payment (cash payment), bidder top-tier advisor, and bidder and target size on the probability of an auction, and a positive effect of unsolicited offers.

[10] A caveat is that we do not include unsuccessful takeover contests, where no bidder wins. Because the "no bidder wins" outcome is arguably more of a governance issue, we do not examine it here. Therefore, our results may not be exactly comparable.

*only public competition bidders and single bidders*. In model V, we control for deal characteristics, and finally we use all deal and bidder variables in model VI.

The results presented in Table 4 provide evidence that is generally consistent with all three hypotheses. Evidence for hypothesis *H2b* that the fraction of cash payment in competed deals increases the probability of success is provided in model I where the coefficient on *Cash in payment* is positive and significant. In models II and III where we focus on public competition bidders, the coefficient is of similar magnitude but loses significance. Our findings are further corroborated by the significantly positive coefficient on *Final premium* in the competition subsample. Unsurprisingly, high cash bids have a higher likelihood of success. In contrast, the significantly negative effect of cash payment observed for the full sample reflects the positive association with competition likelihood, i.e., the probability of bid success is only higher conditional on post-bid competition. Moeller, Schlingemann and Stulz (2004) also report a negative association between cash payment and bid success, while Bates and Lemmon (2003) document a positive coefficient on stock payment. Of all these studies only Officer (2003) finds a significantly positive influence of the premium on deal completion. Regarding hypothesis *H1b* that toeholds increase the probability of a successful bid, all but the second and third model show a significantly positive coefficient on *Toehold*. The marginal effect in model I is 6.37 percent, and ranges between 0.65 and 1.36 percent in models IV to VI, suggesting that toehold bidding clearly improves the probability of success. The insignificant coefficients in the public competition bidder subsample (models II and III) can either be explained with a higher private-value component, as small toeholds generally have a stronger effect in a common-value setting, or hubris playing a larger role in public bidder contests. Moeller, Schlingemann and Stulz (2004) also document a positive influence of toeholds, albeit Officer (2003) finds only cleanup transactions but not toeholds to be positively related to bid success. For a sample of takeover contests defined similarly to ours, Betton, Eckbo and Thorburn (2009) examine the probability that the initial bidder wins.[11] They report a positive influence of toeholds, related transactions where unique synergies are higher, and cash payment. Hypothesis *H3b* stating that termination fees increase the probability of bid success receives the strongest empirical support. The coefficient on *Termination fee* is positive and significant in all models. The marginal effects range from 13.23 to 18.64 percent in models I to III which include only the competition subsample (compared to a base probability of 51.26 to 51.80 percent), and from 0.99 to 1.53 percent in models IV to VI which are based on the

[11] To the extent that the initial bidder may deter competition with the design of the first bid, their approach is more similar to ours. They also do not treat deals independently but analyze each contest for a target separately.

full sample (with a base probability of 97.75 to 98.76 percent). This indicates termination fees are an effective deal protection device that can be used to favor certain bidders, whether for agency reasons as in case of white knight bidders or for efficient contracting by compensating the initial bidder for potential free-riding by rival bidders. Jeon and Ligon (2011), Bates and Lemmon (2003) and Officer (2003) also report a positive effect of termination fees on bid success.

Among the control variables, we find a negative association between our proxies for latent competition and the likelihood of a successful bid. The coefficient on *Buyout activity index* is significantly negative in all models. The coefficient on the *Corporate competition index* is generally insignificant but significantly negative in the fourth model. This suggests that with higher latent competition, bidders are less likely to complete a deal. Concerning the impact of investor protection and observable financial or international competition, we find no evidence that these characteristics influence which bidder wins in competed takeovers. Also, the coefficient on *Financial buyer* is negative and significant for the full sample, with the marginal effect equal to 0.99 percent in model IV. This indicates bidders from stronger investor protection countries complete more deals in line with the argument of Rossi and Volpin (2004) that raising external capital, for example, to finance takeovers is generally less expensive in these countries. Because of their reliance on the common-value component it is not surprising to see that financial buyers are overall less likely to complete a deal. We find no evidence that a *Cross border bidder* is less likely to complete a deal. Still, it is also possible that unobservable characteristics make foreign bidders less likely to succeed or that some cross border bids never materialize because of economic nationalism or for other reasons. With respect to the importance of acquisition experience and expertise, we do not observe a strong effect of *Bidder advisor reputation* on deal completion. However, the coefficients on *Relative advisor reputation* and *Acquisition experience* are positive and significant. Our evidence suggests for the international market for corporate control learning through repetitive acquisitions is at least as important for M&A deal-making as the expertise offered by reputable advisors.

Of the remaining bidder, deal and target control variables, hostility stands out as the most important factor again. The coefficient on *Hostile* is significantly negative in all models and the marginal effects are substantial, ranging from 17.92 percent in the full sample to 36.66 percent in the competition subsample. Hence, unsolicited offers and offers rejected by target management carry a quite high likelihood of failure. Moeller, Schlingemann and Stulz

(2004), Officer (2003), Bates and Lemmon (2003) and Schwert (2000) all report a significantly lower probability of bid success for hostile takeovers. Consistent with deal complexity increasing with transaction size, we observe a significantly negative coefficient on *Relative size* in all models. Lastly, there is some evidence that *Cash holdings* and *Profitability* are negatively associated with bid success. Because excess cash and free cash flows could be wasted on value-reducing acquisitions, this evidence suggests that deal completion is unlikely to be driven by bad governance, in which case we would expect a positive relation.

*<Insert Table 4 about here>*

### 4.4. How do Bidder Asymmetries Influence Bid Success?

When prospective bidders share private synergies with the target (private-value setting) an open auction or a sealed-bid auction has been shown to extract the highest selling price. However, bidder asymmetries may affect the competitive bidding behavior and the auction outcome (see Eckbo, 2009). Several studies show that bidder heterogeneity is even more important in a common-value setting, where bidders' valuations of the target are correlated because they receive private and noisy signals about the common value of the target. Here, alternative selling procedures may be optimal from the target's perspective. Dasgupta and Tsui (2003) develop a "matching auction" for selling the target in a common-value setting, and analyze two sources of bidder heterogeneity: different toeholds and asymmetric effects of bidders' private signals on the value function, for example, due to different access to information about the target or competence in evaluating synergies. They show that it is optimal to discriminate against the stronger bidder by asking him to make a first, open offer. If the second bidder matches this offer he is declared the winner, and if not, the first bidder wins. Povel and Singh (2006) propose a sequential procedure that applies to both private-value and common-value settings. In their model the target first negotiates exclusively with the better informed bidder, and if the offered price is not sufficiently high to complete the deal, asks to bid at least a certain amount in an ensuing bidder contest. If the better informed bidder is not willing to offer the minimum amount, the target is offered to the lesser informed bidders. If the better informed bidder is willing to offer the threshold amount, the target carries out a single round of sealed-bid auction, where the highest bid wins. Both of these models show how bidder asymmetries may give the stronger bidder a sufficiently large advantage that the weaker bidder bids more conservatively to avoid the winner's curse. Therefore, it is important to examine the effects of bidder heterogeneity when analyzing the outcome of a bidder contest.

To examine the influence of bidder asymmetries on bid success we estimate different specifications of the probit regression model with the bid success dummy as the dependent variable and the explanatory variables adjusted for the transaction-specific means of competing bidders, i.e., average deal and bidder characteristics are calculated individually for each takeover contest. However, we only take differences for continuous variables and leave the dummy variables unaltered. The advantage of this approach is that it allows us to account for a broad number of bidder asymmetries which will be reflected in differences from the transaction-specific means. Without the adjustment for average deal and bidder characteristics in a contest, an analysis of the influence of bidder asymmetries would not be readily available.[12] Model I includes *all competition bidders*, and we control for differences in deal variables in testing our hypotheses (*H1b*, *H2b*, and *H3b*). In contrast, models II and III include *only public competition bidders*. In model II we control for differences in deal characteristics. Finally, we use all differences in deal and bidder variables in model III. We do not include the sample of single bidders because by definition they have no transaction-specific means to compare with.

Table 5 reveals that the evidence in support of hypotheses *H2b* and *H3b* becomes even stronger with the alternative model setup. The difference in the percentage of *Cash in payment* (denoted by Δ) among competing bidders is significantly positively related to the likelihood of success in all three models (*H2b*). In comparison the absolute effect of the fraction of cash payment on the probability of winning was positive but insignificant in models II and III (see Table 4). This is largely consistent with the model of Berkovitch and Narayanan (1990) where the fraction of cash payment increases with competition, up to the point where all but the lowest-quality bidders make an all-cash bid. For a one standard deviation change around the mean, the probability of winning increases in the range of 6.15 to 7.63 percent (compared to a base probability of 51.18 to 51.86 percent). Our findings are further corroborated by the significantly positive coefficient on *Δ Final premium*. The marginal effect lies between 14.21 and 15.46 percent. Clearly, offering a high all-cash premium makes a compelling case for the bidder; and the evidence is in line with argument of Gorbenko and Malenko (2013) that corporate buyers in auctions exhibit a higher dispersion of valuations of the target than financial buyers. Supporting hypothesis *H3b*, the effect of a large difference in *Termination fee size* on the probability of success is even stronger than the absolute impact of a termination fee. For a one standard deviation change around the mean, the probability of winning increases by 10.31 to 11.45 percent. This is the strongest increase observed for all three competitive bidding

[12] Although interaction terms or relative measures (toehold - no toehold, relative termination fee etc.) can be included, this would be difficult for more than two bidders or for a broad set of variables.

strategies, suggesting that the magnitude of the termination fee is much more important for bid success than either preemptive bidding or toehold bidding. Empirical evidence in support of *H1b* is still limited to the first model which is comprised of all the competition bidders, while the coefficient on Δ *Toehold size* is positive but insignificant in models II and III, which include only public competition bidders. The marginal effect in model I is a 4.78 percent increase in the probability of winning for a one standard deviation change around the mean. Our findings are consistent with bidder heterogeneity in toeholds and the signaling effect of cash payment, especially when combined with a large premium, exerting a strong influence on the likelihood of a successful bid that is largely in line with their hypothesized relationship in the literature. The evidence also suggests that termination fees can be used effectively to discriminate against a certain bidder, for example, the better informed, or to compensate a prospective bidder for incurring the investigation costs and for revealing information in case rival bidders free-ride on the initial bid.

Neither the differences in our proxies for latent competition, nor in country-level investor protection or the observable financial and international competition are sufficiently large to affect the deal outcome. However, we observe a significantly positive influence of both the differences in *Bidder advisor reputation* and *Acquisition experience*. These results support our previous findings from Table 4 that for completing deals learning through repetitive acquisitions is at least as important in international takeover contests as the expertise of reputable advisors. Among the remaining control variables, we still find a significantly negative effect of hostility (*Hostile)* on success, with a marginal effect in the range of 31.71 to 33.25 percent. The negative association of a large difference in *Relative size* with the probability of success is also stronger than for the absolute effect. This suggests that as deal complexity increases, bid success becomes less likely. Lastly, there is also weak evidence for a positive association of the difference in bidders' M/B ratio with bid success, consistent with better-managed firms being more likely to acquire the target. Overall, our findings on bidder asymmetries in competed takeovers show that for a variety of bidder and deal characteristics heterogeneity among competing bidder matters and may influence which bidder wins.

*<Insert Table 5 about here>*

## 5. WEALTH EFFECTS

In this section we provide complementary evidence to our previous analyses by examining the wealth effects associated with winning or losing in bidder contests. This is important because due to an increased risk of overpayment (the winner's curse) in bidder contests, losing bidders may actually be better off when offer premiums become too high. We first analyze offer premiums in single bidder and competition deals (5.1), and then the corresponding bidder announcement returns (5.2).

### 5.1. Takeover Premiums

To examine the influence of competition on the wealth of target shareholders we focus on the final takeover premium. This is a better measure of the gains accruing to target shareholders than target announcement returns because the latter also reflect the perceived probability of bid success and post-bid competition. The evidence presented in Table 6 indicates that target shareholders on average receive significantly higher premiums in competition deals compared to single bidder deals. Our sample means of 41 percent in single bidder and 55 percent in multiple bidder contests are comparable to the 45 and 53 percent, respectively, reported by Eckbo (2009) for a large sample of U.S. takeover contests, as well as to Alexandridis, Petmezas and Travlos (2010) who document an average premium of 43 percent for their international takeover sample. However, post-bid competition may not be a good proxy for the competitiveness of the market for corporate control. Therefore, we split the sample by the median values of our latent competition proxies (Panels b and c). To the extent that anticipated competition induces bidders to raise their bids, we would expect to find no difference between the competition and single bidder contests, although this effect would be more clearly seen in the initial premium. However, we find that the difference in premiums remains unaffected. This means that although premiums increase with higher latent as well as actual competition, competition bidders offer larger premiums than single bidders even after controlling for the influence of potential competition. Lastly, we follow Dittmar, Li and Nain (2012) in analyzing whether competition among strategic buyers leads to higher premiums than competition with financial buyers. The evidence in Panels d and e reveals that this is the case. The difference between winning and losing bidders' average premiums narrows in the financial competition deals, in line with a higher common-value component. Overall, our evidence is consistent with competition increasing offer premiums.

*<Insert Table 6 about here>*

### 5.2. Bidder Announcement Returns

To see whether the higher premiums paid in competition deals also translate into lower bidder shareholder returns, we analyze the bidder market-adjusted CARs over days -2 to +2 to the announcement. The results presented in Table 7 reveal that competition bidders are worse off than single bidders on average, but that winning still is better than losing (Figure 1). Combined with the higher average premium observed in competition deals, this suggests that competition is costly for the bidders. Our sample means of -1.03 to 0.53 percent are comparable to Alexandridis, Petmezas and Travlos (2010) who report average CAR(-2,+2) of -0.91 percent, and to Eckbo (2009) who documents average CAR(-1,+1) of 0.73 percent. As before we truncate our sample based on the latent competition proxies in Panels b and c. We observe that potential competition largely curbs the bidders' gain in the single bidder case, but that the losing bidders' loss remains largely unchanged. This means that the average positive returns in the single bidder sample are driven by the deals without substantial latent competition; and bidder announcement returns are still influenced by post-bid competition after controlling for potential competition. In line with the findings of Dittmar, Li and Nain (2012) we also observe that competition bidders are better off in deals where they compete with financial buyers, and that losing is more costly in contests among strategic buyers (Panels d and e). Overall, our findings support the importance of employing an effective bidding strategy to reduce competition likelihood and increase the probability of success.

*<Insert Figure 1 about here>*

*<Insert Table 7 about here>*

## 6. ROBUSTNESS CHECKS

In this section we provide several robustness checks for our empirical analysis. We begin with an analysis of sub-periods (6.1), followed by a differentiated analysis of bidder contests in (non-U.S.) common law and in civil law countries (6.2). Then, we evaluate on the use of alternative variable definitions (6.3).

### 6.1. Sub-period Analysis

Our sample period spans two distinct merger waves. The first started in 1993 and evolved with the increasing globalization, deregulation and privatization as well as the thriving global economy and financial markets around the world. Martynova and Renneboog

(2008) describe the main characteristics of M&As during that period as international, industry-related, and equity payment, with the main motivation being international expansion to participate in globalized markets. This wave came to an end with the stock market crash and the 9/11 terrorist attack in 2001. The second wave started in 2003 with the gradual recovery of the global economy and financial markets. The preponderance of industry-related and cross border transactions suggests that global expansion was still the main motivation over that period. However, an increasing number of deals were pursued by financial buyers and cash was the predominant method of payment. This suggests some shift in target characteristics, competition intensity, and deal design. The second merger wave came to an end with the onset of the financial crisis in 2007/08. In addition, several legislative events in the U.S. had a lasting effect on the prevalence of certain contractual devices. Boone and Mulherin (2007a) document that the completeness of Thomson One data on termination fee provisions is rather limited before 1997, due to two legal decisions that affected the use of lockups and breakup fees. Jeon and Ligon (2011) report that after the FASB's decision to abolish the pooling accounting method in 2001, lockup options have practically disappeared. In addition, they show that go-shop provisions have gained in importance especially during the private equity boom of 2005-2007. This suggests that there are sufficient reasons for splitting the sample into these two sub-periods.

We estimate each regression separately for the first period from 1990 to 2001, and for the second period from 2002 to 2012. For the sake of brevity we do not show the results here but they are available from the authors upon request. Instead, we briefly discuss the robustness of our findings. Regarding the three hypotheses, we observe that the significantly negative influence of termination fees on post-bid competition is limited to the first period. However, the evidence on all other hypotheses is fairly robust. In addition, we find that the effect of our proxies for latent competition on post-bid competition is also limited to the first period, suggesting that the increasing competitiveness of the international market for corporate control was only gradually reflected in bidding strategies. Consistent with financial buyers becoming an increasingly more powerful threat for strategic buyers, during the later period we observe no significant difference in the probability that an initial deal develops into a multiple bidder contest when it originates from a financial buyer; or that financial buyers are generally less likely to complete the deal. In contrast, we find that the initial bid of a financial buyer is more likely to be followed by competition during the earlier period. Moreover, we notice a stronger reduction in competition likelihood and a higher increase in the probability of success from bidder advisor reputation and from acquisition experience in the second period.

This suggests that learning through repetitive acquisitions and the expertise of reputable advisors have gained in importance in recent years. Overall, the evidence suggests that with the emergence of additional buyer groups the international market for corporate control has become more competitive over time.

### 6.2. Legal Origin Subsamples

To examine the (explicit) influence of non-U.S. bidder contests on our empirical findings, we split the sample into three different subsamples based on the legal origin of the target's country: U.S., non-U.S. common law (in the following "common law"), and civil law. This allows for a better comparison with prior evidence for the U.S. market for corporate control. To the extent that our country-specific proxies for latent competition and the time-invariant investor protection index capture only the most fundamental differences across national markets for corporate control, we would observe differences in bidding strategies, deal design, bidder or target characteristics.[13]

The evidence in Table 8 suggests that the deterrent role of termination fees is limited to the U.S. subsample. The coefficient on *Termination fee* is positive and insignificant in the common law subsample, and the variable had to be dropped in the civil law subsample. Importantly, there are strong differences in the use of termination fees and toeholds across the legal origins with over 50 percent of bidders in the U.S. subsample having a termination fee, but only 15 percent in the common law subsample and less than 1 percent in the civil law subsample. In contrast, over 30 percent of bidders hold a toehold in the civil law subsample, compared to 18 percent in the common law subsample and less than 6 percent in the U.S. (untabulated). We also observe a weakly significant and negative influence of the initial premium on post-bid competition in the civil law subsample. This suggests preemptive bidding may be more prevalent in countries where the level of investor protection and the competitiveness of the takeover market are generally lower. Moreover, this is also consistent with the finding of Alexandridis, Petmezas and Travlos (2010) that the relative bargaining power of bidders is much stronger in the less competitive markets for corporate control compared to the U.S., U.K., and Canada. In addition, we observe that the effects of latent competition and financial competition are only evident in takeovers of common law targets, and that the initial bids of cross border bidders are actually significantly less likely to develop into a multiple bidder contest in the civil law countries. Lastly, we find that the influence of acquisition expe-

[13] A caveat is that the data recorded in Thomson One may be biased, for example, towards U.S. or the larger international firms. While we cannot completely rule out this possibility, prior studies have shown that the global M&A database becomes more reliable as of the mid-1990s.

rience on competition likelihood is confined to the U.S., and that reputable target advisors are positively associated with competition in the civil law subsample.

Table 9 reveals that the limited evidence on the effectiveness of termination fees in the common law subsample extends to the results for the probability of bid success.[14] The coefficient on *Termination fee* is negative and insignificant in all but the fifth model. At the same time, we observe that the fraction of cash payment in competed deals has a stronger effect on the probability of success in the common law subsample. Moreover, the influence of our proxies for latent competition and financial competition becomes much weaker for the common law targets as does the positive impact of relative advisor reputation on overall bid success, and the effect of the final premium on the likelihood of winning in a competed deal. Overall, this suggests that toeholds and signaling with the method of payment are also effective bidding strategies in other common law countries, although the effectiveness of termination fees appears to be limited to the U.S.

*<Insert Tables 8, 9 about here>*

### 6.3. Alternative Variable Definitions

As another robustness check for our empirical analysis we tried several alternative variables definitions. We replaced the initial (final) premium with an expected component, that is based on the average premium of takeovers in the target's country over the last 12 months prior to the announcement, and the excess premium defined as the difference between the actual initial (final) premium and the expected premium. Instead of the separate corporate competition and buyout activity indexes we used the competition index defined as in Alexandridis, Petmezas and Travlos (2010). For the anti-self-dealing index we alternatively employed the investor protection index of La Porta, Lopez-de-Silanes and Shleifer (2006). The results remain qualitatively the same and are available from the authors upon request. We also used an all-cash dummy instead of the percentage of cash in payment, a toehold dummy as opposed to the fraction of the target's shares held by the bidder prior to the announcement, the natural logarithm of market value rather than total assets, book leverage in place of market leverage, total liabilities rather than book leverage, and the return on equity instead of return on assets. The results are very robust to these alternative definitions.

[14] Because of the limited number of observations for the civil law subsample, we do not discuss these findings as they are not very robust. However, they are included for completeness in Table 9.

## 7. CONCLUSIONS

For an international sample of 15,626 takeover contests in 42 countries, we provide evidence on the effectiveness of toeholds, preemptive bidding (signaling with a high cash offer), and termination fees in reducing the risk of post-bid competition and in increasing the likelihood that the offer is successful. In line with prior evidence for the U.S., we find no support for the preemptive bidding hypothesis that initial offer premiums on average are high enough to preempt competition. However, for the subsample of 713 bidder contests, we observe that a higher cash component increases the probability of winning which is in line with the signaling models for the method of payment. Thus, our evidence in support of the preemptive bidding hypothesis is limited to the competition deals. In contrast, we find strong support for the deterrent role of toeholds and termination fees in reducing post-bid competition, and that toehold bidding as well as larger termination fees increase the probability of offer success. We show that the evidence in favor of the toehold and termination fee hypotheses is stronger when controlling for bidder asymmetries by taking the difference from transaction-specific means, i.e., from all competing bidders in the same contest. This is consistent with models of bidder heterogeneity where the difference in toeholds, for example, can have a large effect on the auction outcome.

When we split the sample into sub-periods and differentiate by the target country's legal origin, we observe that significant evidence in support of the termination fee hypothesis is confined to the first period from 1990 to 2001 as well as to U.S. takeover targets. This may reflect a data bias in commercial databases with respect to termination fee provision in the early 1990s as reported in Boone and Mulherin (2007a) or the change in deal protection devices over the second period from 2002 to 2012 as documented by Jeon and Ligon (2011). Importantly, this also reflects the different use across legal origins with over 50 percent of bidders holding a termination fee granted by a U.S. target, but only 15 percent in the common law subsample and less than 1 percent in the civil law subsample. In addition, we find weak support for the preemptive bidding hypothesis in the civil law subsample, which is consistent with the notion of Alexandridis, Petmezas and Travlos (2010) that the market for corporate control is more competitive in the common law countries U.S., U.K., and Canada, leading to higher takeover premiums and lower bidder gains on average.

We also provide novel evidence on the influence of latent and actual competition from foreign and financial buyers in the international market for corporate control. International takeover activity, especially cross border mergers and acquisitions, and the participation of

financial buyers have substantially increased over the last decade. At the same time, studies for the U.S. increasingly focus on the private takeover process prior to the public announcement, documenting that the market for corporate control is actually much more competitive than what can be inferred from the public takeover process. We show for an international sample that the effect of latent competition on bid success as well as on target and bidder wealth is evident but not sufficient to curb the influence of post-bid competition. That is, bidder competition is costly and takeover bidding strategies can influence the probability of offer success. In addition, we document a positive relation between actual and latent competition. Further, we find that the influence of latent competition on post-bid competition and offer success is confined to the first period (1990-2001) and to the common law targets. This means that the public bidding process is still a good proxy for competition when examining international mergers and acquisitions.

Lastly, we analyze the importance of acquisition experience and expertise in the deal-making process for an international sample of mergers and acquisitions. Our findings indicate that serial acquirers are able to avoid post-bid competition more often than single bidders, and that they complete a larger proportion of deals. This may reflect a hitherto unexplored attribute of their learning experience, because we find that successful single bidders and competition winners realize higher returns on average. However, we leave this work for the future. With respect to the M&A deal-making expertise provided by financial advisors, we do not find a consistent effect of advisor reputation on competition likelihood, but observe that their relative reputation is positively related to offer success. Further analyses reveal that the importance of experience and expertise for preventing competition and bidding successfully are stronger in the second period (2002-2012) and for takeovers of U.S. targets.

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## Tables and Figures

### Table 1: Sample Distribution

This table presents the distributional characteristics of our sample. Competition (single bidder) deals are takeover contests that involve more than one (only one) bidder for the target which is successfully acquired. Panel A reports the number of single bidder and competition deals, the number of bidders in single bidder and competition deals as well as the respective share of competition deals/bidders in each year. Panel b differentiates single bidder and competition deals by bidder and target country. Panel C differentiates by bidder and target industry based on the Fama-French 17 industry classification. Other* is mainly comprised of firms with a 2-digit SIC code 28 "Chemical & Allied Products", 35 "Industrial Machinery & Equipment", 36 "Electronic & Other Electric Equipment", 48 "Communications", or 73 "Business Services".

**Panel a: Number of deals/bidders by year**

| Year | Single bidder deals | Competition deals | % | Single bidders | Competition bidders | % |
|---|---|---|---|---|---|---|
| 1990 | 362 | 22 | 5.73% | 362 | 44 | 10.84% |
| 1991 | 395 | 22 | 5.28% | 395 | 43 | 9.82% |
| 1992 | 314 | 19 | 5.71% | 314 | 42 | 11.80% |
| 1993 | 374 | 18 | 4.59% | 374 | 39 | 9.44% |
| 1994 | 484 | 28 | 5.47% | 484 | 53 | 9.87% |
| 1995 | 579 | 37 | 6.01% | 579 | 78 | 11.87% |
| 1996 | 654 | 32 | 4.66% | 654 | 62 | 8.66% |
| 1997 | 758 | 41 | 5.13% | 758 | 79 | 9.44% |
| 1998 | 966 | 45 | 4.45% | 966 | 85 | 8.09% |
| 1999 | 1,081 | 47 | 4.17% | 1,081 | 89 | 7.61% |
| 2000 | 976 | 45 | 4.41% | 976 | 83 | 7.84% |
| 2001 | 777 | 26 | 3.24% | 777 | 48 | 5.82% |
| 2002 | 593 | 18 | 2.95% | 593 | 31 | 4.97% |
| 2003 | 586 | 28 | 4.56% | 586 | 51 | 8.01% |
| 2004 | 536 | 25 | 4.46% | 536 | 50 | 8.53% |
| 2005 | 708 | 34 | 4.58% | 708 | 59 | 7.69% |
| 2006 | 806 | 49 | 5.73% | 806 | 89 | 9.94% |
| 2007 | 869 | 43 | 4.71% | 869 | 74 | 7.85% |
| 2008 | 678 | 32 | 4.51% | 678 | 55 | 7.50% |
| 2009 | 739 | 36 | 4.65% | 739 | 60 | 7.51% |
| 2010 | 623 | 28 | 4.30% | 623 | 44 | 6.60% |
| 2011 | 549 | 22 | 3.85% | 549 | 40 | 6.79% |
| 2012 | 506 | 16 | 3.07% | 506 | 26 | 4.89% |
| Total | 14,913 | 713 | 4.56% | 14,913 | 1,324 | 8.15% |

**Panel b: Number of targets/bidders by country**

| Country | Single bidder targets | Competition targets | Single bidders | Competition bidders |
|---|---|---|---|---|
| United States | 5,977 | 274 | 5,994 | 566 |
| United Kingdom | 1,338 | 123 | 1,354 | 198 |
| Canada | 1,872 | 97 | 1,618 | 135 |
| Australia | 679 | 88 | 590 | 114 |
| France | 472 | 21 | 507 | 54 |
| Norway | 164 | 10 | 128 | 9 |
| Netherlands | 112 | 9 | 201 | 22 |
| Ireland-Rep | 50 | 9 | 65 | 5 |
| Japan | 901 | 7 | 948 | 17 |
| South Africa | 171 | 6 | 149 | 14 |
| Sweden | 230 | 6 | 211 | 13 |
| Spain | 94 | 5 | 124 | 12 |
| Denmark | 55 | 5 | 71 | 11 |
| Switzerland | 86 | 4 | 145 | 14 |
| Singapore | 127 | 4 | 124 | 9 |
| Italy | 112 | 4 | 146 | 9 |
| New Zealand | 79 | 4 | 59 | 2 |
| Germany | 358 | 3 | 389 | 13 |
| Finland | 66 | 3 | 81 | 9 |
| Belgium | 60 | 3 | 72 | 8 |
| India | 348 | 3 | 298 | 5 |
| Austria | 42 | 3 | 48 | 4 |
| Hong Kong | 155 | 2 | 158 | 8 |
| Mexico | 42 | 2 | 45 | 5 |
| Russian Fed | 258 | 2 | 245 | 4 |
| Chile | 46 | 2 | 30 | 1 |
| China | 104 | 1 | 130 | 9 |
| Brazil | 170 | 1 | 126 | 4 |
| South Korea | 233 | 1 | 220 | 3 |
| Malaysia | 75 | 1 | 67 | 3 |
| Israel | 74 | 1 | 57 | 3 |
| Portugal | 35 | 1 | 24 | 3 |
| Poland | 88 | 1 | 50 | 2 |
| Peru | 43 | 1 | 29 | 2 |
| Ukraine | 23 | 1 | 11 | 1 |
| Egypt | 22 | 1 | 13 | 1 |
| Czech Republic | 55 | 1 | 28 | 0 |
| Philippines | 40 | 1 | 37 | 0 |
| Hungary | 25 | 1 | 7 | 0 |
| Croatia | 10 | 1 | 5 | 0 |
| Bermuda | 19 | 0 | 44 | 6 |
| Supranational | 0 | 0 | 76 | 5 |
| Indonesia | 0 | 0 | 2 | 5 |
| Luxembourg | 0 | 0 | 19 | 3 |
| Utd Arab Em | 0 | 0 | 8 | 2 |
| Greece | 0 | 0 | 4 | 2 |
| Jersey | 0 | 0 | 4 | 2 |
| Iceland | 0 | 0 | 3 | 2 |
| Mauritius | 0 | 0 | 5 | 1 |
| Thailand | 0 | 0 | 5 | 1 |
| Guernsey | 0 | 0 | 4 | 1 |
| Uruguay | 0 | 0 | 1 | 1 |
| Nauru | 0 | 0 | 0 | 1 |
| Ghana | 3 | 0 | 5 | 0 |
| Cyprus | 0 | 0 | 30 | 0 |

(continued on next page)

(Table 1 continued)

| | | | | |
|---|---|---|---|---|
| Taiwan | 0 | 0 | 13 | 0 |
| Bahamas | 0 | 0 | 10 | 0 |
| Argentina | 0 | 0 | 8 | 0 |
| British Virgin | 0 | 0 | 8 | 0 |
| Cayman Islands | 0 | 0 | 8 | 0 |
| Colombia | 0 | 0 | 5 | 0 |
| Papua N Guinea | 0 | 0 | 4 | 0 |
| Saudi Arabia | 0 | 0 | 4 | 0 |
| Unknown | 0 | 0 | 4 | 0 |
| Belize | 0 | 0 | 3 | 0 |
| Gibraltar | 0 | 0 | 3 | 0 |
| Kazakhstan | 0 | 0 | 3 | 0 |
| Cook Islands | 0 | 0 | 2 | 0 |
| Isle of Man | 0 | 0 | 2 | 0 |
| Neth Antilles | 0 | 0 | 2 | 0 |
| Nigeria | 0 | 0 | 2 | 0 |
| Aruba | 0 | 0 | 1 | 0 |
| Bulgaria | 0 | 0 | 1 | 0 |
| Cuba | 0 | 0 | 1 | 0 |
| Ecuador | 0 | 0 | 1 | 0 |
| Jamaica | 0 | 0 | 1 | 0 |
| Jordan | 0 | 0 | 1 | 0 |
| Kuwait | 0 | 0 | 1 | 0 |
| Lithuania | 0 | 0 | 1 | 0 |
| Macau | 0 | 0 | 1 | 0 |
| Mongolia | 0 | 0 | 1 | 0 |
| Oman | 0 | 0 | 1 | 0 |
| Slovak Rep | 0 | 0 | 1 | 0 |
| Slovenia | 0 | 0 | 1 | 0 |
| Soviet Union | 0 | 0 | 1 | 0 |
| Turkey | 0 | 0 | 1 | 0 |
| Tuvalu | 0 | 0 | 1 | 0 |
| US Virgin Is | 0 | 0 | 1 | 0 |
| Western Somoa | 0 | 0 | 1 | 0 |
| Total | 14,913 | 713 | 14,913 | 1,324 |

**Panel c: Number of targets/bidder by industry**

| Country | Single bidder targets | Competition targets | Single bidders | Competition bidders |
|---|---|---|---|---|
| Food | 592 | 45 | 497 | 64 |
| Mines | 1,059 | 53 | 948 | 92 |
| Oil | 1,093 | 54 | 1,015 | 102 |
| Clothes | 302 | 5 | 190 | 14 |
| Durables | 348 | 13 | 235 | 21 |
| Chemicals | 300 | 19 | 289 | 25 |
| Consumption | 422 | 23 | 439 | 35 |
| Construction | 757 | 31 | 609 | 44 |
| Steel | 279 | 13 | 266 | 30 |
| Fabr. Prod. | 136 | 5 | 66 | 7 |
| Machinery | 1,504 | 63 | 1,303 | 97 |
| Cars | 274 | 6 | 228 | 13 |
| Transportation | 526 | 30 | 468 | 38 |
| Utilities | 462 | 20 | 418 | 28 |
| Retail | 761 | 55 | 545 | 64 |
| Financials | 0 | 0 | 2,461 | 217 |
| Other* | 6,098 | 278 | 4,936 | 433 |
| Total | 14,913 | 713 | 14,913 | 1,324 |

## Table 2: Univariate Comparison of Bidder, Deal and Target Characteristics

This table presents univariate comparisons of all the bidder, deal and target variables included in the probit regressions models. *Initial competition bidders* are the first bidders that make a takeover bid for the target. *Competition winners (Competition losers)* are the competition bidders that successfully acquire (fail to acquire) the target. Panel A compares the mean and median characteristics of initial competition bidders and single bidders (the post-bid competition model). Panel B compares competition winners and competition losers (the bid success model). Significance of the difference in mean and median is based on a two-sample t-test and a non-parametric Mann-Whitney U test. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| **Panel a: Initial competition bidders versus single bidders** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Single bidders** | | | **Initial competition bidders** | | | **Difference in** | |
| **Variable** | **N** | **Mean** | **Median** | **N** | **Mean** | **Median** | **Mean** | **Median** |
| **Hypotheses** | | | | | | | | |
| Toehold | 14,913 | 5.15 | 0.00 | 632 | 2.86 | 0.00 | **2.29*** ** | 0.00 |
| Initial premium | 8,665 | 40.35 | 30.75 | 487 | 38.20 | 31.82 | 2.15 | -1.07 |
| Termination fee | 14,904 | 0.85 | 0.00 | 632 | 0.77 | 0.00 | 0.08 | 0.00 |
| **Latent competition** | | | | | | | | |
| Buyout activity index Target | 14,152 | 0.77 | 0.39 | 612 | 0.90 | 0.52 | **-0.13*** ** | **-0.14*** ** |
| Corporate competition index Target | 14,155 | 4.66 | 4.28 | 607 | 4.96 | 4.74 | **-0.30*** ** | **-0.46*** ** |
| **International and financial competition** | | | | | | | | |
| Anti-self-dealing index Target | 14,894 | 0.63 | 0.65 | 632 | 0.68 | 0.65 | **-0.06*** ** | **0.00*** ** |
| Cross border bidder | 14,913 | 0.23 | 0.00 | 632 | 0.24 | 0.00 | - | - |
| Financial buyer | 14913 | 0.17 | 0 | 632 | 0.18 | 0 | - | - |
| **Experience and expertise** | | | | | | | | |
| Advisor reputation Bidder | 14,913 | 2.06 | 1.00 | 632 | 2.78 | 2.00 | **-0.72*** ** | **-1.00*** ** |
| Advisor reputation Target | 14,913 | 2.09 | 1.00 | 632 | 2.57 | 1.00 | **-0.48*** ** | **0.00*** ** |
| Acquisition experience | 14,913 | 7.62 | 3.00 | 632 | 6.81 | 3.00 | **0.81*** | 0.00 |
| **Deal controls** | | | | | | | | |
| Cash in payment | 12,163 | 64.24 | 100.00 | 585 | 72.36 | 100.00 | **-8.12*** ** | **0.00*** ** |
| Hostile | 14,913 | 0.02 | 0.00 | 632 | 0.28 | 0.00 | - | - |
| Same industry | 14,913 | 0.60 | 1.00 | 632 | 0.62 | 1.00 | - | - |
| **Target controls** | | | | | | | | |
| Size Target | 9,987 | 11.71 | 11.66 | 475 | 12.40 | 12.31 | **-0.69*** ** | **-0.65*** ** |
| Cash holdings Target | 9,969 | 0.18 | 0.09 | 475 | 0.15 | 0.08 | **0.02** ** | **0.01*** |
| M/B ratio Target | 9,105 | 2.21 | 1.48 | 456 | 2.22 | 1.62 | -0.01 | -0.14 |
| Market leverage Target | 9,375 | 0.36 | 0.37 | 458 | 0.36 | 0.38 | 0.00 | -0.01 |
| Profitability Target | 9,934 | -0.12 | 0.02 | 474 | -0.05 | 0.03 | **-0.06*** ** | **-0.01*** ** |
| **Bidder controls** | | | | | | | | |
| Size Bidder | 8,034 | 13.67 | 13.74 | 373 | 13.68 | 13.72 | -0.01 | 0.02 |
| Cash holdings Bidder | 8,025 | 0.14 | 0.09 | 372 | 0.14 | 0.08 | 0.00 | 0.00 |
| M/B ratio Bidder | 7,101 | 2.62 | 1.80 | 335 | 2.73 | 1.91 | -0.11 | **-0.11*** |
| Market leverage Bidder | 7,714 | 0.40 | 0.42 | 354 | 0.40 | 0.42 | 0.00 | 0.00 |
| Profitability Bidder | 7,996 | -0.02 | 0.04 | 371 | 0.03 | 0.06 | **-0.05*** ** | **-0.02*** ** |
| Relative size | 7,351 | 0.40 | 0.16 | 353 | 0.73 | 0.32 | **-0.32*** ** | **-0.15*** ** |

| Panel b: Competition winners versus competition losers | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Competition winners | | | Competition losers | | | Difference in | |
| **Variable** | **N** | **Mean** | **Median** | **N** | **Mean** | **Median** | **Mean** | **Median** |
| **Hypotheses** | | | | | | | | |
| Toehold | 633 | 3.56 | 0.00 | 691 | 2.00 | 0.00 | **1.55*** ** | **0.00** ** |
| Cash in payment | 612 | 76.28 | 100.00 | 590 | 74.22 | 100.00 | 2.07 | 0.00 |
| Termination fee | 633 | 1.03 | 0.00 | 691 | 0.50 | 0.00 | **0.54*** ** | **0.00** ** |
| **Latent competition** | | | | | | | | |
| Buyout activity index Bidder | 607 | 0.87 | 0.41 | 657 | 0.92 | 0.48 | -0.05 | -0.06 |
| Corporate competition index Bidder | 604 | 5.00 | 4.94 | 659 | 4.98 | 4.87 | 0.02 | 0.08 |
| **International and financial competition** | | | | | | | | |
| Anti-self-dealing index Bidder | 625 | 0.66 | 0.65 | 681 | 0.66 | 0.65 | 0.00 | 0.00 |
| Cross border bidder | 633 | 0.26 | 0.00 | 691 | 0.25 | 0.00 | - | - |
| Financial buyer | 633 | 0.15 | 0.00 | 691 | 0.19 | 0.00 | - | - |
| **Experience and expertise** | | | | | | | | |
| Advisor reputation Bidder | 633 | 2.77 | 2.00 | 691 | 2.65 | 1.00 | 0.13 | 1.00 |
| Relative advisor reputation | 633 | 27.54 | 1.08 | 691 | 18.87 | 1.08 | 8.66 | **0.00** * |
| Acquisition experience | 633 | 8.41 | 4.00 | 691 | 5.97 | 2.00 | **2.44*** ** | **2.00*** ** |
| **Deal controls** | | | | | | | | |
| Final premium | 506 | 55.31 | 45.79 | 468 | 47.37 | 41.11 | **7.94*** ** | **4.68** ** |
| Hostile | 633 | 0.10 | 0.00 | 691 | 0.34 | 0.00 | - | - |
| Same industry | 633 | 0.64 | 1.00 | 691 | 0.60 | 1.00 | - | - |
| **Bidder controls** | | | | | | | | |
| Size Bidder | 369 | 14.08 | 14.06 | 392 | 13.59 | 13.65 | **0.49*** ** | **0.41*** ** |
| Cash holdings Bidder | 367 | 0.12 | 0.07 | 392 | 0.15 | 0.08 | **-0.02** ** | **-0.01** ** |
| M/B ratio Bidder | 330 | 2.80 | 1.89 | 356 | 2.89 | 2.05 | -0.09 | -0.17 |
| Market leverage Bidder | 351 | 0.40 | 0.43 | 380 | 0.41 | 0.43 | 0.00 | 0.00 |
| Profitability Bidder | 368 | 0.03 | 0.06 | 391 | 0.03 | 0.06 | 0.00 | 0.00 |
| Relative size | 366 | 0.51 | 0.22 | 344 | 0.86 | 0.43 | **-0.34*** ** | **-0.22*** ** |

## Table 3: Probit Regressions on Post-bid Competition

This tables presents the results from several probit regressions on the *Competition* dummy as the dependent variable. Each model has different setup with respect to the type of bidders included (all bidders or only publicly listed bidders) and the set of control variables (deal, target, bidder characteristics). *Toehold* is percent of target shares hold pre-announcement, *Initial premium* is initial offer price over target stock price 4 weeks prior to announcement winsorized to the range [0, 2], *Termination fee* is a dummy for target termination fees, *Buyout activity index* is country-level aggregate investment by private buyout funds over stock market capitalization, *Corporate competition index* is percent of listed firms acquired on a country-level, *Anti-self-dealing index is* from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) and ranges from 0 (lowest) to 1 (highest), *Cross border bidder* is a dummy variable for differening bidder and target countries, *Financial buyer* is a dummy for private equity firms, *Advisor reputation* is a market share based ranking and ranges from 5(highest) to 1(lowest), *Acquisition experience* is number of completed M&As, *Cash in payment* is percent of cash payment, *Hostile* is a dummy for hostile or unsolicited offers, *Same industry* is a dummy for equal bidder and target industries, *Size* is natural log of assets, *Cash holdings* is cash and equivalents to assets, *M/B ratio* is market value over book value of equity, *Market leverage* is total debt to market value of assets (assets minus book value of equity plus market capitalization), *Profitability* is net income to assets, *Relative size* is transaction value over bidder market value. t values based on heteroskedasticity-consistent standard errors are reported below coefficients, marginal effects (M.E.) in brackets. We include year, industry and country dummy variables but do not report them. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| Model | I | | II | | III | | IV | | V | | VI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample | Single bidders and initial competition bidders | | | | | | | | | | | |
| Bidder type | all | | all | | public | | public | | public | | public | |
| Deal characteristics | ***yes*** | | ***yes*** | | ***yes*** | | ***yes*** | | ***yes*** | | ***yes*** | |
| Target characteristics | *no* | | ***yes*** | | *no* | | ***yes*** | | *no* | | ***yes*** | |
| Bidder characteristics | *no* | | *no* | | ***no*** | | *no* | | ***yes*** | | ***yes*** | |
| **Dependent variable: Competition** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** |
| **Hypotheses** | | | | | | | | | | | | |
| Toehold | **-0.0142*** ** | -0.0128 | **-0.0177*** ** | -0.0151 | **-0.0165*** ** | -0.0130 | **-0.0179*** ** | -0.0138 | **-0.0168*** ** | -0.0105 | **-0.0178*** ** | -0.0111 |
| | [-4.9475] | | [-4.9445] | | [-4.1234] | | [-3.9422] | | [-3.4179] | | [-3.3359] | |
| Initial premium | -0.0006 | -0.0018 | -0.0003 | -0.0008 | -0.0001 | -0.0001 | 0.0007 | 0.0017 | -0.0003 | -0.0006 | 0.0009 | 0.0018 |
| | [-0.9289] | | [-0.4042] | | [-0.0378] | | [0.7911] | | [-0.3393] | | [0.9040] | |
| Termination fee | -0.0908 | -0.0065 | **-0.1964** ** | -0.0130 | **-0.1581*** | -0.0104 | **-0.2979*** ** | -0.0184 | **-0.1698*** | -0.0086 | **-0.2545** ** | -0.0126 |
| | [-1.3294] | | [-2.4401] | | [-1.8992] | | [-3.0277] | | [-1.8072] | | [-2.3577] | |
| **Latent competition** | | | | | | | | | | | | |
| Buyout activity index Target | 0.0210 | 0.0015 | 0.0189 | 0.0013 | 0.0202 | 0.0012 | -0.0090 | -0.0005 | 0.0528 | 0.0025 | 0.0243 | 0.0012 |
| | [0.4650] | | [0.3775] | | [0.3355] | | [-0.1346] | | [0.8067] | | [0.3377] | |
| Corporate competition index Target | **0.0505*** | 0.0089 | 0.0379 | 0.0063 | **0.0689** ** | 0.0111 | **0.0732*** | 0.0112 | **0.0725*** | 0.0090 | **0.0949** ** | 0.0115 |
| | [1.8166] | | [1.1255] | | [2.0428] | | [1.8365] | | [1.7350] | | [1.9936] | |
| **International and financial competition** | | | | | | | | | | | | |
| Anti-self-dealing index Target | -0.8035 | -0.0094 | **1.5977** ** | 0.0182 | -0.9597 | -0.0095 | -0.4440 | -0.0043 | **-5.6981*** ** | -0.0461 | **-2.3024*** ** | -0.0174 |
| | [-0.9996] | | [1.9892] | | [-0.7737] | | [-0.4386] | | [-3.6543] | | [-5.6868] | |
| Cross border bidder | -0.0358 | -0.0026 | -0.0840 | -0.0054 | -0.0232 | -0.0015 | -0.0813 | -0.0049 | -0.0589 | -0.0029 | -0.1062 | -0.0050 |
| | [-0.5688] | | [-1.1525] | | [-0.3030] | | [-0.9256] | | [-0.6683] | | [-1.068] | |
| Financial buyer | **0.2348*** ** | 0.0201 | **0.1962** ** | 0.0151 | | | | | | | | |
| | [2.8197] | | [2.0624] | | | | | | | | | |

(continued on next page)

(Table 3 continued)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Experience and expertise** | | | | | | | | | | | | |
| Advisor reputation Bidder | -0.0092 | -0.0012 | **-0.0473**** | -0.0056 | 0.0144 | 0.0017 | -0.0227 | -0.0025 | 0.0068 | 0.0006 | -0.0156 | -0.0014 |
| | [-0.5694] | | [-2.333] | | [0.7419] | | [-0.9286] | | [0.3005] | | [-0.5808] | |
| Advisor reputation Target | **0.0623***** | 0.0079 | 0.0254 | 0.0030 | **0.0430**** | 0.0051 | -0.0223 | -0.0025 | 0.0184 | 0.0017 | -0.0179 | -0.0016 |
| | [3.7351] | | [1.1588] | | [2.1060] | | [-0.8437] | | [0.7502] | | [-0.5991] | |
| Acquisition experience | **-0.0056**** | -0.0063 | **-0.0070***** | -0.0079 | **-0.0072**** | -0.0081 | **-0.0088***** | -0.0100 | **-0.0079**** | -0.0072 | -0.0066 | -0.0063 |
| | [-2.4406] | | [-2.6711] | | [-2.5271] | | [-2.6950] | | [-2.0557] | | [-1.6233] | |
| **Deal controls** | | | | | | | | | | | | |
| Cash in payment | **0.0016**** | 0.0053 | 0.0011 | 0.0034 | **0.0025***** | 0.0078 | **0.0024***** | 0.0069 | **0.0036***** | 0.0085 | **0.0040***** | 0.0093 |
| | [2.5298] | | [1.4939] | | [3.4307] | | [2.7172] | | [4.0046] | | [3.9523] | |
| Hostile | **1.4385***** | 0.2936 | **1.4585***** | 0.2888 | **1.4813***** | 0.2930 | **1.4282***** | 0.2640 | **1.4503***** | 0.2432 | **1.4571***** | 0.2400 |
| | [16.6781] | | [14.1558] | | [14.7573] | | [11.9198] | | [12.9815] | | [11.3173] | |
| Same industry | -0.0348 | -0.0026 | -0.0345 | -0.0023 | -0.0318 | -0.0021 | -0.0475 | -0.0030 | 0.0301 | 0.0015 | -0.0764 | -0.0039 |
| | [-0.5663] | | [-0.4844] | | [-0.4438] | | [-0.5774] | | [0.3636] | | [-0.8238] | |
| **Target controls** | | | | | | | | | | | | |
| Size Target | | | **0.1127***** | 0.0133 | | | **0.1485***** | 0.0165 | | | **0.2002***** | 0.0176 |
| | | | [4.5428] | | | | [5.0605] | | | | [4.5197] | |
| Cash holdings Target | | | -0.0134 | -0.0002 | | | 0.1595 | 0.0021 | | | 0.1130 | 0.0012 |
| | | | [-0.0749] | | | | [0.7815] | | | | [0.4515] | |
| M/B ratio Target | | | -0.0062 | -0.0018 | | | -0.0015 | -0.0004 | | | -0.0005 | -0.0001 |
| | | | [-0.7466] | | | | [-0.1488] | | | | [-0.0525] | |
| Market leverage Target | | | -0.1372 | -0.0025 | | | -0.0974 | -0.0017 | | | 0.0236 | 0.0003 |
| | | | [-1.0756] | | | | [-0.5998] | | | | [0.1298] | |
| Profitability Target | | | -0.1229 | -0.0029 | | | **-0.1797*** | -0.0039 | | | **-0.2400**** | -0.0041 |
| | | | [-1.3992] | | | | [-1.7157] | | | | [-1.985] | |
| **Bidder controls** | | | | | | | | | | | | |
| Size Bidder | | | | | | | | | 0.0197 | 0.0021 | **-0.0994**** | -0.0101 |
| | | | | | | | | | [0.7407] | | [-2.3925] | |
| Cash holdings Bidder | | | | | | | | | 0.1634 | 0.0013 | 0.2385 | 0.0018 |
| | | | | | | | | | [0.6495] | | [0.7503] | |
| M/B ratio Bidder | | | | | | | | | -0.0025 | -0.0004 | 0.0042 | 0.0006 |
| | | | | | | | | | [-0.1856] | | [0.2785] | |
| Market leverage Bidder | | | | | | | | | -0.0422 | -0.0005 | -0.2414 | -0.0028 |
| | | | | | | | | | [-0.2591] | | [-1.2076] | |
| Profitability Bidder | | | | | | | | | **0.8551***** | 0.0088 | **0.8634**** | 0.0082 |
| | | | | | | | | | [2.6948] | | [2.2785] | |
| Relative size | | | | | | | | | **0.2213***** | 0.0078 | 0.0852 | 0.0029 |
| | | | | | | | | | [4.7254] | | [1.3441] | |
| Constant | **-1.8509***** | | **-4.9410***** | | **-1.9398***** | | **-3.9283***** | | -1.2477 | | **-2.5247***** | |
| | [-3.5974] | | [-6.3168] | | [-2.6556] | | [-4.4706] | | [-1.489] | | [-3.3265] | |
| Adj. $R^2$ | 0.1756 | | 0.2000 | | 0.2014 | | 0.2291 | | 0.2355 | | 0.2683 | |
| F-test | 587.7931 | | 508.4640 | | 481.4410 | | 404.7456 | | 480.0637 | | 429.6045 | |
| N | 8,571 | | 6,378 | | 6,022 | | 4,391 | | 4,962 | | 3,792 | |
| Base probability | 3.24% | | 2.96% | | 2.92% | | 2.69% | | 2.12% | | 2.05% | |

## Table 4: Probit Regressions on Bid Success

This tables presents the results from several probit regressions on the *Success* dummy as the dependent variable. Each model has different setup with respect to the type of bidders included (all bidders or only publicly listed bidders) and the set of control variables (deal and bidder characteristics). *Toehold* is percent of target shares hold pre-announcement, *Cash in payment* is percent of cash payment, *Termination fee* is a dummy for target termination fees, *Buyout activity index* is country-level aggregate investment by private buyout funds over stock market capitalization, *Corporate competition index* is percent of listed firms acquired on a country-level, *Anti-self-dealing index is* from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) and ranges from 0 (lowest) to 1 (highest), *Cross border bidder* is a dummy variable for differening bidder and target countries, *Financial buyer* is a dummy for private equity firms, *Advisor reputation* is a market share based ranking and ranges from 5(highest) to 1(lowest), *Relative advisor reputation* is bidder over target advisor market share, *Acquisition experience* is number of completed M&As, *Final premium* is final offer price over target stock price 4 weeks prior to announcement winsorized to the range [0, 2], *Hostile* is a dummy for hostile or unsolicited offers, *Same industry* is a dummy for equal bidder and target industries, *Size* is natural log of assets, *Cash holdings* is cash and equivalents to assets, *M/B ratio* is market value over book value of equity, *Market leverage* is total debt to market value of assets (assets minus book value of equity plus market capitalization), *Profitability* is net income to assets, *Relative size* is transaction value over bidder market value. t values based on heteroskedasticity-consistent standard errors are reported below coefficients, marginal effects (M.E.) in brackets. We include year, industry and country dummy variables but do not report them. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| Model | I | | II | | III | | IV | | V | | VI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample | Competition winners and loser | | | | | | Single bidders and competition bidders | | | | | |
| Bidder type | all | | public | | public | | all | | public | | public | |
| Deal characteristics | ***yes*** | | ***yes*** | | ***yes*** | | ***yes*** | | ***yes*** | | ***yes*** | |
| Bidder characteristics | *no* | | *no* | | ***yes*** | | *no* | | *no* | | ***yes*** | |
| **Dependent variable: Success** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** |
| **Hypotheses** | | | | | | | | | | | | |
| Toehold | **0.0210*****<br>[3.3701] | 0.0637 | 0.0074<br>[0.8877] | 0.0204 | 0.0041<br>[0.4400] | 0.0112 | **0.0209*****<br>[6.1672] | 0.0136 | **0.0182*****<br>[4.2908] | 0.0096 | **0.0168*****<br>[3.6566] | 0.0065 |
| Cash in payment | **0.0027****<br>[2.0297] | 0.0415 | 0.0018<br>[1.1992] | 0.0304 | 0.0024<br>[1.2903] | 0.0400 | **-0.0018*****<br>[-2.6191] | -0.0043 | **-0.0032*****<br>[-4.0596] | -0.0068 | **-0.0038*****<br>[-3.8344] | -0.0057 |
| Termination fee | **0.4752*****<br>[3.7762] | 0.1864 | **0.3926****<br>[2.4834] | 0.1548 | **0.3350***<br>[1.8679] | 0.1323 | **0.2992*****<br>[4.1783] | 0.0153 | **0.2718*****<br>[3.1010] | 0.0119 | **0.3149*****<br>[3.1391] | 0.0099 |
| **Latent competition** | | | | | | | | | | | | |
| Buyout activity index Bidder | **-0.1175****<br>[-2.0839] | -0.0508 | **-0.2203*****<br>[-2.8878] | -0.0861 | **-0.2177****<br>[-2.4815] | -0.0866 | **-0.0724****<br>[-2.3593] | -0.0038 | **-0.1224*****<br>[-3.1543] | -0.0051 | **-0.1235*****<br>[-2.8114] | -0.0037 |
| Corporate competition index Bidder | -0.0243<br>[-0.7740] | -0.0223 | 0.0046<br>[0.1204] | 0.0042 | 0.0187<br>[0.4095] | 0.0173 | **-0.0383****<br>[-2.1509] | -0.005 | -0.0264<br>[-1.2095] | -0.0029 | -0.0216<br>[-0.8418] | -0.0017 |
| **International and financial competition** | | | | | | | | | | | | |
| Anti-self-dealing index Bidder | -0.1128<br>[-0.2821] | -0.0078 | -0.0575<br>[-0.1196] | -0.0039 | 0.1966<br>[0.3339] | 0.0132 | 0.0614<br>[0.2989] | 0.0006 | 0.1365<br>[0.5497] | 0.0010 | 0.2504<br>[0.8360] | 0.0013 |
| Cross border bidder | -0.1031<br>[-0.7823] | -0.0411 | -0.0548<br>[-0.3455] | 0.0363 | -0.1874<br>[-1.0119] | -0.0747 | 0.0086<br>[0.1193] | 0.0005 | 0.0898<br>[1.0210] | 0.0038 | 0.1021<br>[0.9964] | 0.0031 |
| Financial buyer | -0.0865<br>[-0.5243] | -0.0345 | | | | | **-0.1633***<br>[-1.8397] | -0.0099 | | | | |

(continued on next page)

(Table 4 continued)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Experience and expertise** | | | | | | | | | | | | |
| Advisor reputation Bidder | **0.0648**** | 0.0462 | 0.0334 | 0.0369 | -0.0017 | -0.0012 | 0.0134 | 0.0013 | -0.0151 | -0.0012 | -0.0191 | -0.0011 |
| | [2.3286] | | [0.9678] | | [-0.0376] | | [0.8476] | | [-0.7763] | | [-0.7796] | |
| Relative advisor reputation | **0.0009**** | 0.041 | **0.0012*** | 0.0819 | **0.0023**** | 0.0674 | **0.0008**** | 0.0351 | **0.0011**** | 0.0407 | **0.0016**** | 0.0529 |
| | [2.2241] | | [1.6677] | | [2.1174] | | [2.4882] | | [2.1546] | | [2.1739] | |
| Acquisition experience | **0.0114***** | 0.0634 | **0.0130***** | 0.0763 | **0.0119**** | 0.0795 | **0.0097***** | 0.0081 | **0.0122***** | 0.0093 | **0.0129***** | 0.0075 |
| | [2.8848] | | [2.755] | | [2.2767] | | [3.0716] | | [3.2558] | | [2.8047] | |
| **Deal controls** | | | | | | | | | | | | |
| Final premium | **0.0040***** | 0.0676 | **0.0045***** | -0.1629 | **0.0030*** | 0.0503 | -0.0003 | -0.0006 | -0.0001 | -0.0002 | -0.0009 | -0.0012 |
| | [3.4690] | | [3.0503] | | [1.7812] | | [-0.4420] | | [-0.1188] | | [-1.0109] | |
| Hostile | **-0.9644***** | -0.3628 | **-0.9271***** | -0.0219 | **-0.9688***** | -0.3666 | **-1.5502***** | -0.2807 | **-1.5029***** | -0.2398 | **-1.4355***** | -0.1792 |
| | [-8.0248] | | [-6.4428] | | [-5.8203] | | [-20.1347] | | [-16.3114] | | [-13.8300] | |
| Same industry | 0.1337 | 0.0533 | 0.091 | 0.0431 | 0.0107 | 0.0043 | 0.0295 | 0.0016 | 0.0012 | 0.0001 | -0.0387 | -0.0012 |
| | [1.1146] | | [0.6425] | | [0.0651] | | [0.4552] | | [0.0159] | | [-0.4444] | |
| **Bidder Controls** | | | | | | | | | | | | |
| Size Bidder | | | | | -0.0037 | -0.0030 | | | | | -0.0263 | -0.0018 |
| | | | | | [-0.0746] | | | | | | [-0.9595] | |
| Cash holdings Bidder | | | | | **-1.1630**** | -0.0702 | | | | | -0.3450 | -0.0017 |
| | | | | | [-2.3432] | | | | | | [-1.3901] | |
| M/B ratio Bidder | | | | | -0.0062 | -0.0086 | | | | | -0.0088 | -0.0009 |
| | | | | | [-0.3148] | | | | | | [-0.7499] | |
| Market leverage Bidder | | | | | -0.1071 | -0.0103 | | | | | -0.1599 | -0.0012 |
| | | | | | [-0.3630] | | | | | | [-0.9697] | |
| Profitability Bidder | | | | | -0.4623 | -0.0327 | | | | | **-0.7734***** | -0.0050 |
| | | | | | [-1.2400] | | | | | | [-2.7154] | |
| Relative size | | | | | **-0.1950**** | -0.0767 | | | | | **-0.2762***** | -0.0063 |
| | | | | | [-2.3207] | | | | | | [-6.6032] | |
| Constant | -0.5965 | | -0.7591 | | -0.4624 | | **2.4091***** | | **2.3398***** | | **3.0023***** | |
| | [-1.1288] | | [-1.4011] | | [-0.4841] | | [8.5857] | | [7.5547] | | [6.0956] | |
| Adj. $R^2$ | 0.1473 | | 0.1523 | | 0.1947 | | 0.2307 | | 0.2463 | | 0.2885 | |
| F-test | 170.3067 | | 111.6248 | | 123.8545 | | 725.3640 | | 565.1412 | | 561.8399 | |
| N | 912 | | 603 | | 492 | | 8,903 | | 6,256 | | 5,166 | |
| Base probability | 51.48% | | 51.26% | | 51.80% | | 97.75% | | 98.17% | | 98.76% | |

## Table 5: Probit Regressions on Bid Success - Influence of Bidder Asymmetries

This tables presents the results from several probit regressions on the *Success* dummy as the dependent variable. Each model has different setup with respect to the type of bidders included (all bidders or only public bidders) and the set of control variables (deal and bidder characteristics). *Δ* denotes the difference from the transaction-specific mean of that variable. *Toehold* is percent of target shares hold pre-announcement, *Cash in payment* is percent of cash payment, *Termination fee size* is target termination fee amount over transaction value, *Buyout activity index* is country-level aggregate investment by private buyout funds over stock market capitalization, *Corporate competition index* is percent of listed firms acquired on a country-level, *Anti-self-dealing index is* from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) and ranges from 0 (lowest) to 1 (highest), *Cross border bidder* is a dummy variable for differening bidder and target countries, *Financial buyer* is a dummy for private equity firms, *Advisor reputation* is a market share based ranking and ranges from 5(highest) to 1(lowest), *Acquisition experience* is number of completed M&As, *Final premium* is final offer price over target stock price 4 weeks prior to announcement winsorized to the range [0, 2], *Hostile* is a dummy for hostile or unsolicited offers, *Same industry* is a dummy for equal bidder and target industries, *Size* is natural log of assets, *Cash holdings* is cash and equivalents to assets, *M/B ratio* is market value over book value of equity, *Market leverage* is total debt to market value of assets (assets minus book value of equity plus market capitalization), *Profitability* is net income to assets, *Relative size* is transaction value over bidder market value. t values based on heteroskedasticity-consistent standard errors are reported below coefficients, marginal effects (M.E.) in brackets. We include year, industry and country dummy variables but do not report them. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| Model | I | | II | | III | |
|---|---|---|---|---|---|---|
| Sample | Competition winners and losers | | | | | |
| Bidder type | all | | public | | public | |
| Deal characteristics | ***yes*** | | ***yes*** | | ***yes*** | |
| Bidder characteristics | *no* | | *no* | | ***yes*** | |
| **Dependent variable: Success** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** | **Coeff. [t-stat.]** | **(M.E.)** |
| **Hypotheses** | | | | | | |
| Δ Toehold | **0.0278**** | 0.0478 | 0.0146 | 0.0246 | 0.0191 | 0.0312 |
| | [2.5726] | | [0.9758] | | [1.0208] | |
| Δ Cash in payment | **0.0088***** | 0.0763 | **0.0078***** | 0.0738 | **0.0066**** | 0.0615 |
| | [3.8544] | | [2.9328] | | [2.1164] | |
| Δ Termination fee size | **0.3161***** | 0.1145 | **0.2875***** | 0.1071 | **0.2704***** | 0.1031 |
| | [5.1970] | | [3.8800] | | [3.2584] | |
| **Latent competition** | | | | | | |
| Δ Buyout activity index Bidder | -0.3366 | -0.0414 | -0.3489 | -0.0399 | **-0.6478*** | -0.0767 |
| | [-1.612] | | [-1.1743] | | [-1.8092] | |
| Δ Corporate competition index Bidder | -0.0394 | -0.0119 | 0.0503 | 0.0157 | 0.0991 | 0.0304 |
| | [-0.6399] | | [0.6809] | | [1.1386] | |
| **International and financial competition** | | | | | | |
| Δ Anti-self-dealing index Bidder | 0.1562 | 0.0050 | 0.8921 | 0.0285 | **1.7950*** | 0.0534 |
| | [0.2516] | | [1.1556] | | [1.8029] | |
| Cross border bidder | -0.0333 | -0.0133 | 0.0497 | 0.0198 | -0.1647 | -0.0656 |
| | [-0.2676] | | [0.3284] | | [-0.9021] | |
| Financial buyer | -0.1956 | -0.0779 | | | | |
| | [-1.2103] | | | | | |

(continued on next page)

(Table 5 continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| **Experience and expertise** | | | | | | |
| Δ Advisor reputation Bidder | **0.1891*** ** | 0.0711 | **0.1581** ** | 0.0595 | **0.1317*** | 0.0495 |
| | [3.6115] | | [2.4200] | | [1.7355] | |
| Δ Acquisition experience | **0.0269*** ** | 0.0939 | **0.0344*** ** | 0.1163 | **0.0368*** ** | 0.1324 |
| | [4.1994] | | [4.2097] | | [3.5449] | |
| **Deal controls** | | | | | | |
| Δ Final premium | **0.0212*** ** | 0.1546 | **0.0200*** ** | 0.1543 | **0.0184*** ** | 0.1421 |
| | [6.8415] | | [5.7729] | | [4.8653] | |
| Hostile | **-0.8749*** ** | -0.3325 | **-0.8278*** ** | -0.3171 | **-0.8384*** ** | -0.3217 |
| | [-7.0624] | | [-5.4986] | | [-4.6902] | |
| Same industry | 0.0708 | 0.0282 | 0.0552 | 0.0220 | 0.0381 | 0.0152 |
| | [0.5799] | | [0.3838] | | [0.2270] | |
| **Bidder Controls** | | | | | | |
| Δ Size Bidder | | | | | -0.0808 | -0.0262 |
| | | | | | [-0.5334] | |
| Δ Cash holdings Bidder | | | | | -0.5209 | -0.0147 |
| | | | | | [-0.4215] | |
| Δ M/B ratio Bidder | | | | | **0.0747*** | 0.0501 |
| | | | | | [1.8649] | |
| Δ Market leverage Bidder | | | | | 0.0782 | 0.0034 |
| | | | | | [0.1048] | |
| Δ Profitability Bidder | | | | | -0.7390 | -0.0286 |
| | | | | | [-1.1395] | |
| Δ Relative size | | | | | **-0.8079*** ** | -0.1736 |
| | | | | | [-3.7944] | |
| Constant | 0.1442 | | -0.4261 | | -0.3082 | |
| | [0.3483] | | [-0.9039] | | [-0.5253] | |
| Adj. $R^2$ | 0.2111 | | 0.2155 | | 0.2836 | |
| F-test | 211.3996 | | 143.5488 | | 159.1061 | |
| N | 912 | | 603 | | 492 | |
| Base probability | 51.37% | | 51.18% | | 51.86% | |

## Table 6: Takeover Premiums

This table presents the final takeover premiums for the single bidders, competition winners, and competition losers. *Final takeover premium* is defined as the final offer price over target stock price 4 weeks prior to announcement winsorized to the range [0, 2]. Panel a is based on the full sample. Panels b and c include only observations with above-median values of the target *Corporate competition index* and *Buyout activity index*, respectively. Panel d includes competition deals that involve only corporate (strategic) buyers, and panel e includes competition deals with at least one financial buyer. Significance of the difference in mean and median is based on a two-sample t-test and a non-parametric Mann-Whitney U test. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| | Single bidders (1) | Competition winners (2) | Competition losers (3) | Diff. (1) - (2) | Diff. (2) - (3) |
|---|---|---|---|---|---|
| Mean | **41.09%*** ** | **55.31%*** ** | **47.37%*** ** | **-14.22%*** ** | **7.94%*** ** |
| Median | **31.58%*** ** | **45.79%*** ** | **41.11%*** ** | **-14.21%*** ** | **4.68%** ** |
| Std.dev. | 41.50% | 45.13% | 38.04% | | |
| N | 8665 | 506 | 468 | | |
| **Panel b: Corporate competition index above median** | | | | | |
| Mean | **45.35%*** ** | **59.15%*** ** | **48.37%*** ** | **-13.80%*** ** | **10.78%*** ** |
| Median | **35.74%*** ** | **47.32%*** ** | **42.47%*** ** | **-11.58%*** ** | **4.84%** ** |
| Std.dev. | 41.62% | 48.48% | 37.70% | | |
| N | 4327 | 279 | 259 | | |
| **Panel c: Buyout activity index above median** | | | | | |
| Mean | **42.29%*** ** | **56.23%*** ** | **45.14%*** ** | **-13.94%*** ** | **11.10%*** ** |
| Median | **32.96%*** ** | **43.05%*** ** | **38.20%*** ** | **-10.10%*** ** | **4.86%** ** |
| Std.dev. | 40.77% | 47.76% | 38.22% | | |
| N | 4660 | 268 | 250 | | |
| **Panel d: Corporate competition** | | | | | |
| Mean | - | **55.95%*** ** | **47.80%*** ** | - | **8.14%*** ** |
| Median | - | **46.79%*** ** | **41.73%*** ** | - | **5.06%** ** |
| Std.dev. | - | 45.00% | 38.05% | | |
| N | - | 475 | 442 | | |
| **Panel e: Financial competition** | | | | | |
| Mean | - | **49.99%*** ** | **44.47%*** ** | - | 5.52% |
| Median | - | **39.10%*** ** | **36.05%*** ** | - | 3.04% |
| Std.dev. | - | 41.35% | 38.61% | | |
| N | - | 128 | 129 | | |

## Table 7: Bidder Announcement Returns

This table presents the bidder announcement CAR(-2,+2) for the single bidders, competition winners, and competition losers. Cumulative abnormal returns are calculated based on market-adjusted returns using the country's Datastream value-weighted total market return index. Panel A is based on the full sample. Panels B and C include only observations with above-median values of the target *Corporate competition index* and *Buyout activity index*, respectively. Panel D includes competition deals that involve only corporate (strategic) buyers, and panel E includes competition deals with at least one financial buyer. Significance of the difference in mean and median is based on a two-sample t-test and a non-parametric Mann-Whitney U test. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| | Single bidders (1) | Competition winners (2) | Competition losers (3) | Diff.f. (1) - (2) | Diff. (2) - (3) |
|---|---|---|---|---|---|
| **Panel a: Full sample** | | | | | |
| Mean | **0.53%*** ** | -0.03% | **-1.03%*** ** | 0.56% | **1.00%*** |
| Median | **0.00%*** | -0.17% | **-0.87%*** ** | 0.17% | 0.70% |
| Std.dev. | 10.09% | 7.69% | 6.90% | | |
| N | 5222 | 316 | 359 | | |
| **Panel b: Corporate competition index above median** | | | | | |
| Mean | -0.02% | -0.70% | **-1.66%*** ** | 0.68% | 0.96% |
| Median | -0.29% | -0.67% | **-1.20%*** ** | 0.39% | 0.53% |
| Std.dev. | 10.46% | 7.23% | 7.04% | | |
| N | 2331 | 167 | 193 | | |
| **Panel c: Buyout activity index above median** | | | | | |
| Mean | 0.30% | -0.50% | **-1.28%** ** | 0.81% | 0.78% |
| Median | -0.13% | 0.26% | **-1.07%** ** | -0.39% | 1.33% |
| Std.dev. | 10.20% | 7.03% | 7.33% | | |
| N | 2419 | 150 | 173 | | |
| **Panel d: Corporate competition** | | | | | |
| Mean | - | -0.03% | **-1.03%*** ** | - | **1.00%*** |
| Median | - | -0.17% | **-0.87%*** ** | - | 0.70% |
| Std.dev. | - | 7.69% | 6.90% | | |
| N | - | 316 | 359 | | |
| **Panel e: Financial competition** | | | | | |
| Mean | - | 0.83% | -0.59% | - | 1.41% |
| Median | - | 0.07% | -1.03% | - | 1.10% |
| Std.dev. | - | 6.44% | 7.24% | | |
| N | - | 35 | 47 | | |

## Table 8: Probit Regressions on Post-bid Competition - Subsamples based on Target Country's Legal Origin

This tables presents the results from several probit regressions on the *Competition* dummy as the dependent variable. We split the sample based on the target country's legal origin, and report the results of separate regressions for non-U.S. common law (in the following "common law") and civil law targets, respectively. Each model has different setup with respect to the type of bidders included (all bidders or only publicly listed bidders) and the set of control variables (deal, target, bidder characteristics). *Toehold* is percent of target shares hold pre-announcement, *Initial premium* is initial offer price over target stock price 4 weeks prior to announcement winsorized to the range [0, 2], *Termination fee* is a dummy for target termination fees, *Buyout activity index* is country-level aggregate investment by private buyout funds over stock market capitalization, *Corporate competition index* is percent of listed firms acquired on a country-level, *Anti-self-dealing index is* from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) and ranges from 0 (lowest) to 1 (highest), *Cross border bidder* is a dummy variable for differening bidder and target countries, *Financial buyer* is a dummy for private equity firms, *Advisor reputation* is a market share based ranking and ranges from 5(highest) to 1(lowest), *Acquisition experience* is number of completed M&As, *Cash in payment* is percent of cash payment, *Hostile* is a dummy for hostile or unsolicited offers, *Same industry* is a dummy for equal bidder and target industries, *Size* is natural log of assets, *Cash holdings* is cash and equivalents to assets, *M/B ratio* is market value over book value of equity, *Market leverage* is total debt to market value of assets (assets minus book value of equity plus market capitalization), *Profitability* is net income to assets, *Relative size* is transaction value over bidder market value. t values based on heteroskedasticity-consistent standard errors are reported below coefficients. We include year, industry and country dummy variables but do not report them. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| Legal origin | Common law targets | | | | | | Civil law targets | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | I | II | III | IV | V | VI | I | II | III | IV | V | VI |
| Sample | Single bidders and initial competition bidders | | | | | | Single bidders and initial competition bidders | | | | | |
| Bidder type | all | all | public | public | public | public | all | all | public | public | public | public |
| Deal characteristics | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** |
| Target characteristics | *no* | ***yes*** | *no* | ***yes*** | *no* | ***yes*** | *no* | ***yes*** | *no* | ***yes*** | *no* | ***yes*** |
| Bidder characteristics | *no* | *no* | ***no*** | *no* | ***yes*** | ***yes*** | *no* | *no* | ***no*** | *no* | ***yes*** | ***yes*** |
| **Dependent variable: Competition** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** |
| **Hypotheses** | | | | | | | | | | | | |
| Toehold | **-0.0164*** ** | **-0.0198*** ** | **-0.0200*** ** | **-0.0169** ** | **-0.0181** ** | **-0.0151*** | **-0.0136*** ** | **-0.0217*** ** | **-0.0287*** ** | **-0.0422*** ** | **-0.0354*** ** | **-0.0371*** ** |
| | [-3.5662] | [-3.5957] | [-3.214] | [-2.5553] | [-2.3497] | [-1.8637] | [-2.9725] | [-3.8505] | [-3.9449] | [-4.1881] | [-3.5200] | [-3.9578] |
| Initial premium | 0.0002 | 0.0008 | 0.0007 | 0.0011 | -0.0001 | 0.0013 | -0.0024 | **-0.0057*** | -0.0031 | **-0.0124*** | -0.0062 | **-0.0115*** |
| | [0.1883] | [0.7034] | [0.6683] | [0.8375] | [-0.0401] | [0.8443] | [-1.3225] | [-1.9457] | [-1.033] | [-1.9304] | [-1.2743] | [-1.6668] |
| Termination fee | 0.1331 | 0.1110 | 0.1259 | 0.0707 | 0.0828 | 0.0916 | | | | | | |
| | [1.2334] | [0.9262] | [0.9601] | [0.4809] | [0.5543] | [0.5557] | | | | | | |
| **Latent competition** | | | | | | | | | | | | |
| Buyout activity index Target | 0.1282 | **0.1841** ** | 0.1470 | **0.1942*** | **0.2432** ** | **0.2766** ** | -0.0004 | 0.0359 | -0.2758 | **-0.4549*** | -0.2515 | -0.3351 |
| | [1.3717] | [2.0401] | [1.4123] | [1.8132] | [2.0884] | [2.3059] | [-0.0030] | [0.2792] | [-1.2838] | [-1.7084] | [-0.9856] | [-1.1757] |
| Corporate competition index Target | 0.0519 | **0.0864*** | **0.0905*** | **0.1031*** | 0.0796 | **0.1197*** | 0.0896 | 0.0175 | -0.0237 | -0.0813 | -0.0365 | -0.0465 |
| | [1.1442] | [1.7525] | [1.6920] | [1.7908] | [1.2179] | [1.8400] | [1.5793] | [0.2880] | [-0.3339] | [-0.8309] | [-0.4072] | [-0.4373] |
| **International and financial competition** | | | | | | | | | | | | |
| Anti-self-dealing index Target | 2.2589 | 1.5439 | **3.7394** ** | **2.7861** ** | **4.5481*** | **2.6486*** | -1.2194 | 0.0269 | -1.8765 | -0.5830 | -1.3760 | -0.1417 |
| | [1.1795] | [0.8441] | [2.0964] | [2.3444] | [1.9515] | [1.8767] | [-1.1539] | [0.0321] | [-0.9805] | [-0.4316] | [-0.6494] | [-0.0969] |
| Cross border bidder | 0.0530 | 0.0536 | 0.0853 | 0.0866 | 0.0505 | 0.1077 | **-0.3083*** | **-0.4623** ** | **-0.6203** ** | **-0.7736** ** | **-0.7029** ** | **-0.9001** ** |
| | [0.6009] | [0.524] | [0.7851] | [0.6931] | [0.3971] | [0.7658] | [-1.7825] | [-2.0364] | [-2.4097] | [-2.2963] | [-2.1085] | [-2.2326] |
| Financial buyer | **0.3411*** ** | **0.2904** ** | | | | | -0.2826 | -0.4106 | | | | |
| | [2.6055] | [2.0749] | | | | | [-1.0265] | [-1.2432] | | | | |

(continued on next page)

(Table 8 continued)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Experience and expertise** | | | | | | | | | | | | |
| Advisor reputation Bidder | -0.0317 | **-0.0546*** | -0.0068 | 0.0034 | 0.0154 | 0.0285 | -0.0348 | -0.0290 | 0.0042 | -0.0677 | -0.0088 | -0.0690 |
| | [-1.1892] | [-1.7207] | [-0.2037] | [0.0907] | [0.3973] | [0.6852] | [-0.5975] | [-0.4553] | [0.0556] | [-0.8123] | [-0.1008] | [-0.7258] |
| Advisor reputation Target | **0.0786***** | 0.0463 | **0.0604*** | 0.0206 | 0.048 | 0.0256 | **0.1111**** | **0.1427**** | **0.1322*** | 0.1222 | **0.1599**** | **0.1631*** |
| | [2.8485] | [1.2881] | [1.7228] | [0.4693] | [1.0661] | [0.4990] | [2.1670] | [2.4055] | [1.9361] | [1.4162] | [1.9971] | [1.7399] |
| Acquisition experience | -0.0002 | -0.0034 | -0.0028 | -0.0062 | -0.0022 | -0.0038 | 0.0038 | 0.0019 | 0.0045 | 0.0040 | 0.0081 | 0.0073 |
| | [-0.0681] | [-0.8085] | [-0.6164] | [-1.1689] | [-0.3722] | [-0.5535] | [1.0093] | [0.4399] | [0.9259] | [0.6170] | [1.2213] | [0.9059] |
| **Deal controls** | | | | | | | | | | | | |
| Cash in payment | **0.0019*** | 0.0007 | **0.0030***** | 0.0020 | **0.0052***** | **0.0038**** | **0.0038*** | **0.0041*** | **0.0088***** | **0.0129***** | **0.0141***** | **0.0158***** |
| | [1.8784] | [0.5720] | [2.6690] | [1.4910] | [3.6535] | [2.4008] | [1.8577] | [1.8060] | [3.5228] | [4.0222] | [4.2640] | [4.3084] |
| Hostile | **1.2983***** | **1.3416***** | **1.3921***** | **1.3348***** | **1.3317***** | **1.3723***** | **1.7411***** | **1.6122***** | **2.1104***** | **2.0970***** | **2.5160***** | **2.2110***** |
| | [10.6094] | [9.0189] | [9.9212] | [7.9699] | [8.3306] | [7.3873] | [6.5141] | [5.2650] | [5.5725] | [3.7451] | [4.3635] | [3.3927] |
| Same industry | 0.0101 | 0.0096 | 0.0498 | 0.0520 | 0.1211 | 0.0005 | -0.1858 | 0.0149 | -0.0486 | 0.1327 | 0.1256 | 0.1560 |
| | [0.1011] | [0.0854] | [0.4210] | [0.3917] | [0.8642] | [0.0037] | [-1.2171] | [0.0821] | [-0.2306] | [0.5907] | [0.5508] | [0.6806] |
| **Target controls** | | | | | | | | | | | | |
| Size Target | | **0.1182***** | | **0.1048**** | | **0.1499**** | | 0.0696 | | **0.1951**** | | **0.1763*** |
| | | [2.9693] | | [2.2797] | | [2.2446] | | [1.2751] | | [2.5276] | | [1.7130] |
| Cash holdings Target | | 0.3093 | | 0.5193 | | 0.1811 | | 0.2728 | | 0.0311 | | -0.0141 |
| | | [1.1056] | | [1.5939] | | [0.4351] | | [0.6366] | | [0.0395] | | [-0.0200] |
| M/B ratio Target | | -0.0087 | | -0.0156 | | -0.0088 | | -0.0017 | | 0.0209 | | 0.0187 |
| | | [-0.6663] | | [-1.0589] | | [-0.5833] | | [-0.1226] | | [0.9015] | | [0.8805] |
| Market leverage Target | | -0.1121 | | -0.1266 | | -0.1650 | | 0.2287 | | -0.1266 | | -0.2097 |
| | | [-0.5529] | | [-0.5018] | | [-0.5662] | | [0.674] | | [-0.2213] | | [-0.3326] |
| Profitability Target | | -0.1924 | | **-0.2540*** | | **-0.3611**** | | -0.2804 | | **1.5416**** | | 0.8890 |
| | | [-1.5559] | | [-1.7096] | | [-1.9743] | | [-0.9648] | | [1.9851] | | [1.2053] |
| **Bidder controls** | | | | | | | | | | | | |
| Size Bidder | | | | | -0.0226 | -0.0896 | | | | | 0.0226 | -0.0357 |
| | | | | | [-0.5299] | [-1.4723] | | | | | [0.2886] | [-0.3207] |
| Cash holdings Bidder | | | | | **1.0498***** | **1.1207**** | | | | | **-3.1402*** | -2.3456 |
| | | | | | [2.6872] | [2.3231] | | | | | [-1.9540] | [-1.5221] |
| M/B ratio Bidder | | | | | 0.0088 | 0.0198 | | | | | -0.0456 | 0.0030 |
| | | | | | [0.4472] | [0.9299] | | | | | [-1.1732] | [0.0666] |
| Market leverage Bidder | | | | | 0.2031 | -0.0002 | | | | | -0.5165 | -0.3981 |
| | | | | | [0.7738] | [-0.0005] | | | | | [-0.9115] | [-0.6741] |
| Profitability Bidder | | | | | **1.2399**** | **1.4288**** | | | | | 1.6410 | 2.6634 |
| | | | | | [2.276] | [2.3027] | | | | | [1.3901] | [1.4318] |
| Relative size | | | | | **0.2145***** | **0.1637*** | | | | | **0.7027***** | **0.3727*** |
| | | | | | [2.8077] | [1.7701] | | | | | [4.0204] | [1.8689] |
| Constant | **-4.2957**** | **-4.6265**** | **-6.2322***** | **-6.5245***** | **-7.5699***** | **-6.4448***** | **-1.9561***** | **-3.6083***** | **-2.3889***** | **-5.3854***** | **-3.3095**** | **-5.1932***** |
| | [-2.3838] | [-2.5404] | [-3.8414] | [-5.2033] | [-3.4368] | [-4.4897] | [-4.0033] | [-4.7441] | [-3.2121] | [-4.7100] | [-2.2614] | [-3.0894] |
| Adj. $R^2$ | 0.1900 | 0.2013 | 0.2074 | 0.2086 | 0.2722 | 0.2729 | 0.3120 | 0.3379 | 0.4414 | 0.5195 | 0.5317 | 0.5415 |
| F-test | 315.0818 | 245.9942 | 246.6837 | 196.1265 | 244.8635 | 197.5617 | 220.5557 | 210.2443 | 228.5357 | 120.3078 | 130.9742 | 133.5637 |
| N | 2,779 | 2,003 | 1,875 | 1,306 | 1,440 | 1,074 | 1,676 | 1,395 | 1,111 | 926 | 1,001 | 846 |
| Base probability | 4.52% | 4.93% | 4.75% | 5.70% | 3.72% | 4.25% | 0.74% | 0.53% | 0.15% | 0.02% | 0.02% | 0.01% |

## Table 9: Probit Regressions on Bid Success - Subsamples based on Target Country's Legal Origin

This tables presents the results from several probit regressions on the *Success* dummy as the dependent variable. We split the sample based on the target country's legal origin, and report the results of separate regressions for non-U.S. common law (in the following "common law") and civil law targets, respectively. Each model has different setup with respect to the type of bidders included (all bidders or only publicly listed bidders) and the set of control variables (deal and bidder characteristics). *Toehold* is percent of target shares hold pre-announcement, *Cash in payment* is percent of cash payment, *Termination fee* is a dummy for target termination fees, *Buyout activity index* is country-level aggregate investment by private buyout funds over stock market capitalization, *Corporate competition index* is percent of listed firms acquired on a country-level, *Anti-self-dealing index is* from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) and ranges from 0 (lowest) to 1 (highest), *Cross border bidder* is a dummy variable for differening bidder and target countries, *Financial buyer* is a dummy for private equity firms, *Advisor reputation* is a market share based ranking and ranges from 5(highest) to 1(lowest), *Relative advisor reputation* is bidder over target advisor market share, *Acquisition experience* is number of completed M&As, *Final premium* is final offer price over target stock price 4 weeks prior to announcement winsorized to the range [0, 2], *Hostile* is a dummy for hostile or unsolicited offers, *Same industry* is a dummy for equal bidder and target industries, *Size* is natural log of assets, *Cash holdings* is cash and equivalents to assets, *M/B ratio* is market value over book value of equity, *Market leverage* is total debt to market value of assets (assets minus book value of equity plus market capitalization), *Profitability* is net income to assets, *Relative size* is transaction value over bidder market value. t values based on heteroskedasticity-consistent standard errors are reported below coefficients. We include year, industry and country dummy variables but do not report them. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| Legal origin | Common law targets | | | | | | Civil law targets | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | I | II | III | IV | V | VI | I | II | III | IV | V | VI |
| Sample | Competition winners and losers | | | Single bidders and competition bidders | | | Competition winners and losers | | | Single bidders and competition bidders | | |
| Bidder type | all | public | public | all | public | public | all | public | public | all | public | public |
| Deal characteristics | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** | ***yes*** |
| Bidder characteristics | *no* | *no* | ***yes*** | *no* | *no* | ***yes*** | *no* | *no* | ***yes*** | *no* | *no* | ***yes*** |
| **Dependent variable: Success** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** | **Coeff. [t-stat.]** |
| **Hypotheses** | | | | | | | | | | | | |
| Toehold | **0.0331*****<br>[3.7550] | 0.0173<br>[1.5096] | 0.0205<br>[1.5225] | **0.0217*****<br>[4.1195] | **0.0209*****<br>[3.1345] | **0.0188****<br>[2.4724] | 0.0137<br>[1.0823] | 0.0085<br>[0.5125] | -0.0064<br>[-0.3143] | **0.0184*****<br>[3.8815] | **0.0216*****<br>[3.4498] | **0.0198*****<br>[2.9558] |
| Cash in payment | **0.0040****<br>[2.0629] | **0.0039***<br>[1.7088] | 0.0019<br>[0.6535] | -0.0011<br>[-1.0757] | **-0.0030****<br>[-2.5635] | **-0.0045*****<br>[-3.0347] | -0.0040<br>[-0.8864] | -0.0061<br>[-1.1821] | -0.0015<br>[-0.1792] | **-0.0038****<br>[-2.0013] | **-0.0065*****<br>[-2.7602] | **-0.0090****<br>[-2.4064] |
| Termination fee | -0.0674<br>[-0.3309] | -0.2955<br>[-1.1795] | -0.2154<br>[-0.7181] | -0.1148<br>[-1.0557] | **-0.2184***<br>[-1.7306] | -0.1346<br>[-0.9434] | -<br>- | -<br>- | -<br>- | -<br>- | -<br>- | -<br>- |
| **Latent competition** | | | | | | | | | | | | |
| Buyout activity index Bidder | **-0.1993****<br>[-2.1405] | -0.1055<br>[-0.9609] | -0.0914<br>[-0.7072] | -0.0725<br>[-1.2517] | -0.0692<br>[-0.8857] | -0.0858<br>[-1.0625] | -0.2413<br>[-1.4622] | 0.0648<br>[0.2876] | 0.2036<br>[0.6951] | **-0.1238***<br>[-1.6818] | **-0.2292*****<br>[-2.6568] | **-0.2325****<br>[-2.2839] |
| Corporate competition index Bidder | 0.0166<br>[0.3406] | 0.0298<br>[0.5542] | 0.0293<br>[0.4763] | -0.0258<br>[-0.8993] | **-0.0589***<br>[-1.7401] | **-0.0649***<br>[-1.6922] | -0.0647<br>[-0.8763] | **-0.1799***<br>[-1.825] | **-0.2868****<br>[-2.2457] | -0.0236<br>[-0.6067] | -0.0278<br>[-0.5144] | -0.0475<br>[-0.7041] |
| **International and financial competition** | | | | | | | | | | | | |
| Anti-self-dealing index Bidder | 0.6010<br>[1.0097] | 0.6161<br>[0.856] | 0.3610<br>[0.4389] | 0.0082<br>[0.0273] | 0.0174<br>[0.0433] | 0.026<br>[0.0525] | -1.4333<br>[-1.5397] | -1.1709<br>[-1.0312] | -0.3495<br>[-0.2234] | **0.8098***<br>[1.7131] | 0.9810<br>[1.4405] | **1.5855***<br>[1.9074] |
| Cross border bidder | -0.0693<br>[-0.3632] | -0.2346<br>[-0.9996] | **-0.5009***<br>[-1.6730] | -0.1002<br>[-0.9126] | -0.0584<br>[-0.4161] | -0.0229<br>[-0.1429] | -0.1201<br>[-0.3627] | 0.2493<br>[0.6469] | 0.7504<br>[1.5327] | -0.2088<br>[-1.2917] | -0.0163<br>[-0.0751] | 0.0596<br>[0.2409] |
| Financial buyer | 0.2251<br>[0.9102] | | | -0.175<br>[-1.3007] | | | **-0.7936***<br>[-1.6652] | | | -0.1811<br>[-0.7736] | | |

(continued on next page)

(Table 9 continued)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Experience and expertise** | | | | | | | | | | | | |
| Advisor reputation Bidder | **0.0952**** | 0.0559 | 0.0463 | 0.0285 | 0.0059 | -0.0330 | 0.0051 | -0.1185 | 0.0781 | -0.0338 | -0.0952 | -0.0471 |
| | [2.154] | [1.0235] | [0.6331] | [1.0991] | [0.1861] | [-0.8162] | [0.0576] | [-1.1155] | [0.4772] | [-0.6647] | [-1.453] | [-0.5579] |
| Relative advisor reputation | 0.0011 | 0.0010 | **0.0061*** | 0.0011 | 0.0010 | **0.0057***** | 0.011 | 0.0134 | 0.0053 | **0.0054*** | 0.0063 | 0.0130 |
| | [1.6011] | [1.2259] | [1.785] | [1.5224] | [1.5248] | [2.8276] | [1.4925] | [1.3892] | [0.3384] | [1.6618] | [0.9948] | [1.446] |
| Acquisition experience | **0.0189**** | **0.0233***** | **0.0240**** | **0.0158***** | **0.0215***** | **0.0235***** | 0.0002 | -0.0052 | -0.0004 | -0.0004 | -0.0001 | 0.0012 |
| | [2.4812] | [3.0031] | [2.5456] | [2.8453] | [3.3123] | [3.1517] | [0.0171] | [-0.5516] | [-0.0352] | [-0.0947] | [-0.0073] | [0.1661] |
| **Deal controls** | | | | | | | | | | | | |
| Final premium | **0.0051***** | **0.0039*** | 0.0035 | **-0.0018**** | **-0.0022**** | **-0.0029**** | 0.0064 | 0.0094 | 0.0004 | 0.0009 | 0.0020 | 0.0023 |
| | [2.9240] | [1.8112] | [1.3350] | [-2.0057] | [-2.1120] | [-2.2123] | [1.0763] | [1.3468] | [0.0487] | [0.541] | [0.8924] | [0.7887] |
| Hostile | **-0.8996***** | **-0.9467***** | **-0.8974***** | **-1.2449***** | **-1.2108***** | **-1.1417***** | -0.5589 | -0.0977 | -0.1504 | **-1.5042***** | **-1.5946***** | **-1.5827***** |
| | [-5.2614] | [-4.4718] | [-3.557] | [-11.1358] | [-9.1673] | [-7.539] | [-1.3966] | [-0.2153] | [-0.2474] | [-6.0134] | [-5.0807] | [-4.4125] |
| Same industry | 0.1223 | -0.0574 | -0.2015 | -0.045 | -0.1493 | -0.1822 | -0.2434 | -0.6228 | -0.5569 | -0.0598 | -0.1241 | -0.0662 |
| | [0.6661] | [-0.2689] | [-0.7847] | [-0.4564] | [-1.2044] | [-1.3227] | [-0.7287] | [-1.5093] | [-0.9139] | [-0.3612] | [-0.5776] | [-0.2773] |
| **Bidder Controls** | | | | | | | | | | | | |
| Size Bidder | | | 0.0127 | | | 0.0028 | | | **-0.3741**** | | | -0.1019 |
| | | | [0.1621] | | | [0.0649] | | | [-2.0487] | | | [-1.3493] |
| Cash holdings Bidder | | | -0.3582 | | | **-0.6370*** | | | -2.4268 | | | -0.6523 |
| | | | [-0.4995] | | | [-1.7179] | | | [-1.2623] | | | [-0.7037] |
| M/B ratio Bidder | | | -0.026 | | | -0.0256 | | | -0.0292 | | | 0.0206 |
| | | | [-0.6634] | | | [-1.3661] | | | [-0.2797] | | | [0.5575] |
| Market leverage Bidder | | | -0.0848 | | | -0.3538 | | | **-3.0441***** | | | -0.603 |
| | | | [-0.1864] | | | [-1.3571] | | | [-2.8404] | | | [-1.3244] |
| Profitability Bidder | | | -0.3372 | | | **-0.9607**** | | | **-8.5483**** | | | -1.6798 |
| | | | [-0.6609] | | | [-2.4273] | | | [-2.384] | | | [-1.6104] |
| Relative size | | | **-0.3253**** | | | **-0.2696***** | | | **-1.4516**** | | | **-0.7419***** |
| | | | [-2.2644] | | | [-4.3665] | | | [-2.1365] | | | [-4.5314] |
| Constant | **-2.0208**** | **-1.8328**** | -1.3482 | **2.7535***** | **3.3193***** | **4.0941***** | **1.2694*** | **1.8056*** | **9.3810***** | **2.0684***** | **2.3341***** | **4.3067***** |
| | [-2.0416] | [-2.0725] | [-0.9888] | [6.4230] | [6.8009] | [4.9824] | [1.6682] | [1.9306] | [2.8274] | [6.9228] | [5.7927] | [3.4054] |
| Adj. $R^2$ | 0.1706 | 0.1714 | 0.2219 | 0.1972 | 0.2040 | 0.2662 | 0.1039 | 0.1180 | 0.3185 | 0.1683 | 0.2348 | 0.3467 |
| F-test | 101.7306 | 65.7824 | 72.0017 | 293.3045 | 227.3619 | 213.8939 | 14.754 | 11.9075 | 21.1816 | 83.0279 | 81.496 | 102.8696 |
| N | 431 | 287 | 228 | 2,948 | 1,995 | 1,543 | 95 | 62 | 55 | 1,719 | 1,146 | 1,027 |
| Base probability | | | | | | | | | | | | |

**Table A1: Correlation Matrix**

This table reports pair-wise correlations for all the variables included in the probit regression models.

| | Cash in payment | Toehold | Termination fee | Initial premium | Final premium | Advisor reputation Target | Advisor reputation Bidder | Relative advisor reputation | Acquisition experience | Buyout activity index Bidder | Corporate competition index Bidder | Buyout activity index Target | Corporate competition index Target | Anti-self-dealing index Target | Anti-self-dealing index Bidder |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cash in payment | 1 | | | | | | | | | | | | | | |
| Toehold | 0.1287 | 1 | | | | | | | | | | | | | |
| Termination fee | -0.1193 | -0.2045 | 1 | | | | | | | | | | | | |
| Initial premium | 0.0172 | -0.1106 | 0.0829 | 1 | | | | | | | | | | | |
| Final premium | 0.0322 | -0.1044 | 0.0710 | 0.9749 | 1 | | | | | | | | | | |
| Advisor reputation Target | -0.0746 | -0.0736 | 0.3056 | 0.0168 | 0.0187 | 1 | | | | | | | | | |
| Advisor reputation Bidder | -0.0586 | -0.1067 | 0.3017 | -0.0021 | 0.0012 | 0.4947 | 1 | | | | | | | | |
| Relative advisor reputation | -0.0037 | -0.0029 | 0.0236 | 0.0035 | 0.0009 | 0.0585 | -0.0663 | 1 | | | | | | | |
| Acquisition experience | 0.0486 | -0.0013 | 0.1850 | 0.0274 | 0.0278 | 0.1992 | 0.1830 | -0.0055 | 1 | | | | | | |
| Buyout activity index Bidder | 0.0948 | -0.1265 | 0.2150 | -0.0151 | -0.0076 | 0.1136 | 0.1050 | 0.0317 | 0.1413 | 1 | | | | | |
| Corporate competition index Bidder | -0.1257 | -0.2131 | 0.3306 | 0.1198 | 0.1131 | 0.1930 | 0.2124 | 0.0211 | 0.0978 | 0.2388 | 1 | | | | |
| Buyout activity index Target | 0.0918 | -0.1411 | 0.2452 | -0.0201 | -0.0126 | 0.1202 | 0.1230 | 0.0313 | 0.1313 | 0.8320 | 0.1858 | 1 | | | |
| Corporate competition index Target | -0.1269 | -0.2309 | 0.4006 | 0.1377 | 0.1275 | 0.2232 | 0.2553 | 0.0221 | 0.0934 | 0.1870 | 0.8290 | 0.2345 | 1 | | |
| Anti-self-dealing index Target | -0.0362 | -0.1012 | 0.0986 | 0.0635 | 0.0683 | 0.086 | 0.0906 | 0.0232 | -0.0154 | 0.0937 | 0.1539 | 0.1339 | 0.1846 | 1 | |
| Anti-self-dealing index Bidder | -0.0682 | -0.1041 | 0.0743 | 0.0432 | 0.0446 | 0.0467 | 0.0470 | 0.0243 | -0.0485 | 0.1316 | 0.2024 | 0.0924 | 0.1514 | 0.715 | 1 |
| Hostile | 0.0442 | 0.0111 | -0.0693 | -0.0065 | 0.0429 | 0.0671 | 0.1094 | -0.0119 | -0.0005 | -0.0174 | 0.0255 | -0.0108 | 0.0215 | 0.0771 | 0.0546 |
| Cross border bidder | 0.1692 | 0.0301 | -0.0560 | 0.0384 | 0.0470 | 0.0816 | 0.0146 | -0.0175 | 0.1014 | 0.0353 | -0.1026 | -0.0047 | -0.0946 | -0.0518 | -0.1087 |
| Same industry | -0.2141 | -0.0281 | 0.1128 | 0.0326 | 0.0311 | 0.0942 | 0.0180 | 0.0234 | 0.0249 | -0.0079 | 0.0520 | 0.0004 | 0.0634 | 0.0438 | 0.0233 |
| Size Bidder | 0.2643 | 0.1160 | 0.1784 | -0.0312 | -0.0233 | 0.3851 | 0.3860 | -0.0445 | 0.4903 | 0.0846 | 0.0186 | 0.0795 | 0.0383 | -0.1463 | -0.2081 |
| Cash holdings Bidder | -0.0861 | -0.0633 | 0.0421 | 0.0759 | 0.0766 | -0.0388 | -0.0508 | 0.0137 | -0.0490 | 0.0468 | 0.0148 | 0.0561 | 0.0178 | 0.0372 | 0.0407 |
| M/B ratio Bidder | 0.0323 | -0.0829 | 0.1088 | 0.0755 | 0.0741 | 0.1106 | 0.1034 | -0.0101 | 0.1313 | 0.0472 | 0.1570 | 0.0373 | 0.1563 | 0.0238 | 0.0428 |
| Market leverage Bidder | 0.1068 | 0.0845 | -0.0367 | -0.0545 | -0.0528 | 0.0516 | 0.0629 | -0.0224 | 0.0075 | -0.0393 | -0.0012 | -0.0452 | 0.0078 | -0.045 | -0.0464 |
| Profitability Bidder | 0.2085 | 0.0428 | 0.0378 | -0.0201 | -0.0103 | 0.1190 | 0.1081 | -0.0249 | 0.1454 | -0.0241 | -0.0622 | -0.0135 | -0.0426 | -0.0361 | -0.0568 |
| Relative size | -0.2718 | -0.1490 | 0.0707 | 0.0451 | 0.0462 | 0.0792 | 0.1098 | -0.0297 | -0.1531 | 0.0770 | 0.1018 | 0.0782 | 0.1014 | 0.0942 | 0.1278 |
| Size Target | -0.0621 | 0.0577 | 0.1117 | -0.1210 | -0.1127 | 0.4306 | 0.4879 | -0.0746 | 0.1548 | 0.0186 | 0.0040 | 0.0293 | 0.0193 | -0.0904 | -0.1128 |
| Cash holdings Target | -0.0209 | -0.0631 | 0.1289 | 0.0978 | 0.0915 | -0.0133 | -0.0215 | 0.0014 | 0.0898 | 0.0740 | 0.0579 | 0.0752 | 0.0627 | 0.0286 | 0.0380 |
| M/B ratio Target | -0.0729 | -0.0318 | 0.0842 | -0.0247 | -0.0293 | 0.1020 | 0.0975 | -0.0259 | 0.0497 | 0.0150 | 0.0594 | 0.0182 | 0.0646 | 0.0057 | 0.0060 |
| Market leverage Target | -0.0357 | 0.0573 | -0.0620 | -0.0584 | -0.0563 | 0.0491 | 0.0823 | -0.0037 | -0.0588 | -0.0752 | -0.0051 | -0.0745 | 0.0048 | -0.0325 | -0.0286 |
| Profitability Target | 0.0627 | 0.0605 | 0.0412 | -0.0854 | -0.0922 | 0.1491 | 0.1364 | -0.0290 | 0.0621 | -0.0056 | -0.0467 | -0.0129 | -0.0557 | -0.0223 | -0.0310 |

(continued on next page)

(Table A1 continued)

| | Hostile | Cross border bidder | Same industry | Size Bidder | Cash holdings Bidder | M/B ratio Bidder | Market leverage Bidder | Profitability Bidder | Relative size | Size Target | Cash holdings Target | M/B ratio Target | Market leverage Target | Profitability Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hostile | 1 | | | | | | | | | | | | | |
| Cross border bidder | 0.0103 | 1 | | | | | | | | | | | | |
| Same industry | 0.0300 | 0.0213 | 1 | | | | | | | | | | | |
| Size Bidder | 0.0257 | 0.1777 | -0.0769 | 1 | | | | | | | | | | |
| Cash holdings Bidder | -0.0224 | -0.0005 | 0.0269 | -0.255 | 1 | | | | | | | | | |
| M/B ratio Bidder | 0.0133 | 0.0501 | 0.0189 | 0.0589 | 0.1357 | 1 | | | | | | | | |
| Market leverage Bidder | 0.0319 | 0.0068 | -0.0189 | 0.1876 | -0.4057 | -0.0792 | 1 | | | | | | | |
| Profitability Bidder | 0.0427 | 0.0505 | -0.0269 | 0.3911 | -0.1954 | 0.0394 | 0.0873 | 1 | | | | | | |
| Relative size | 0.0587 | -0.0714 | 0.0697 | -0.3737 | 0.2495 | 0.1457 | -0.1470 | -0.2558 | 1 | | | | | |
| Size Target | 0.0879 | 0.0269 | -0.0215 | 0.6153 | -0.2444 | -0.0314 | 0.2078 | 0.2292 | 0.0333 | 1 | | | | |
| Cash holdings Target | -0.0351 | -0.0042 | 0.0588 | -0.0929 | 0.4263 | 0.1641 | -0.2743 | -0.1461 | 0.0963 | -0.2724 | 1 | | | |
| M/B ratio Target | 0.0012 | 0.0270 | 0.0455 | 0.0635 | 0.0554 | 0.1311 | -0.0586 | 0.0177 | 0.1085 | 0.0025 | 0.0999 | 1 | | |
| Market leverage Target | 0.0257 | -0.0397 | -0.0461 | 0.1222 | -0.2552 | -0.0953 | 0.3616 | 0.0533 | -0.0634 | 0.2608 | -0.4230 | -0.0574 | 1 | |
| Profitability Target | 0.0365 | 0.0219 | -0.0059 | 0.2619 | -0.2200 | -0.0119 | 0.1427 | 0.3407 | -0.0075 | 0.3913 | -0.1941 | 0.0477 | 0.0324 | 1 |

**Figure 1: Bidder Announcement Returns - CAR (-20,+20)**

This table presents the bidder announcement CAR(-20, +20) of competition winners, competition losers and single bidders. Day *0* refers to the respective announcement date.