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ABSTRACT

We find that the announcement gain to target shareholders from acquisitions is significantly lower if a private firm instead of a public firm makes the acquisition. Non-operating firms like private equity funds make the majority of private bidder acquisitions. On average, target shareholders receive 55% more if a public firm instead of a private equity fund makes the acquisition. There is no evidence that the difference in premiums is driven by observable differences in targets. We find that target shareholder gains depend critically on the managerial ownership of the bidder. In particular, there is no difference in target shareholder gains between acquisitions made by public bidders with high managerial ownership and by private bidders. Such evidence suggests that the differences in managerial incentives between private and public firms have an important impact on target shareholder gains from acquisitions and managers of firms with diffuse ownership may pay too much for acquisitions.

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1. Introduction

At least six so-called merger waves have taken place since the end of the nineteenth century and much research has been done trying to understand them.[1] The current merger wave started approximately in 2002. It is associated in the press with the growing participation of private firms in general and private equity firms specifically.[2] Strikingly, in 2006, private equity firms bought 654 companies for a total of $375 billion.[3]

Whereas the popular press has emphasized the relative importance and growing role that private bidders play in the takeover market, academic research has devoted little attention to the actions of these bidders. We know of no systematic evidence on whether the gains of target shareholders differ when the acquirer is a private firm instead of a public firm.[4] Yet, there is much debate in the press about whether shareholders of acquired firms are being exploited by private equity bidders with the help of the management of the acquired firm, which amounts to saying that the acquisition premiums paid by private equity firms are too low.[5] In this paper, we provide evidence on how the premiums paid by private acquirers compare to the premiums paid by public companies.

Most acquisitions by private firms are paid for with cash. We construct a sample of completed cash-only deals during the period 1990-2005 which consists of 407 deals by private bidders and 885 deals by public bidders. The difference in premiums between these two types of acquisitions is sizeable. In our sample from 1990 to 2005, the average gain for target shareholders

[1] Earlier M&A waves that have been identified in the literature are the 1895-1904 'horizontal merger' wave, the 1925-1929 'vertical merger wave', the 1965-1970 'conglomerate merger' wave, and the 1981-1987 wave which is mostly characterized by hostile takeovers, break-ups of large conglomerates, more going-private deals, and the use of leverage to finance these deals. Finally, the merger wave during the second half of the nineties is mostly characterized by deregulation, very large deals by public firms, the use of a relatively high degree of equity financing, and some deals with extreme negative bidder returns (see e.g., Moeller, Schlingemann, and Stulz, 2005). For a more detailed description of these waves, see e.g., Bruner (2004).

[2] See e.g., Newsweek, April 24, 2006.

[3] See "The enigma of private equity," Newsweek, March 12, 2007, by Robert J. Samuelson.

[4] The literature has investigated going private transactions (see, for instance, DeAngelo, DeAngelo, and Rice, 1984; Lehn and Poulsen, 1989; Kaplan,1989). The acquisitions we consider differ from going private transactions in that the company making the acquisition is not a company created by large investors in the company for the purpose of acquiring the shares they do not own to take it private.

[5] See, for instance, the article cited in footnote 3.

when the bidder is a public firm is 31.74% over the three days surrounding the announcement of the acquisition. This is 43% higher than the gain for shareholders when a private firm acquires their firm and 55% higher than the gain when a private equity fund is the acquirer. The average gain for shareholders of the target when the acquirer is a private firm is 22.20% and when it is a private equity fund it is only 20.47%.

After documenting this dramatic difference in the gains of target shareholders between acquisitions by public firms and by private firms, we investigate why such a difference exists. The simplest explanation would be that public firms and private firms acquire different types of firms. With such an explanation, target shareholders do not receive less if a private firm acquires their firm than they would if a public firm makes the acquisition. The obvious issue is why then private firms concentrate on making low premium acquisitions. One might argue that public firm acquisitions generate more shareholder wealth because public firms are operating companies, so that the typical acquisition by a public firm would have synergy gains. Though the majority of the private acquirers are not operating companies, 39.6% of the private bidders in our sample are operating companies. The private operating companies pay less for acquisitions than public companies. Synergy gains cannot therefore be the explanation for the lower premiums paid by private acquirers. In fact, the three-day target abnormal return for acquisitions by private operating companies is not significantly different from the three-day target abnormal return for acquisitions by private equity firms.

We find that there are differences in target characteristics. In particular, private bidders tend to acquire firms that have performed more poorly than the firms acquired by public bidders. There is a vast literature that attempts to explain differences in target gains. It could be, therefore, that the difference in premiums results from differences in target and deal characteristics. However, we don't find evidence that differences in target and deal characteristics commonly used in the literature explain the difference in premiums between private and public bidder acquisitions. In particular, using a number of different regression specifications, we find that the

difference in target shareholder returns between acquisitions by public firms and by private firms systematically exceeds eight percent of the value of the target before the acquisition announcement and is significant at the one percent level. More generally, we find no evidence that target or deal characteristics can explain the differences in premiums between private and public bidders.

If target and deal characteristics cannot explain the difference in premiums, it must be that bidders make different offers for similar firms depending on whether the bidder is private or public. There is a long tradition in finance, starting with Berle and Means (1932), questioning whether managers with low ownership in their firm make decisions that go against the interests of shareholders. In the context of acquisitions this tradition emphasizes that managers may gain from acquisitions that do not benefit shareholders. Particularly, managers may gain in prestige from managing larger firms, receive more perks, be better compensated, and be safer from hostile takeovers. We call this the managerial discretion theory of takeovers. It posits that there are private benefits to acquisitions for managers, such that they pay more for target firms than shareholders would. Consistent with this view, Harford and Li (2007) find for their sample that managers of bidder firms are better off in three quarters of the cases where their shareholders are worse off because of the acquisition. As managers' stakes in the firm increase, we expect managers to become less likely to make acquisitions that adversely impact shareholders.

We find evidence that is consistent with the managerial discretion theory of takeovers. Our approach is to see whether the difference in target returns still exists when we focus on public bidders with highly concentrated managerial ownership. The difference in target shareholder gains between acquisitions by private firms and by public firms falls as managerial ownership of the public bidder increases. In fact, when we compare acquisitions by private firms to acquisitions by public firms in which managerial ownership exceeds 20%, we find that there is no significant difference in shareholder gains between the two types of acquisitions. Further evidence that the bidding behavior of private firms differs from the bidding behavior of public firms is that private

firms are much less reluctant to walk away from a deal than public firms. More precisely, we find that while 36.2% of the offers by private firms are withdrawn, only 13.8% of the offers by public firms are withdrawn.

We investigate the hypothesis that target shareholders are somehow cheated in acquisitions by private firms because target managers are willing to sell the firm at a low price. Such an argument could make sense if the private firm acquirer can offer the promise of continued employment to target managers and the possibility of a large payoff if they improve the firm enough that it eventually goes public. With this hypothesis, however, we expect that the difference in shareholder gains between the two types of acquisitions falls as the share ownership of target managers increases because, as their stake increases, they lose more from a low premium acquisition. We also expect the difference between the two types of acquisitions to fall as the ownership of institutional shareholders increases because these shareholders have greater ability and incentives to force management to seek improvements in the premium offered. We find no evidence that the difference in target shareholder gains between acquisitions by public bidders and by private bidders is related to target managerial ownership.

The remainder of the paper is organized as follows. In Section 2, we describe our sample of acquisitions by private and public firms. In Section 3, we compare target gains for acquisitions by private firms and by public firms. In that section, we also compare the target gains for acquisitions by different types of private firms. In Section 4, we control for target and deal characteristics. We examine the relation between the difference in premium and ownership concentration at public firms in Section 5. In Section 6, we examine whether target managerial incentives explain why target gains are less from private firm acquisitions. We conclude in Section 7.

2. The sample of acquisitions

We collect our sample of acquisitions from the Securities Data Company's (SDC) U.S. Merger and Acquisition Database. To obtain a sample where offers are most comparable between types of acquirers, we collect a sample of completed majority acquisitions for the period 1990-2005 between U.S. public targets and U.S. bidders in which the acquirer owns 100% of the shares of the target after the deal. We exclude all transactions without disclosed deal value or labeled as either spin-offs, recaps, self-tenders, exchange offers, repurchases, minority stake purchases, acquisitions of remaining interest, or privatizations. We further require each target firm to match on the Center for Research in Securities Prices (CRSP) and Compustat databases and to have a share code indicating a public firm (10, 11). Since most acquisitions made by private firms are for cash, we restrict the sample to cash offers.[6] Excluding non-operating targets results in a final sample with 1,292 deals where 407 deals involve a private bidder and 885 deals involve a public bidder according to SDC. Though all results reported in tables use this sample, we have also estimated all regressions using broader samples. The sample we focus on seems to be the one with the most conservative results. All our conclusions hold if we include failed offers, other forms of payment, or offers for majority interests where the bidder ends up with less than 100% of the target shares.

Table 1 shows the distribution of the number (Panel A) and of the value (Panel B) of the acquisitions through time. The fraction of acquisitions each year made by private companies does not exhibit much of an increase over time. However, the dollar amount of the acquisitions by private companies is extremely large in 2004 and 2005 compared to any other year. Similarly, the fraction of the total value of acquisitions by private bidders is large in 2004 and 2005 compared to other years in the sample. In these two years, the value of the acquisitions by private companies is close to one-third of the total value of acquisitions. That fraction is less than 20% in every other year.

[6] Using our sample criteria, we find only 28 acquisitions by private bidders that are not paid for with cash.

Though we do not report the results in a table, we investigate the distribution of the acquisitions in our sample across industries. We find that the fraction of public firm acquisitions (39.44%) made in manufacturing industries is greater than the fraction of private firm acquisitions (32.92%) made in such industries. The second most important group of industries for acquisitions is the group of service industries (25.54% of public firm acquisitions and 27.52% of private firm acquisitions). Among the other industries, acquisitions of financial firms are less prevalent for private firms (12.53% of all private firm acquisitions) than for public firms (17.06%) but acquisitions of firms in the retail industry are more prevalent for private firms (11.79%) than for public firms (4.86%).

We also investigate the distribution of acquisitions across types of private firms and report the results in Panel C of Table 1. For that purpose, we search the Lexis-Nexis database for press releases around the announcement period of each of the deals that according to SDC involves a private bidder. We divide the acquirers into three groups: private equity firm acquisitions, private operating company acquisitions, and investor group acquisitions. For an acquisition to be classified as a private equity firm acquisition, we require that the acquisition is made either by a private equity firm alone or by a consortium which involves at least one private equity firm. The largest transaction in our sample is the acquisition of Sungard Datasystems for almost $12 billion by a consortium which includes Blackstone and KKR. We therefore assign this acquisition to the group of private equity firm acquisitions. The largest acquisition by a private operating company is the acquisition of SFX Broadcasting by Capstar Partners, a company that is the largest radio broadcaster in the U.S., for $1.927 billion. We define acquirers as groups of investors when the acquirer is a group of private investors who are not making the acquisitions as part of a business where they manage money for others. The largest acquisition by a group of investors is the acquisition of Park Communications for $711 million. The acquisition took place through an auction with five qualified bidders. The main acquiring investors, Donald Tomlin and Dr. Gary Knapp, were the principals of an acquisition company, PAI. We find that 42.8% of all private

firm acquisitions are made by private equity firms; 39.6% of the private firm acquisitions are made by private operating companies; finally, 17.7% of private firm acquisitions are made by private bidder groups. Of the private group acquisitions 54.2% are management buyouts.

3. Gains to target shareholders for public firm acquisitions and private firm acquisitions

We use the Center for Research in Securities Prices (CRSP) database to collect daily return data for our sample of targets. We estimate the target abnormal returns surrounding the acquisition announcements in our sample for each year using standard event study methods (see, e.g., Brown and Warner, 1985). We compute market model abnormal returns using the CRSP value-weighted index.[7] Market model parameters are estimated from day -379 to day -127 relative to the announcement day as in Schwert (1996).

The first row of Panel A of Table 2 shows the mean and median abnormal returns for the three days surrounding the acquisition announcement (CAR3) for private and public bidders as well as for the whole sample. We find that both the mean and the median abnormal returns are much lower for acquisitions by private firms than for acquisitions by public firms. The difference in means is 9.5%; the difference in medians is 6.7%. Another way to look at the difference is that the mean abnormal return for target shareholders is 43.0% higher if the acquisition is by a public firm than by a private firm. For medians, the difference is 36.3%. These differences are larger for less restrictive samples.

A legitimate concern is that three-day abnormal returns may understate the abnormal return associated with private firm acquisitions compared to public firm acquisitions. In particular, it could be that firms acquired by private acquirers are smaller and trade in a less efficient market, such that the announcement return may understate the total impact of the acquisition. We show estimates of average and median abnormal returns for five (CAR5) and eleven days (CAR11)

[7] We also run all regression models using market-adjusted returns, a no-intercept market model, and the equally weighted CRSP index. The results are not affected by any of these alternatives.

around the acquisition announcement. These results are similar to the results obtained for the three-day period around the announcement.

We also calculate abnormal returns from the day before the announcement to the close of the acquisition. We use size and book-to-market adjusted (FFRET) buy-and-hold returns.[8] Table 2 shows that the target shareholder returns from announcement to the close of the acquisition are significantly lower for acquisitions made by private firms than for acquisitions made by public firms. The absolute value of this difference is similar to that of the announcement returns and is economically large as well.

To explore more completely whether information about the two types of acquisitions gets incorporated in stock prices at different times, we investigate the pre-acquisition run-up during the three months prior to the announcement (RUNUP) and the 12-month period starting 15 months prior to the announcement (ARET_12). It is immediately apparent that there is no difference in abnormal returns before the acquisition announcement between the two types of acquisitions.

Across all the approaches we consider, target shareholders earn at least nine percentage points of pre-announcement firm value less on average when a private firm acquires the target than when a public firm does. Alternatively, target shareholders earn at least 37% more in the deal if it is a deal with a public firm instead of with a private firm. These differences are similar across all different measures of returns we use.

We now turn to the differences across types of private acquirers. Given the interest in acquisitions by private equity firms, such a comparison is important. Such a comparison also helps in understanding why target shareholders gain less when a private company makes an acquisition since private operating companies are more similar to public acquirers than private equity companies are.

[8] The results are similar using a market-model, restricted market model (i.e., alpha=0), or market (i.e., alpha=0 and beta=1) adjustment. Size and book-to-market adjusted returns are calculated using the returns on the 25 Fama French size and book-to-market portfolios.

Panel B of Table 2 shows estimates of abnormal returns for acquisitions by different types of private acquirers. The first column reproduces abnormal return estimates for private equity acquirers. The average three-day abnormal return is 20.5%. This abnormal return is significantly lower than for the public offers and is almost two percentage points less than the sample average for private acquirers. Strikingly, target shareholders get 55% more if an offer is by a public firm rather than by a private equity firm. Consequently, there is no sense in which private equity firms pay more than other private firm acquirers. The next column shows that the average three-day abnormal return for private operating companies making acquisitions is 24.6%. This abnormal return is significantly lower than the announcement return for acquisitions by public firms. The average announcement return for acquisitions by private bidder groups is similar to the announcement return for acquisitions by private equity firms, but the median return is lower. Again, these abnormal returns are significantly lower than the equivalent abnormal returns for acquisitions by public firms. The results are similar for other measures of abnormal returns, except for the returns to the close of the acquisition. Only the private equity acquisition returns to completion are significantly lower than the returns of public firm acquisitions when measured at both the mean and the median. Finally, there is no systematic difference between each of the private bidder groups and public bidders during the preannouncement periods.

It follows from the results in Panel B of Table 2 that the lack of synergies cannot explain the lower announcement returns for acquisitions by private firms. Acquisitions by private operating companies, which would have the opportunity to gain synergies in the same way as public companies, still have lower target announcement returns than public acquirers. In Panel C of Table 2 we report the differences in the return measures across the different private bidder types. The three-day announcement return difference between private operating companies and private equity companies is 4.1% and insignificant. The only significant difference in Panel C of Table 2 is the difference in the target abnormal return measured to the completion of the transaction

between private equity firms and private operating firms. The difference is -7.8% and has a *p*-value of 0.056.

To check the role of synergies further, we also estimate the abnormal return for acquisitions of private firms that are within the industry of the target and for acquisitions of private firms that are not within that industry. Though we do not report the results in a table, the within-industry acquisitions have an insignificantly higher abnormal return of just 0.76 percentage points.

4. Can target characteristics explain the difference in abnormal returns?

In this section, we investigate whether private acquirers seek to acquire different firms than public acquirers and whether these differences explain the difference in abnormal returns. We also consider differences in deal characteristics. We focus on target and deal characteristics that the empirical and theoretical literatures have found important. We first explore these characteristics at the univariate level in Section 4.1 and then continue with multivariate regression analyses in Section 4.2.

4.1. Univariate comparisons of target and deal characteristics

Panel A of Table 3 compares target characteristics for both types of acquisitions. The first variable we consider is the market value of target equity 63 trading days prior to the announcement. We compute this value from CRSP data. We find that public acquirers make significantly larger acquisitions. There is evidence that target shareholders gain less when their firm is larger (see e.g., Officer, 2003), so the fact that public firms make larger acquisitions could explain why their acquisitions benefit target shareholders more. We consider next a measure of leverage, namely the ratio of the book value of debt to the sum of the book value of debt and the market value of equity. Firms acquired by private acquirers are substantially more levered than firms acquired by public firms. To the extent that more highly levered firms have a weaker bargaining position since they do not have the option to recapitalize to defend against the takeover attempt, we expect private firm acquisitions to benefit target shareholders less. However,

it could also be that leverage facilitates more concentrated ownership of the target and hence forces a successful acquirer to offer a greater premium (Stulz, 1988). Firms acquired by private firms have a significantly lower Tobin's q than firms acquired by public firms. When the target Tobin's q is lower because of managerial entrenchment and agency costs at the target firm, there are more opportunities for the acquiring firm to create value through the acquisition and hence this makes it possible for the bidder to pay more for the target.[9] The difference is even stronger when we compute an industry-adjusted q. We estimate this industry-adjusted q by subtracting the yearly median q of firms in the same 2-digit SIC code. Firms acquired by private bidders have a lower q relative to their industry median than firms acquired by public bidders. Younger firms typically have a higher Tobin's q, but there is no difference in target firm age (measured since listing on CRSP) between the two types of acquirers, so that age seems an unlikely explanation for the difference in Tobin's q. The difference in q is symptomatic of the higher growth opportunities of firms acquired by public bidders. We show data for the last three years of sales growth and last three years of employment growth. These measures are often used as proxies for growth opportunities. Firms acquired by public firms have greater sales growth and greater employment growth than firms acquired by private firms. They also have higher R&D expenditures, but there is no difference in the ratio of intangible assets to total assets. Finally, we find evidence that firms taken over by private firms have greater operating cash flows divided by total assets.[10] Such evidence is consistent with the view that private equity firms can create value by returning free cash flow to shareholders.

Since targets acquired by private firms have lower q values than targets acquired by public firms, we would expect these targets to have performed more poorly than targets acquired by public firms. However, in Table 2, where we compare the stock market performance measures

[9] See Lang, Stulz, Walkling (1989).
[10] Operating cash flow is defined as in Moeller, Schlingemann, and Stulz (2004): Sales – COGS – SGA – changes in NWC. The fraction of operating cash flow over book assets is winsorized at the one percent level in the regression analysis.

during the preannouncement period (RUNUP and RET_12), we find no difference. The lack of a difference in stock market performance also suggests that it is unlikely that shareholders gain less from acquisitions by private firms because the acquisition premium is already partly incorporated in the stock price. We examine more directly if there is a difference in stock returns close to the acquisition and find that there is none. As a final check of this possibility, we investigate whether the asset liquidity measure of Schlingemann, Stulz, and Walkling (2002) differs between the two types of acquisitions. This measure captures the intensity of the market for corporate control and asset sales in an industry. If an industry has great asset liquidity, its values might be higher to reflect possible future acquisition premiums. We find no difference in the measure of asset liquidity between the two types of acquisitions.

The stock return volatility of firms acquired by private firms is higher than the stock return volatility of firms acquired by public firms, which suggests that there is greater uncertainty about the value of targets acquired by private firms. This greater uncertainty might lead to lower premiums if bidders act as if they are risk-averse. We also estimate the Amihud (2001) measure of stock illiquidity, measured as the average ratio of the absolute daily return divided by dollar daily volume. A higher value of that measure means that a stock's market is less liquid. We find that targets acquired by private firms have a much less liquid common stock than firms acquired by public firms. Targets acquired by private firms have a similar number of segments as targets acquired by public firms. The variable "FOCUS" is a dummy variable that takes a value one when the target has only one segment and zero otherwise. There is no significant difference in the fraction of focused firms between targets of public firm acquirers and targets of private firm acquirers. A large fraction of targets trades on NASDAQ, but that fraction is the same across private and public bidders.

Panel B of Table 3 shows deal characteristics. All information is obtained from SDC, unless otherwise noted. We find that the dollar value of the deals is significantly higher for public firm acquisitions than for private firm acquisitions. Premiums with tender offers tend to be higher (see

e.g., Huang and Walkling, 1987). Public firms are more likely to be involved in tender offers than private firms. We find that acquisitions by private firms are more likely to be diversifying acquisitions than acquisitions by public firms (meaning that the target is in a different 2-digit SIC code than the bidder). This finding is not surprising since so many of our acquisitions are by private equity firms. In fact, when we only consider private operating bidders, we do not find a difference in the proportion of diversifying transactions between private and public bidder deals. Similarly, it is not surprising that more private firm acquisitions are management buyouts. Betton and Eckbo (2000) provide evidence that premiums are lower for acquirers with toeholds. Private firms are more likely to have a toehold than public firms. There is no difference in the proportion of hostile offers across types of acquirers, which is not surprising given the low proportion of hostile flagged transactions in recent acquisition samples. Targets of acquisitions by public firms are more likely to use defensive tactics – in fact in our sample no target of a private firm uses defensive tactics according to SDC. Bidder lockups are significantly more likely for public acquisitions than for private ones. Burch (2001) finds that target lockups are associated with higher target gains. We find that target lockups are slightly more likely for targets of public firm acquirers. Officer (2003) shows that target termination fees result in significantly higher premiums. We find that targets in public firm acquisitions are much more likely to have a termination fee than targets in private firm acquisitions, so that this difference in the frequency of termination fees might help explain the difference in shareholder gains. We use two measures of competition, which differ from the competed flag in SDC. The first measure (COMPETE) indicates if the offer we consider follows some other prior offer. Such an outcome is equally likely for private firm acquisitions as it is for public firm acquisitions. The second measure (INITBID) indicates if the announcement of the offer is followed by an offer by another firm, while no previous bids took place. We find that such an outcome is weakly more likely for offers made by private firms. Finally, in contrast to conventional wisdom we find that it takes almost a month longer on average for a private acquisition to be completed than for a public one.

4.2. Regression analysis

Our comparison of target and deal characteristics suggests that there are many reasons why shareholders of targets acquired by private firms might fare worse than shareholders of targets acquired by public firms. To investigate whether these differences in target and deal characteristics can explain why public acquirers pay more than private acquirers, we estimate multivariate regressions. In these regressions, we use abnormal returns as the dependent variable and the target and deal characteristics as explanatory variables. We include an indicator variable (PRIVATE) for acquisitions by private firms. If target and deal characteristics explain the difference in abnormal returns, this indicator variable should be insignificantly different from zero in our multiple regressions.

Table 4 shows the regression estimates. We use two different dependent variables: the three-day announcement abnormal return (CAR3) using the market model in regression models (1) – (4) and the size and book-to-market adjusted buy-and-hold return to completion (FFRET) in regression models (5) – (8). We first discuss the results for the regressions using the three-day announcement abnormal return. Strikingly, the private bidder indicator variable has a magnitude greater than 0.099 (in absolute value) across all four regressions with a *p*-value below one percent. Consequently, our conclusion that shareholders of firms acquired by private acquirers gain less than shareholders of firms acquired by public firms is robust to controlling for firm and deal characteristics. We find that target shareholders realize smaller gains when their firm is larger, has a higher Tobin's q, has performed better in the recent past and over the past year, the asset liquidity of the target's industry is high, and the offer comes after a prior offer by another firm. Both the asset liquidity variable and the competition variable capture the higher valuation of the target resulting from an active market for corporate control. In addition, target shareholders gain more when the acquisition is hostile and when it is a tender offer.

When we turn to the regressions which use the size and book-to-market adjusted buy-and-hold returns from announcement to close of the acquisition, we find that in all the regressions

reported (as well as additional regressions not reported) the private bidder indicator variable has a magnitude greater than 0.086 in absolute value with a *p*-value below one percent. All the significant control variables in the regressions using the three-day abnormal return as the dependent variable are also significant when we use the return to completion instead. The difference in abnormal returns using announcement period returns and returns to the close of the deal in the regressions is similar to the difference reported in the univariate comparisons.

We also estimate regressions in which we allow the indicator variable to differ across the three different types of private acquirers: private equity bidders, private operating bidders, and private group bidders. Though we do not report the results in a table, the coefficient on each dummy variable representing one of the three bidder types is significant at the five percent level or better. While the coefficient on the private operating bidder type is lower than the coefficient on both the private equity and private group indicators, the differences among any of the three variables are insignificant. We also estimate the regressions of Table 4 with an additional dummy variable for management buyouts. We find that the gains of target shareholders are not significantly different for management buyouts compared to other acquisitions by private acquirers.

OLS regressions are vulnerable to departures from normality. To evaluate the strength of our results, we also estimated median and robust regressions. These regressions put less weight on extreme observations. These regressions (not reported) do not change our conclusions. However, while the estimate of the difference in target returns between public and private bidders is lower in these regressions at roughly five percent, it continues to be statistically significant with *p*-values below one percent.

5. Bidder characteristics and the gains to target shareholders for public firm acquisitions and private firm acquisitions

So far we have shown an economically large and statistically significant difference in target shareholder gains between acquisitions by private firms and acquisitions by public firms. Target and deal characteristics do not explain this difference. We investigate next whether the lower shareholder gains in acquisitions by private firms can be explained by differences in bidder characteristics. In contrast to public acquirer deals, such an investigation is necessarily limited by the fact that there is not much information available on private acquirers. Nevertheless, private acquirers have concentrated ownership. If a private acquirer is a private operating company, it cannot have diffuse ownership because its stock is not publicly listed. If a private acquirer is a private equity firm it can have many investors, but decisions are made by a managing partner whose high-powered incentives are closely aligned with those of investors. We therefore investigate the hypothesis that private firms pay less for targets because their managers have better incentives to maximize firm value than managers of diffusely held public corporations. This difference in incentives makes it less likely that managers of private firms will make acquisitions that benefit them at the expense of other shareholders in their company. In contrast, managers of public companies may benefit from acquisitions even if these acquisitions do not benefit shareholders. For instance, Bebchuck and Grinstein (2007) find that compensation of managers increases as the firm they manage becomes larger, so that mergers that increase firm size may increase managerial compensation even if they destroy shareholder wealth. As previously mentioned, Harford and Li (2007) find that managers experience wealth increases in most cases where acquisitions destroy shareholder wealth. Managers of public companies also gain prestige and perks if they manage larger companies.

If private firms pay less for acquisitions than public firms do because their ownership is more concentrated, we would expect the difference in target shareholder gains between private and public acquirers to be less when ownership of the public acquirer is more concentrated. To test

this hypothesis, we collect ownership data for the public bidders in our sample from Compact Disclosure CD's. We collect the ownership data from the CD that contains the most recent information on ownership for officers and directors prior to the announcement date. As is common in the literature, we call this ownership the firm's managerial ownership. We then estimate our abnormal announcement return regressions using different samples of public firms to estimate the coefficient on the private firm indicator variable. The samples of public firms differ by their level of managerial ownership.

As we compare the target shareholder gains associated with private firm acquisitions to the shareholder gains of public firm acquisitions in Panel A of Table 5, we find that the difference in shareholder gains falls as the managerial ownership of public firms increases. The results are striking. We investigate the sub-samples with public bidder managerial ownership greater than or equal to 5%, 10%, 15%, 25%, and 50%. We reproduce regressions using model (4) of Table 4, which is the model with the highest adjusted R-square using the announcement abnormal return as the dependent variable. The estimate of the difference in abnormal returns is a highly significant (7.35%) for the firms with managerial ownership of at least 5%, but is only one fourth in magnitude and insignificant (1.78%) for firms with managerial ownership of at least 50%. In a regression not reported in the table, we find that when we compare the target returns of private firm acquisitions to the target returns of public firm acquisitions, the difference in target returns is not significant if the public firms are restricted to have managerial ownership of at least 20%. Those are the firms that most closely resemble private firms in their ownership structure.

A legitimate concern with this approach is that, as we compare the shareholder gains of private firm acquisitions to the shareholder gains of acquisitions by highly concentrated public firms, the number of public firms becomes small. Yet, we have 86 public firms for which managers own more than 25% of the shares. Further, the difference in shareholder gains between acquisitions by public firms and acquisitions by private firms falls sharply as managerial ownership increases.

Another approach is to split the bidders into sub-samples based on managerial ownership. We estimate our regressions (not reported) on sub-samples with public bidder managerial ownership below 5%, from 5 to less than 15%, from 15 to less than 25%, from 25 to less than 50%, and greater than or equal to 50%. Strikingly, for acquisitions by public firms with managerial ownership below 5%, the difference in the target shareholder gain between public firm acquisitions and private firm acquisitions is 10.78% with a *p*-value of less than one percent. The only sub-samples with a consistent significant difference between abnormal returns for acquisitions by public firms and by private firms are those with ownership below 5%, from 5% to less than 15%, and from 15% to less than 25%. When we look at returns to the completion of the deal, the only significant difference between acquirer types is for public acquirers with managerial ownership below 5%, but this difference is 11.98%.

In Panel B of Table 5 we investigate the role of bidder managerial ownership on each of the three categories of private bidders: private equity bidders, private operating bidders, and private bidder groups. We find that the difference in target gains between acquisitions by public acquirers and acquisitions by any of the three private bidder categories is insignificant in cases where the managerial ownership of the public bidder firm is at least 50%. However, target shareholders earn significantly less when acquired by a private operating firm only when compared to being acquired by a public firm with managerial ownership below 5% (not reported). Further, target shareholders earn less when acquired by a private equity bidder or a private bidder group than when acquired by a public firm unless the public firm has managerial ownership of at least 25% and 50% respectively. In regressions not reproduced in the table, we find that the target shareholder gains for acquisitions by private acquirers are lower than the target shareholder gains for acquisitions by public acquirers with managerial ownership smaller than 5% for each type of private acquirer.

Another way to shed light on the importance of managerial agency problems as a potential explanation for the difference in target shareholder gains is to investigate how this difference

holds up as the size of the public acquirer varies. One would expect that managers have more discretion in large companies because the costs of collective action for shareholders are larger in such companies. We therefore predict that the difference in target shareholder gains between private and public acquirers is smaller for smaller public acquirers. As we show in Panel A of Table 6, this is the case.[11] In fact, shareholders of targets acquired by public firms earn an additional 17% of pre-acquisition firm value when the acquisition is made by an acquirer in the top size quartile of public firms instead of by a private firm, but they earn only an insignificant additional 3% when the acquisition is made instead by an acquirer in the bottom size quartile of public bidders.

The evidence suggests that the gains to target shareholders from being acquired by a private firm are similar to the gains these shareholders would make if their firm were acquired by a small public firm but not by a large public firm. It is known from Moeller, Schlingemann, and Stulz (2004) that targets receive larger premiums from larger bidders. The results in this paper point to agency costs as an explanation for their finding. It is important to note, however, that size alone does not appear to be sufficient to explain the difference in target shareholder gains between acquisitions by private firms and acquisitions by public firms. When we match private acquirer deals to public acquirer deals of same size, we find that the target abnormal return for the private acquirer deals is 7.48% lower than the target abnormal return for public acquirer deals and the difference is significant well below the one percent level.

In Panel B of Table 6 we allow for differences in target gains for different types of private bidders. We find that target gains are always lower when the bidder is classified as a private bidder group than when the bidder is a public firm, even compared to the gains the shareholders would obtain if their firm were acquired by a small public firm. Further, shareholders acquired by private equity firms or private operating firms have lower gains than if their firm were acquired

[11] We estimate our regressions restricting the public acquirers to belong to size quartiles since, not having the size of private acquirers, we cannot use a bidder size variable as is common in regressions seeking to explain acquisition abnormal returns.

by firms in all quartiles of public bidder sizes except for the public acquirers in the smallest size quartile.

It is often argued that institutional investors reduce the importance of managerial agency problems. We collect institutional ownership data from Compact Disclosure and compare the gains of target shareholders in acquisitions by private firms to the gains of target shareholders in acquisitions by public firms with different levels of holdings by institutional shareholders. Though we do not report the results in a table, we find that the private firm indicator variable in our regressions does not vary much as the institutional investor threshold for the public firm comparison group increases.

Finally, if managers of private firms have better incentives to maximize shareholder wealth, we would expect them to be less likely to overpay and hence more likely to walk away from a deal than managers from public firms. We find that there indeed is a striking difference. For private firm acquisitions, 36.2% of the offers are withdrawn. In contrast, only 13.8% of the offers are withdrawn when the acquirer is a public firm.

6. Can the incentives of target managers explain the return difference?

A concern in the press is that managers of private firms have two advantages over managers of public firms. First, they are not subject to the greater monitoring that comes from having to report quarterly results and they do not have to deal with the laws and regulations that affect public firms. At a time when there is much discussion about the costs of Sarbanes-Oxley, managers of private firms are not affected by these costs. Second, managers of private firms can make an outsized payoff when the firm is taken public. It would therefore not be surprising if private bidders could convince managers of public firms to be acquired in exchange for keeping their job and receiving a share of the payout when the acquired firm goes public. With such a view, one would expect that target managers would be less diligent in getting the best possible deal for their shareholders. Existing empirical evidence is supportive of the view that managers

may have at times incentives to obtain more personal benefits from an acquisition at the expense of their shareholders. In particular, Hartzell, Ofek, and Yermack (2004) show that target abnormal returns are less when the target's CEO receives large personal benefits from the acquisition.

As managerial ownership in the target firm increases, the post-acquisition payoff from an acquisition by a private bidder becomes smaller relative to the loss in premium resulting from acquiescing to a low premium offer. We therefore expect less of a difference in abnormal returns between bidder types for targets with high managerial ownership. We also predict it to be harder for target managers to acquiesce to a low premium if their firm has high ownership by institutional investors. To test these predictions, we collect managerial ownership and institutional ownership for the target firms from Compact Disclosure.

We find little difference in managerial ownership between targets of private firms and targets of public firms. Mean managerial ownership is 21.36% for acquisitions by private firms and 19.32% for acquisitions by public firms. This difference is not significant. The median difference is significant, but firms acquired by private acquirers have higher median managerial ownership than firms acquired by public acquirers (13.93% versus 10.48%). This result suggests that private acquirers do not systematically target low managerial ownership firms. When it comes to institutional ownership, we again find no difference in the means (29.53% for targets of private firms versus 36.94% for targets of public firms), but a significant difference in the medians (24.08% versus 28.12%).

In Table 7, models (1) and (2) are based on regression (4) and (8) respectively of Table 4 with target managerial and institutional ownership added as explanatory variables. We find that target managerial ownership is significant for the three-day abnormal return (CAR3) and that both target managerial ownership and institutional ownership are significant for the returns to the completion of the deal (FFRET). The coefficients on the ownership variables are positive and significant, indicating that targets receive higher returns when managerial ownership and, less

clearly, institutional ownership are higher. However, adding our ownership variables to the regressions has no impact on the magnitude of the coefficient on the private bidder indicator variable.

It is conceivable that the relation between the ownership variables and the target gains is nonlinear. While managers' incentives to extract a higher premium are expected to increase with managerial ownership, the likelihood for managers to tender their shares and for the offer to succeed may decrease in managerial ownership, therefore reducing the premium (see, e.g., Stulz, 1998). To address this possibility, we add the square of the ownership variables in models (3) and (4) to allow for a nonlinear relation between target gains and the ownership variables. Once we allow for nonlinear effects, none of the ownership variables are significant. It should be noted that these regressions suffer from a serious multicollinearity problem because the squared values are highly correlated with the level values.

Finally, in models (5) and (6) we explore whether the ownership variables have a different impact on target gains for acquisitions by private firms and for acquisitions by public firms. Since we now interact the private bidder indicator with ownership measures we de-mean the ownership variables to maintain the interpretation of the private bidder intercept coefficient (see e.g. Aiken and West, 1991). We find no evidence that the ownership variables have a different effect on target gains when a private firm makes the acquisition.

7. Conclusion

In this paper, we compare the target shareholder wealth gains of acquisitions made by public firms to acquisitions made by private firms. We find that target shareholders gain statistically and economically more if a public firm makes the acquisition. Strikingly, target shareholders gain 43% more if a public firm, instead of a private firm, makes the acquisition. Target shareholders gain even more, 55%, if a public firm instead of a private equity firm makes the acquisition.

We investigate why target shareholder wealth gains differ so much depending on whether the acquirer is a public or a private company? We conclude that observable differences in targets cannot explain the difference in abnormal returns. However, we find that differences in managerial ownership between the different types of acquirers can explain why target shareholders prefer to be acquired by public bidders. We assume that private bidders have concentrated ownership and that managers have high-powered incentives. We find that the difference in abnormal returns is highest between acquisitions made by private bidders and by public acquirers with low managerial ownership. As the managerial ownership of the public bidder increases, so that the ownership of the public acquirer becomes more similar to the ownership of the private acquirers, the difference in abnormal returns between the two types of bidders becomes small and insignificant.

Our evidence suggests that public firms are more likely to pay too much for acquisitions because of their diffuse ownership. This evidence helps us to better understand the nature of target shareholder gains from acquisitions. In particular, this evidence suggests that agency problems have to be part of the explanation for why bidder shareholders often incur losses when public bidders announce an acquisition.

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Table 1

Distribution of number of deals, deal value, and type of private bidder over time

The sample comes from SDC and includes all completed pure cash mergers, acquisitions of assets, acquisitions of certain assets, and acquisitions of a majority interest announced between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm. The aggregated deal value in Panel B comes from aggregating the individual deal values from SDC. Information from the LexisNexis database is used to classify private bidders in Panel C.

Panel A: *Number of deals*

	All deals	Private bidder deals		Public bidder deals	
Year	*n*	*n*	%	*n*	%
1990	30	5	16.7	25	83.3
1991	20	6	30.0	14	70.0
1992	19	6	31.6	13	68.4
1993	25	7	28.0	18	72.0
1994	55	16	29.1	39	70.9
1995	91	19	20.9	72	79.1
1996	92	25	27.2	67	72.8
1997	119	34	28.6	85	71.4
1998	136	47	34.6	89	65.4
1999	156	51	32.7	105	67.3
2000	134	49	36.6	85	63.4
2001	100	28	28.0	72	72.0
2002	80	25	31.3	55	68.8
2003	89	41	46.1	48	53.9
2004	80	27	33.8	53	66.3
2005	66	21	31.8	45	68.2
Total	1292	407	31.5	885	68.5

Panel B: *Aggregate deal value ($ millions)*

	All deals	Private bidder deals		Public bidder deals	
Year	Aggregate deal value	Aggregate deal value	%	Aggregate deal value	%
1990	3,386.37	213.96	6.3	3,172.41	93.7
1991	2,067.49	150.75	7.3	1,916.74	92.7
1992	3,408.71	312.32	9.2	3,096.39	90.8
1993	5,354.97	812.53	15.2	4,542.44	84.8
1994	27,931.67	2,647.57	9.5	25,284.10	90.5
1995	27,246.59	1,240.25	4.6	26,006.34	95.4
1996	37,428.51	3,362.68	9.0	34,065.83	91.0
1997	47,368.30	6,287.40	13.3	41,080.90	86.7
1998	52,264.76	9,964.12	19.1	42,300.64	80.9
1999	67,085.85	10,219.01	15.2	56,866.84	84.8
2000	94,248.45	8,056.93	8.5	86,191.52	91.5
2001	30,415.93	4,476.15	14.7	25,939.78	85.3
2002	17,649.04	2,004.40	11.4	15,644.64	88.6
2003	27,997.68	3,490.68	12.5	24,507.00	87.5
2004	66,918.17	20,914.78	31.3	46,003.39	68.7
2005	55,909.95	18,733.01	33.5	37,176.94	66.5
Total	566,682.40	92,886.54	16.4	473,795.90	83.6

Table 1 – Continued
Panel C: *Type of private bidder*

	Private equity bidder			Private operating bidder			Private bidder group		
		% of			% of			% of	
Year	*n*	All	Private	*n*	All	Private	*n*	All	Private
1990	1	3.3	20.0	2	6.7	40.0	2	6.7	40.0
1991	2	10.0	33.3	3	15.0	50.0	1	5.0	16.7
1992	1	5.3	16.7	3	15.8	50.0	2	10.5	33.3
1993	3	12.0	42.9	3	12.0	42.9	1	4.0	14.3
1994	3	5.5	18.8	9	16.4	56.3	4	7.3	25.0
1995	5	5.5	26.3	12	13.2	63.2	2	2.2	10.5
1996	9	9.8	36.0	14	15.2	56.0	2	2.2	8.0
1997	20	16.8	58.8	10	8.4	29.4	4	3.4	11.8
1998	15	11.0	31.9	23	16.9	48.9	9	6.6	19.1
1999	27	17.3	52.9	16	10.3	31.4	8	5.1	15.7
2000	19	14.2	38.8	18	13.4	36.7	12	9.0	24.5
2001	6	6.0	21.4	12	12.0	42.9	10	10.0	35.7
2002	10	12.5	40.0	11	13.8	44.0	4	5.0	16.0
2003	23	25.8	56.1	11	12.4	26.8	7	7.9	17.1
2004	18	22.5	66.7	6	7.5	22.2	3	3.8	11.1
2005	12	18.2	57.1	8	12.1	38.1	1	1.5	4.8
Total	174	13.5	42.8	161	12.5	39.6	72	5.6	17.7

Table 2

Target return measures for different bidder types

The sample comes from SDC and includes all completed cash mergers announced between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm. In Panel A, mean and median [in brackets] return measures are reported for the full sample (All) and for the sub-samples containing private, public bidders, and their difference respectively. In Panel B, mean and median [in brackets] return measures are reported for each private bidder type. The *p*-value for each difference between the mean [median] return for the private bidder type and public bidders is also reported. In Panel C the difference in mean [median] returns and its significance level is reported across the private bidder types. All reported *p*-values are based on *t*-tests for differences in the mean and on Wilcoxon tests for differences in the median. The variables CAR3, CAR5, and CAR11 are respectively the 3-, 5-, and 11-day cumulative abnormal returns around the announcement day, based on market model residuals. The variable FFRET is the Fama-French size and book-to-market adjusted buy-and-hold return from one day before the announcement to the completion date of the transaction. RUNUP is the market-adjusted buy-and-hold return from 63 days prior to the announcement to 6 days prior to the announcement and ARET_12 is the market-adjusted buy-and-hold return for the 12 months prior to the runup period.

Panel A: *Private versus public bidders*

	All	Private	Public	Difference	*p*-value
CAR3	0.2873	0.2220	0.3174	-0.0954	*<0.001*
	[0.2280]	[0.1847]	[0.2517]	[-0.0670]	*<0.001*
CAR5	0.2978	0.2265	0.3306	-0.1041	*<0.001*
	[0.2364]	[0.1893]	[0.2615]	[-0.0722]	*<0.001*
CAR11	0.3145	0.2418	0.3479	-0.1061	*<0.001*
	[0.2572]	[0.2092]	[0.2788]	[-0.0696]	*<0.001*
FFRET	0.3039	0.2421	0.3324	-0.0903	*0.000*
	[0.2441]	[0.1947]	[0.2695]	[-0.0748]	*0.001*
RUNUP	0.0771	0.0654	0.0825	-0.0171	*0.354*
	[0.0360]	[0.0239]	[0.0437]	[-0.0197]	*0.169*
ARET_12	-0.0788	-0.0608	-0.0871	0.0263	*0.506*
	[-0.1754]	[-0.1734]	[-0.1827]	[0.0093]	*0.765*

Table 2 – Continued

Panel B: *Return measures by private bidder type*

	Private equity bidder *n*=174	Difference from Public *p*-value	Private operating bidder *n*=161	Difference from Public *p*-value	Private bidder group *n*=72	Difference from Public *p*-value
CAR3	0.2047	*<0.001*	0.2456	*0.023*	0.2106	*0.002*
	[0.1851]	*<0.001*	[0.1979]	*<0.001*	[0.1625]	*0.002*
CAR5	0.2080	*<0.001*	0.2496	*0.012*	0.2196	*0.002*
	[0.1760]	*<0.001*	[0.2048]	*0.008*	[0.1747]	*<0.001*
CAR11	0.2183	*<0.001*	0.2708	*0.030*	0.2340	*0.002*
	[0.1920]	*<0.001*	[0.2287]	*0.005*	[0.1887]	*0.028*
FFRET	0.2032	*<0.001*	0.2813	*0.155*	0.2481	*0.098*
	[0.1859]	*<0.001*	[0.2263]	*0.104*	[0.2357]	*0.468*
RUNUP	0.0466	*0.162*	0.0878	*0.846*	0.0607	*0.574*
	[0.0028]	*0.048*	[0.0483]	*0.932*	[0.0420]	*0.993*
ARET_12	-0.0743	*0.786*	-0.0160	*0.341*	-0.1285]	*0.462*
	[-0.1725]	*0.858*	[-0.1734]	*0.669*	[-0.1775]	*0.993*

Panel C: *Return measure differences among private bidder types*

	Private Equity – Private Operating		Private Equity – Private Group		Private Operating – Private Group	
	Difference	*p*-value	Difference	*p*-value	Difference	*p*-value
CAR3	-0.0409	*0.232*	-0.0059	*0.862*	0.0350	*0.411*
	[-0.0127]	*0.414*	[0.0226]	*0.576*	[0.0353]	*0.277*
CAR5	-0.0416	*0.237*	-0.0116	*0.740*	0.0300	*0.499*
	[-0.0288]	*0.301*	[0.0013]	*0.999*	[0.0301]	*0.421*
CAR11	-0.0524	*0.169*	-0.0156	*0.687*	0.0368	*0.442*
	[-0.0366]	*0.550*	[0.0033]	*0.999*	[0.0400]	*0.421*
FFRET	-0.0780	*0.056*	-0.0449	*0.412*	0.0332	*0.596*
	[-0.0404]	*0.210*	[-0.0497]	*0.162*	[-0.0094]	*0.965*
RUNUP	-0.0412	*0.213*	-0.0141	*0.748*	0.0271	*0.558*
	[-0.0455]	*0.141*	[-0.0393]	*0.576*	[0.0063]	*0.965*
ARET_12	-0.0583	*0.479*	0.0542	*0.444*	0.1125	*0.208*
	[0.0009]	*0.955*	[0.0050]	*0.999*	[0.0041]	*0.483*

Table 3

Summary statistics on target and deal characteristics

The sample comes from SDC and includes all completed pure cash mergers between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm. In Panel A, mean and median [in brackets] values for target characteristics are reported. Accounting variables are from Compustat. The market value of equity (MVE) is from CRSP calculated as the price of the stock times the number of shares outstanding 63 days prior to the announcement. Debt-to-assets (DEBT) is calculated as the book value of debt divided by the sum of the book value of debt and the market value of equity. Tobin's q (Q) is defined as the firm market value divided by the book value of assets. Industry-adjusted Tobin's q (IAQ) is defined as Tobin's q minus the median 2-digit SIC code industry value of this variable. Age (AGE) is the number of months since the firm has been listed on CRSP. Sales growth (ΔSALES) and employee growth (ΔEMPLOYEE) are both based on the three-year compounded annual growth in sales and number of employees. R&D is the expense on research and development divided by the book value of assets. Intangible assets (INTANGIBLE) is calculated as the fraction of the firm's assets minus net PPE and minus current assets, divided by the book value of assets. Operating cash flow (OCF) is defined as sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by book value of assets. TARLIQ is the liquidity of the market for corporate control for the target firm's industry and is defined as the value of all corporate control transactions for $1 million or more reported by SDC for each year and two-digit SIC code divided by the total book value of assets of all Compustat firms in the same two-digit SIC code and year. STDEVAR and STDEV are defined as respectively the standard deviation of the market model residuals and raw returns from day -379 to day -127 relative to the announcement day. STOCKLIQ is the measure of stock illiquidity of Amihud (2002). SEGMENTS is the number of business segments reported on Compustat. FOCUS is an indicator variable equal to one if SEGMENTS is equal to one. NASDAQ is an indicator variable equal to one if the target firm is listed on the Nasdaq exchange. In Panel B, mean (and median for continuous variables in brackets) values are reported for deal characteristics. The deal value ($ million) (DEALVALUE) is the total value of consideration (cash) paid by the acquirer, excluding fees and expenses. TENDER, DIVERSIFY, MBO, TOEHOLD, HOSTILE, BANKRUPT, DEFENSE, TARLOCK, BIDLOCK, and TARTERM, BIDTERM, are indicator variables from SDC equal to one if the deal respectively is a tender offer, involves a target with a two-digit SIC code other than that of the bidder, is classified as a management buyout, involves a bidder that holds 0.5% or more of the target stock prior to the announcement, is hostile, includes a bankrupt target, includes a defensive tactic, includes target or bidder lockup provisions, includes target or bidder termination fees. COMPETE is an indicator variable equal to one if another deal for the same target is announced in SDC during the 12 months prior to the announcement date. INITBID is an indicator variable equal to one if the announcement of the offer is followed by an offer by another firm, while no bids took place during the 12 months before the announcement. The variable DAY is the number of calendar days between the announcement date and the completion date.

Panel A: *Target characteristics*

	All	Private	Public	Difference	*p*-value
MVE	245.68	147.96	290.62	-142.66	*<0.001*
	[67.94]	[47.78]	[85.02]	[-37.25]	*<0.001*
DEBT	0.187	0.213	0.175	0.038	*0.002*
	[0.125]	[0.153]	[0.113]	[0.040]	*0.106*
Q	1.454	1.212	1.565	-0.353	*<0.001*
	[1.149]	[1.042]	[1.229]	[-0.187]	*<0.001*
IAQ	-0.084	-0.262	-0.001	-0.261	*<0.001*
	[-0.146]	[-0.266]	[-0.095]	[-0.171]	*<0.001*
AGE	128	126	129	-3	*0.711*
	[87]	[87]	[87]	[0]	*0.857*
ΔSALES	0.180	0.132	0.204	-0.073	*0.014*
	[0.094]	[0.065]	[0.102]	[-0.038]	*0.044*
ΔEMPLOYEE	0.080	0.060	0.090	-0.030	*0.108*
	[0.038]	[0.017]	[0.046]	[-0.029]	*0.018*

Table 3 – Continued

	All	Private	Public	Difference	*p*-value
R&D	0.047	0.025	0.057	-0.032	*<0.001*
	[0.000]	[0.000]	[0.000]	[0.000]	*<0.001*
INTANGIBLE	0.207	0.211	0.205	0.005	*0.641*
	[0.149]	[0.143]	[0.151]	[-0.008]	*0.630*
OCF	0.072	0.105	0.057	0.047	*0.002*
	[0.092]	[0.097]	[0.089]	[0.008]	*0.209*
TARLIQ	0.065	0.061	0.067	-0.006	*0.256*
	[0.045]	[0.044]	[0.045]	[-0.001]	*0.857*
STDEVAR	0.040	0.043	0.039	0.004	*0.007*
	[0.036]	[0.037]	[0.035]	[0.002]	*0.169*
STDEV	0.041	0.044	0.040	0.004	*0.012*
	[0.036]	[0.038]	[0.036]	[0.002]	*0.169*
STOCKLIQ	0.737	1.244	0.503	0.740	*0.012*
	[0.048]	[0.139]	[0.029]	[0.110]	*<0.001*
SEGMENTS	1.71	1.73	1.70	0.026	*0.624*
	[2.00]	[2.00]	[2.00]	[0.000]	*0.447*
FOCUS	0.454	0.439	0.462	-0.023	*0.473*
NASDAQ	0.717	0.715	0.719	-0.004	*0.892*

Panel B: *Deal characteristics*

	All	Private	Public	Difference	*p*-value
DEALVALUE	438.61	228.22	535.36	-307.14	*<0.001*
	[118.11]	[73.12]	[147.73]	[-74.61]	*<0.001*
TENDER	0.432	0.285	0.499	-0.214	*<0.001*
DIVERSIFY	0.534	0.732	0.443	0.289	*<0.001*
MBO	0.060	0.189	0.001	0.188	*<0.001*
TOEHOLD	0.072	0.118	0.051	0.067	*<0.001*
HOSTILE	0.014	0.007	0.017	-0.010	*0.115*
BANKRUPT	0.005	0.010	0.003	0.006	*0.223*
DEFENSE	0.004	0.000	0.006	-0.006	*0.025*
TARLOCK	0.002	0.000	0.003	-0.003	*0.083*
BIDLOCK	0.059	0.029	0.072	-0.043	*0.000*
TARTERM	0.622	0.548	0.656	-0.109	*0.000*
BIDTERM	0.077	0.081	0.076	0.005	*0.737*
COMPETE	0.077	0.091	0.070	0.021	*0.211*
INITBID	0.023	0.034	0.018	0.016	*0.107*
DAY	110	128	101	27	*<0.001*
	[90]	[112]	[79]	[33]	*<0.001*

Table 4

Multivariate regression analysis

The sample comes from SDC and includes all completed pure cash mergers announced between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm. The dependent variable in models (1) – (4) is the three-day abnormal announcement return (CAR3) and in models (5) – (8) the Fama French size and market-to-book adjusted compounded return from one day before to the announcement date to the completion date (FFRET). PRIVATE is an indicator variable equal to one if the bidder is a private firm. The market value of equity (MVE) is from CRSP calculated as the price of the stock times the number of shares outstanding 63 days prior to the announcement. Debt-to-assets (DEBT) is calculated as the book value of debt divided by the sum of the book value of debt and the market value of equity. Tobin's q (Q) is defined as the firm market value divided by the book value of assets. Industry-adjusted Tobin's q (IAQ) is defined as Tobin's q minus the median 2-digit SIC code industry value of this variable. Operating cash flow (OCF) is defined as sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by the book value of assets. TARLIQ is the liquidity of the market for corporate control for the target firm's industry and is defined as the value of all corporate control transactions for $1 million or more reported by SDC for each year and two-digit SIC code divided by the total book value of assets of all Compustat firms in the same two-digit SIC code and year. RUNUP is the market-adjusted compounded return from 63 days prior to the announcement to 6 days prior to the announcement and ARET_12 is the market-adjusted compounded return for the 12 months prior to the runup period. STDEVAR and STDEV are defined as respectively the standard deviation of the market model residuals and raw returns from day -379 to day -127 relative to the announcement day. STOCKLIQ is the measure of stock illiquidity of Amihud (2002). TENDER, DIVERSIFY, TOEHOLD, HOSTILE, BIDLOCK, and TARTERM are indicator variables from SDC equal to one if the deal respectively is a tender offer, involves a target with a two-digit SIC code other than that of the bidder, involves a bidder that holds 0.5% or more of the target stock prior to the announcement, is hostile, includes bidder lockup provisions, or includes target termination fees. COMPETE is an indicator variable equal to one if another deal for the same target is announced in SDC during the 12 months prior to the announcement date. INITBID is an indicator variable equal to one if the announcement of the offer is followed by an offer by another firm, while no bids took place during the 12 months before the announcement. All *p*-values (in italics) are based on heteroscedasticity-consistent standard errors. Regressions include year and industry (2-digit SIC code main classifications) dummy variables. Coefficients denoted with [a], [b], or [c], are significant at the 1%, 5%, or 10% level respectively.

	(1) CAR3	(2) CAR3	(3) CAR3	(4) CAR3	(5) FFRET	(6) FFRET	(7) FFRET	(8) FFRET
PRIVATE	-0.1015[a]	-0.0994[a]	-0.1006[a]	-0.1010[a]	-0.0894[a]	-0.0867[a]	-0.0889[a]	-0.0893[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.001*	*0.001*	*0.001*	*0.001*
ln (MVE)	-0.0234[a]	-0.0256[a]	-0.0249[a]	-0.0236[b]	-0.0307[a]	-0.0300[a]	-0.0289[a]	-0.0269[b]
	0.001	*0.004*	*0.007*	*0.011*	*0.000*	*0.005*	*0.008*	*0.015*
Q	-0.0201[b]	-0.0203[b]	-0.0192[b]		-0.0170[c]	-0.0184[c]	-0.0171[c]	
	0.027	*0.028*	*0.035*		*0.095*	*0.072*	*0.095*	
IAQ				-0.0270[a]				-0.0300[a]
				0.005				*0.007*
DEBT	-0.012	-0.0127	-0.0077	-0.0039	0.0109	0.0076	0.0087	0.0126
	0.845	*0.834*	*0.901*	*0.948*	*0.884*	*0.917*	*0.907*	*0.862*
OCF	0.0836	0.0831	0.084	0.077	0.0656	0.0703	0.0641	0.0579
	0.278	*0.286*	*0.283*	*0.312*	*0.463*	*0.443*	*0.488*	*0.516*
TARLIQ	-0.2876[a]		-0.2829[a]	-0.2921[a]	-0.3136[a]		-0.3072[a]	-0.3183[a]
	0.002		*0.003*	*0.002*	*0.008*		*0.009*	*0.007*
RUNUP	-0.1654[a]	-0.1630[a]	-0.1634[a]	-0.1632[a]	-0.1829[a]	-0.1805[a]	-0.1808[a]	-0.1810[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
ARET_12	-0.0527[a]	-0.0519[a]	-0.0529[a]	-0.0514[a]	-0.0588[a]	-0.0578[a]	-0.0589[a]	-0.0571[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.001*	*0.001*	*0.001*	*0.002*

Table 4 – Continued

	(1) CAR3	(2) CAR3	(3) CAR3	(4) CAR3	(5) FFRET	(6) FFRET	(7) FFRET	(8) FFRET
DIVERSIFY	-0.0146	-0.0155	-0.0137	-0.0116	-0.0303	-0.0317	-0.0293	-0.0273
	0.479	*0.452*	*0.507*	*0.572*	*0.242*	*0.222*	*0.260*	*0.291*
HOSTILE	0.1485[b]	0.1367[b]	0.1530[b]	0.1492[b]	0.2335[a]	0.2136[a]	0.2334[a]	0.2289[a]
	0.014	*0.026*	*0.012*	*0.014*	*0.002*	*0.005*	*0.002*	*0.003*
COMPETE	-0.1015[a]	-0.1000[a]	-0.1014[a]	-0.1014[a]	-0.1032[a]	-0.1011[a]	-0.1028[a]	-0.1031[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
INITBID	-0.0514	-0.0454	-0.0495	-0.0491	0.0259	0.0328	0.0296	0.0279
	0.203	*0.253*	*0.220*	*0.220*	*0.651*	*0.560*	*0.605*	*0.625*
TENDER	0.0960[a]	0.0917[a]	0.0947[a]	0.0930[a]	0.1011[a]	0.0960[a]	0.1013[a]	0.0977[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
TARTERM	0.0184	0.0179	0.0186	0.0196	0.0295	0.0289	0.0295	0.0305
	0.370	*0.378*	*0.361*	*0.334*	*0.253*	*0.255*	*0.247*	*0.232*
TOEHOLD	-0.022	-0.0166	-0.0201	-0.0199	-0.0339	-0.0283	-0.0322	-0.0328
	0.456	*0.573*	*0.496*	*0.499*	*0.450*	*0.525*	*0.473*	*0.465*
STDEV		-0.1011				0.3103		
		0.886				*0.717*		
STDEVAR			-0.1583	-0.1864			-0.0266	0.224
			0.841	*0.796*			*0.978*	*0.795*
BIDLOCK		0.0522	0.0497	0.0502		0.045	0.0444	0.0421
		0.128	*0.151*	*0.144*		*0.313*	*0.324*	*0.345*
STOCKLIQ			-0.0002				0.0028	
			0.905				*0.167*	
Constant	0.4352[a]	0.3661[a]	0.4344[a]	0.4016[a]	0.5997[a]	0.4815[a]	0.5921[a]	0.5525[a]
	0.000	*0.001*	*0.000*	*0.000*	*0.000*	*0.001*	*0.000*	*0.000*
n	1288	1292	1288	1288	1288	1292	1288	1288
Adj. R^2	0.134	0.13	0.133	0.137	0.14	0.137	0.14	0.143

Table 5

Multivariate regressions by public bidder managerial ownership

The sample comes from SDC and includes all completed pure cash mergers announced between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm with managerial ownership (own) cutoffs of 5, 10, 15, 25, and 50% respectively using the officers and directors entry on Compact Disclosure. The dependent variable in models (1)–(5) is the three-day abnormal announcement return (CAR3). In Panel A, PRIVATE is an indicator variable equal to one if the bidder is a private firm. In Panel B, PRIVATE EQUITY, PRIVATE OPERATING BIDDER, and PRIVATE GROUP are indicator variables based on the classification of private bidders using a Lexis-Nexis search. The market value of equity (MVE) is from CRSP calculated as the price of the stock times the number of shares outstanding 63 days prior to the announcement. Debt-to-assets (DEBT) is calculated as the book value of debt divided by the sum of the book value of debt and the market value of equity. Tobin's q (Q) is defined as the firm market value divided by the book value of assets. Industry-adjusted Tobin's q (IAQ) is defined as Tobin's q minus the median 2-digit SIC code industry value of this variable. Operating cash flow (OCF) is defined as sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by the book value of assets. TARLIQ is the liquidity of the market for corporate control for the target firm's industry and is defined as the value of all corporate control transactions for $1 million or more reported by SDC for each year and two-digit SIC code divided by the total book value of assets of all Compustat firms in the same two-digit SIC code and year. RUNUP is the market-adjusted compounded return from 63 days prior to the announcement to 6 days prior to the announcement and ARET_12 is the market-adjusted compounded return for the 12 months prior to the runup period. STDEVAR and STDEV are defined as respectively the standard deviation of the market model residuals and raw returns from day -379 to day -127 relative to the announcement day. STOCKLIQ is the measure of stock illiquidity of Amihud (2002). TENDER, DIVERSIFY, TOEHOLD, HOSTILE, BIDLOCK, and TARTERM are indicator variables from SDC equal to one if the deal respectively is a tender offer, involves a target with a two-digit SIC code other than that of the bidder, involves a bidder that holds 0.5% or more of the target stock prior to the announcement, is hostile, includes bidder lockup provisions, or includes target termination fees. COMPETE is an indicator variable equal to one if another deal for the same target is announced in SDC during the 12 months prior to the announcement date. INITBID is an indicator variable equal to one if the announcement of the offer is followed by an offer by another firm, while no bids took place during the 12 months before the announcement. All *p*-values (in italics) are based on heteroscedasticity-consistent standard errors. Regressions include year and industry (2-digit SIC code main classifications) dummy variables. Coefficients denoted with [a], [b], or [c], are significant at the 1%, 5%, or 10% level respectively.

Panel A: *Public versus private bidder transactions*

	(1)	(2)	(3)	(4)	(5)
	own >= 5%	own >= 10%	own >= 15%	own >= 25%	own >= 50%
PRIVATE	-0.0735[a]	-0.0753[b]	-0.0525[c]	-0.0355	-0.0178
	0.008	*0.012*	*0.066*	*0.253*	*0.682*
Ln (MVE)	-0.0252[b]	-0.0197[c]	-0.0244[b]	-0.0333[a]	-0.0356[a]
	0.042	*0.088*	*0.038*	*0.005*	*0.008*
IAQ	-0.0651[a]	-0.0624[a]	-0.0544[b]	-0.0416[b]	-0.0426[c]
	0.003	*0.008*	*0.014*	*0.048*	*0.082*
DEBT	-0.1043[c]	-0.0837	-0.0422	-0.0606	-0.0665
	0.098	*0.209*	*0.473*	*0.310*	*0.299*
OCF	0.2629[b]	0.2715[b]	0.2607[b]	0.3073[b]	0.3580[b]
	0.013	*0.025*	*0.032*	*0.016*	*0.028*
TARLIQ	-0.0699	-0.1285	-0.097	-0.0239	0.0245
	0.576	*0.328*	*0.458*	*0.862*	*0.871*
RUNUP	-0.1477[a]	-0.1280[a]	-0.1226[a]	-0.0981[b]	-0.1314[b]
	0.000	*0.003*	*0.008*	*0.038*	*0.015*
ARET_12	-0.0245	-0.0360[b]	-0.0361[b]	-0.0357[b]	-0.0361[b]
	0.154	*0.026*	*0.018*	*0.021*	*0.033*

Table 5 - Continued

	(1) own >= 5%	(2) own >= 10%	(3) own >= 15%	(4) own >= 25%	(5) own >= 50%
DIVERSIFY	-0.0246	-0.0263	-0.025	-0.0212	-0.0272
	0.362	*0.370*	*0.382*	*0.485*	*0.415*
HOSTILE	0.0879	0.0669	0.0806	0.1399	0.2594[b]
	0.180	*0.383*	*0.304*	*0.128*	*0.043*
COMPETE	-0.0868[a]	-0.1119[a]	-0.1056[a]	-0.1027[b]	-0.0902[b]
	0.006	*0.001*	*0.003*	*0.011*	*0.030*
INITBID	-0.0245	-0.0353	-0.0322	-0.0276	-0.0421
	0.561	*0.449*	*0.495*	*0.559*	*0.408*
TENDER	0.0533[c]	0.0559[c]	0.0655[b]	0.0734[b]	0.0768[b]
	0.054	*0.050*	*0.026*	*0.018*	*0.033*
TARTERM	0.0273	0.0344	0.023	0.0073	-0.0003
	0.286	*0.190*	*0.389*	*0.794*	*0.993*
TOEHOLD	0.0069	-0.001	-0.0077	-0.0194	-0.0249
	0.862	*0.982*	*0.860*	*0.677*	*0.609*
STDEVAR	0.0819	0.0528	0.0432	0.0243	0.0438
	0.173	*0.375*	*0.480*	*0.701*	*0.582*
BIDLOCK	-1.1552	-0.7098	-0.885	-1.1432[c]	-1.2057[c]
	0.123	*0.280*	*0.167*	*0.070*	*0.100*
Constant	0.4412[a]	0.4258[b]	0.4334[a]	0.3503[a]	0.3587[a]
	0.002	*0.012*	*0.010*	*0.000*	*0.000*
n	675	600	559	506	451
Adj. R^2	0.110	0.115	0.092	0.087	0.099

Panel B: *Public versus private bidder categories*

	(1) own >= 5%	(2) own >= 10%	(3) own >= 15%	(4) own >= 25%	(5) own >= 50%
PRIVATE EQUITY	-0.0933[a]	-0.1020[a]	-0.0790[b]	-0.0624	-0.0389
	0.005	0.005	0.024	0.110	0.474
PRIVATE OPERATING	-0.0528	-0.0521	-0.0316	-0.0189	-0.004
	0.124	0.148	0.370	0.602	0.931
PRIVATE GROUP	-0.1406[a]	-0.1408[b]	-0.1224[b]	-0.1088[c]	-0.0961
	0.008	0.011	0.022	0.058	0.159
ln (MVE)	-0.0260[b]	-0.0202[c]	-0.0254[b]	-0.0347[a]	-0.0385[a]
	0.041	0.091	0.039	0.006	0.007
IAQ	-0.0672[a]	-0.0645[a]	-0.0568[b]	-0.0441[b]	-0.0455[c]
	0.003	0.008	0.013	0.042	0.072
DEBT	-0.099	-0.0774	-0.0372	-0.0581	-0.067
	0.124	0.255	0.533	0.333	0.292
OCF	0.2688[b]	0.2794[b]	0.2673[b]	0.3150[b]	0.3673[b]
	0.012	0.022	0.029	0.014	0.025
TARLIQ	-0.0769	-0.1352	-0.1062	-0.0429	0.0076
	0.534	0.300	0.411	0.751	0.960
RUNUP	-0.1515[a]	-0.1313[a]	-0.1253[a]	-0.1001[b]	-0.1344[b]
	0.000	0.003	0.007	0.035	0.013
ARET_12	-0.0248	-0.0370[b]	-0.0370[b]	-0.0368[b]	-0.0368[b]
	0.156	0.023	0.015	0.017	0.029

Table 5 - Continued

	(1) own >= 5%	(2) own >= 10%	(3) own >= 15%	(4) own >= 25%	(5) own >= 50%
DIVERSIFY	-0.0053	-0.0019	0.0015	0.0073	0.0016
	0.866	0.957	0.966	0.849	0.970
HOSTILE	0.0749	0.053	0.067	0.1225	0.2257
	0.251	0.492	0.395	0.194	0.113
COMPETE	-0.0855[a]	-0.1121[a]	-0.1046[a]	-0.1016[b]	-0.0898[b]
	0.008	0.002	0.004	0.013	0.035
INITBID	-0.018	-0.0297	-0.0266	-0.0227	-0.0354
	0.682	0.543	0.590	0.646	0.507
TENDER	0.0466[c]	0.0481[c]	0.0571[b]	0.0650[b]	0.0673[c]
	0.087	0.086	0.045	0.030	0.053
TARTERM	0.0226	0.0291	0.0173	0.001	-0.0075
	0.390	0.283	0.530	0.972	0.813
TOEHOLD	0.0289	0.0197	0.0142	0.0049	0.0036
	0.505	0.662	0.767	0.925	0.947
STDEVAR	0.082	0.0528	0.0441	0.0267	0.0438
	0.172	0.374	0.470	0.671	0.581
BIDLOCK	-1.1507	-0.7141	-0.8932	-1.1429[c]	-1.1833
	0.120	0.272	0.157	0.065	0.101
Constant	0.4445[a]	0.4207[b]	0.4308[b]	0.3517[a]	0.3710[a]
	0.002	0.013	0.013	0.001	0.001
n	675	600	559	506	451
Adj. R^2	0.112	0.117	0.095	0.09	0.102

Table 6

Multivariate regressions by public bidder size quartiles

The sample comes from SDC and includes all completed pure cash mergers announced between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm. The dependent variable in models (1) – (4) is the three-day abnormal announcement return (CAR3). Public bidder size quartiles (Q1 – Q4) are based on inflation-adjusted measures of the bidder's market value of equity three months prior to the announcement. In Panel A, PRIVATE is an indicator variable equal to one if the bidder is a private firm. In Panel B, PRIVATE EQUITY, PRIVATE OPERATING BIDDER, and PRIVATE GROUP are indicator variables based on the classification of private bidders using a Lexis-Nexis search. The market value of equity (MVE) is from CRSP calculated as the price of the stock times the number of shares outstanding 63 days prior to the announcement. Debt-to-assets (DEBT) is calculated as the book value of debt divided by the sum of the book value of debt and the market value of equity. Tobin's q (Q) is defined as the firm market value divided by the book value of assets. Industry-adjusted Tobin's q (IAQ) is defined as Tobin's q minus the median 2-digit SIC code industry value of this variable. Operating cash flow (OCF) is defined as sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by the book value of assets. TARLIQ is the liquidity of the market for corporate control for the target firm's industry and is defined as the value of all corporate control transactions for $1 million or more reported by SDC for each year and two-digit SIC code divided by the total book value of assets of all Compustat firms in the same two-digit SIC code and year. RUNUP is the market-adjusted compounded return from 63 days prior to the announcement to 6 days prior to the announcement and ARET_12 is the market-adjusted compounded return for the 12 months prior to the runup period. STDEVAR and STDEV are defined as respectively the standard deviation of the market model residuals and raw returns from day -379 to day -127 relative to the announcement day. STOCKLIQ is the measure of stock illiquidity of Amihud (2002). TENDER, DIVERSIFY, TOEHOLD, HOSTILE, BIDLOCK, and TARTERM are indicator variables from SDC equal to one if the deal respectively is a tender offer, involves a target with a two-digit SIC code other than that of the bidder, involves a bidder that holds 0.5% or more of the target stock prior to the announcement, is hostile, includes bidder lockup provisions, or includes target termination fees. COMPETE is an indicator variable equal to one if another deal for the same target is announced in SDC during the 12 months prior to the announcement date. INITBID is an indicator variable equal to one if the announcement of the offer is followed by an offer by another firm, while no bids took place during the 12 months before the announcement. All *p*-values (in italics) are based on heteroscedasticity-consistent standard errors. Regressions include year and industry (2-digit SIC code main classifications) dummy variables. Coefficients denoted with [a], [b], or [c], are significant at the 1%, 5%, or 10% level respectively.

Panel A: *Public versus private bidder transactions*

	(1) Q1 (smallest)	(2) Q2	(3) Q3	(4) Q4 (largest)
PRIVATE	-0.0337	-0.1020[a]	-0.1150[a]	-0.1762[a]
	0.247	*0.004*	*0.000*	*0.000*
ln (MVE)	-0.0340[a]	-0.0517[a]	-0.0361[a]	-0.0449[a]
	0.009	*0.000*	*0.006*	*0.002*
IAQ	-0.0557[b]	-0.0620[b]	-0.0219	-0.0197[c]
	0.013	*0.010*	*0.287*	*0.098*
DEBT	-0.0733	-0.0911	-0.1349[b]	0.031
	0.173	*0.143*	*0.042*	*0.661*
OCF	0.2482[c]	0.2235[c]	0.2605[b]	0.2423[b]
	0.066	*0.086*	*0.028*	*0.040*
TARLIQ	-0.0412	-0.151	-0.1227	-0.0167
	0.754	*0.219*	*0.270*	*0.894*

Table 6 - Continued

	(1) Q1 (smallest)	(2) Q2	(3) Q3	(4) Q4 (largest)
RUNUP	-0.1148[b]	-0.1369[a]	-0.1483[a]	-0.2078[a]
	0.011	*0.009*	*0.003*	*0.000*
ARET_12	-0.0227	-0.0380[b]	-0.0434[b]	-0.0387[b]
	0.120	*0.019*	*0.026*	*0.013*
DIVERSIFY	-0.0075	0.0004	-0.0414	-0.0471[c]
	0.789	*0.989*	*0.149*	*0.090*
HOSTILE	0.0548	0.1444[b]	0.1140[c]	0.2336[b]
	0.548	*0.038*	*0.065*	*0.029*
COMPETE	-0.0942[a]	-0.0859[b]	-0.1075[a]	-0.0735[c]
	0.003	*0.014*	*0.002*	*0.055*
INITBID	0.0005	-0.0162	-0.062	-0.0513
	0.993	*0.749*	*0.205*	*0.436*
TENDER	0.0903[a]	0.0619[b]	0.1028[a]	0.0757[b]
	0.003	*0.045*	*0.001*	*0.010*
TARTERM	0.0067	0.0133	0.029	0.0075
	0.787	*0.652*	*0.292*	*0.788*
TOEHOLD	-0.0328	-0.0228	-0.0136	0.0123
	0.462	*0.611*	*0.735*	*0.781*
STDEVAR	-0.883	-1.4913[c]	-0.6903	-0.9929
	0.138	*0.083*	*0.322*	*0.301*
BIDLOCK	0.0555	0.0637	-0.0031	0.1327[b]
	0.294	*0.139*	*0.938*	*0.025*
Constant	0.3938[a]	0.6202[a]	0.5222[a]	0.5585[a]
	0.000	*0.000*	*0.000*	*0.000*
n	593	594	594	595
Adj. R^2	0.117	0.141	0.123	0.138

Panel B: *Public versus private bidder categories*

	(1) Q1 (smallest)	(2) Q2	(3) Q3	(4) Q4 (largest)
PRIVATE EQUITY	-0.0575	-0.1274[a]	-0.1284[a]	-0.1831[a]
	0.121	0.001	0.000	0.000
PRIVATE OPERATING	-0.0123	-0.0776[c]	-0.1028[b]	-0.1657[a]
	0.725	0.053	0.011	0.000
PRIVATE GROUP	-0.1063[b]	-0.2177[a]	-0.1605[a]	-0.2455[a]
	0.041	0.001	0.006	0.000
	-0.0354[b]	-0.0552[a]	-0.0365[a]	-0.0474[a]
ln (MVE)	0.011	0.000	0.008	0.002
	-0.0589[b]	-0.0647[a]	-0.0237	-0.0198[c]
IAQ	0.012	0.009	0.254	0.095
	-0.0698	-0.0867	-0.1336[b]	0.0298
DEBT	0.196	0.165	0.045	0.670
	0.2559[c]	0.2368[c]	0.2637[b]	0.2510[b]
OCF	0.060	0.071	0.027	0.033
	-0.0436	-0.1632	-0.1266	-0.0242
TARLIQ	0.739	0.189	0.253	0.847

Table 6 – Continued

	(1) Q1 (smallest)	(2) Q2	(3) Q3	(4) Q4 (largest)
	-0.1188[a]	-0.1450[a]	-0.1512[a]	-0.2120[a]
RUNUP	0.009	0.006	0.003	0.000
	-0.0236	-0.0380[b]	-0.0438[b]	-0.0384[b]
ARET_12	0.111	0.017	0.027	0.015
	0.017	0.0308	-0.0276	-0.0339
DIVERSIFY	0.616	0.410	0.427	0.297
	0.0232	0.1176[c]	0.0947	0.2192[c]
HOSTILE	0.791	0.075	0.126	0.053
	-0.0951[a]	-0.0819[b]	-0.1063[a]	-0.0685[c]
COMPETE	0.003	0.023	0.003	0.079
	0.0061	-0.0054	-0.0588	-0.0451
INITBID	0.910	0.918	0.239	0.500
	0.0824[a]	0.0501	0.0980[a]	0.0707[b]
TENDER	0.005	0.100	0.001	0.015
	0.0016	0.004	0.0255	0.0022
TARTERM	0.950	0.896	0.374	0.938
	-0.004	0.0226	0.0031	0.0382
TOEHOLD	0.937	0.640	0.945	0.417
	-0.8951	-1.4845[c]	-0.652	-0.983
STDEVAR	0.128	0.077	0.347	0.298
	0.0566	0.0615	-0.0041	0.1291[b]
BIDLOCK	0.282	0.154	0.917	0.033
	0.3959[a]	0.6412[a]	0.5240[a]	0.5808[a]
Constant	0.000	0.000	0.000	0.000
n	593	594	594	595
Adj. R^2	0.121	0.148	0.122	0.139

Table 7

Multivariate regressions with target ownership measures

The sample comes from SDC and includes all completed pure cash mergers, acquisitions of assets, acquisitions of certain assets, and acquisitions of a majority interest announced between 1990 and 2005 where the target firm is fully acquired U.S. public firm and the bidder is a private or public U.S. firm. The dependent variable in models (1) – (6) is either the three-day abnormal announcement return (CAR3) or the Fama French size and market-to-book adjusted compounded return from one day before the announcement date to the completion date (FFRET). PRIVATE is an indicator variable equal to one if the bidder is a private firm. Target managerial ownership (TAR_MAN_OWN) and target institutional ownership (TAR_INST_OWN) are from Compact Disclosure. Models (5) and (6) use mean centered values of ownership. The market value of equity (MVE) is from CRSP calculated as the price of the stock times the number of shares outstanding 63 days prior to the announcement. Debt-to-assets (DEBT) is calculated as the book value of debt divided by the sum of the book value of debt and the market value of equity. Tobin's q (Q) is defined as the firm market value divided by the book value of assets. Industry-adjusted Tobin's q (IAQ) is defined as Tobin's q minus the median 2-digit SIC code industry value of this variable. Operating cash flow (OCF) is defined as sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by the book value of assets. TARLIQ is the liquidity of the market for corporate control for the target firm's industry and is defined as the value of all corporate control transactions for $1 million or more reported by SDC for each year and two-digit SIC code divided by the total book value of assets of all Compustat firms in the same two-digit SIC code and year. RUNUP is the market-adjusted compounded return from 63 days prior to the announcement to 6 days prior to the announcement and ARET_12 is the market-adjusted compounded return for the 12 months prior to the runup period. STDEVAR and STDEV are defined as respectively the standard deviation of the market model residuals and raw returns from day -379 to day -127 relative to the announcement day. STOCKLIQ is the measure of stock illiquidity of Amihud (2002). TENDER, DIVERSIFY, TOEHOLD, HOSTILE, BIDLOCK, and TARTERM are indicator variables from SDC equal to one if the deal respectively is a tender offer, involves a target with a two-digit SIC code other than that of the bidder, involves a bidder that holds 0.5% or more of the target stock prior to the announcement, is hostile, includes bidder lockup provisions, or includes target termination fees. COMPETE is an indicator variable equal to one if another deal for the same target is announced in SDC during the 12 months prior to the announcement date. INITBID is an indicator variable equal to one if the announcement of the offer is followed by an offer by another firm, while no bids took place during the 12 months before the announcement. All *p*-values (in italics) are based on heteroscedasticity-consistent standard errors. Regressions include year and industry (2-digit SIC code main classifications) dummy variables. Coefficients denoted with [a], [b], or [c], are significant at the 1%, 5%, or 10% level respectively.

	(1) CAR3	(2) FFRET	(3) CAR3	(4) FFRET	(5) CAR3	(6) FFRET
PRIVATE	-0.1032[a]	-0.0909[a]	-0.1028[a]	-0.0898[a]	-0.1035[a]	-0.0964[a]
	0.000	*0.001*	*0.000*	*0.001*	*0.000*	*0.000*
TAR_MAN_OWN	0.0778[c]	0.0977[c]	0.0464	0.089	0.0716	0.1336[c]
	0.090	*0.091*	*0.689*	*0.533*	*0.224*	*0.070*
TAR_INST_OWN	0.0651	0.0824[c]	0.0299	-0.0725	0.0671	0.1188[b]
	0.112	*0.084*	*0.811*	*0.622*	*0.166*	*0.034*
$TAR\_MAN\_OWN^2$			0.0418	0.0105		
			0.762	*0.952*		
$TAR\_INST\_OWN^2$			0.0427	0.192		
			0.745	*0.226*		
TAR_MAN_OWN×PRIVATE					0.0187	-0.1122
					0.823	*0.275*
TAR_INST_OWN×PRIVATE					-0.0059	-0.1189
					0.933	*0.172*

Table 7 – Continued

	(1) CAR3	(2) FFRET	(3) CAR3	(4) FFRET	(5) CAR3	(6) FFRET
LOGMVE	-0.0304[a]	-0.0349[a]	-0.0304[a]	-0.0345[a]	-0.0304[a]	-0.0354[a]
	0.005	*0.005*	*0.005*	*0.005*	*0.005*	*0.004*
IAQ	-0.0258[a]	-0.0285[b]	-0.0259[a]	-0.0293[a]	-0.0257[a]	-0.0285[b]
	0.009	*0.011*	*0.009*	*0.010*	*0.009*	*0.012*
DEBT	-0.003	0.0134	-0.004	0.0093	-0.0028	0.0123
	0.961	*0.855*	*0.948*	*0.900*	*0.963*	*0.867*
OCF	0.0703	0.0547	0.0705	0.0552	0.0701	0.0571
	0.359	*0.543*	*0.358*	*0.539*	*0.360*	*0.526*
TARLIQ	-0.3107[a]	-0.3418[a]	-0.3129[a]	-0.3516[a]	-0.3098[a]	-0.3485[a]
	0.001	*0.004*	*0.001*	*0.003*	*0.001*	*0.004*
STDEVAR	-0.2902	0.1064	-0.3052	0.0761	-0.2838	0.0562
	0.688	*0.902*	*0.673*	*0.930*	*0.696*	*0.949*
RUNUP	-0.1653[a]	-0.1829[a]	-0.1658[a]	-0.1827[a]	-0.1651[a]	-0.1824[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
ARET_12	-0.0500[a]	-0.0553[a]	-0.0499[a]	-0.0546[a]	-0.0501[a]	-0.0554[a]
	0.001	*0.003*	*0.001*	*0.003*	*0.001*	*0.003*
DIVERSIFY	-0.0148	-0.0289	-0.015	-0.0302	-0.0148	-0.0285
	0.466	*0.258*	*0.461*	*0.238*	*0.466*	*0.265*
HOSTILE	0.1516[b]	0.2422[a]	0.1512[b]	0.2413[a]	0.1509[b]	0.2410[a]
	0.016	*0.003*	*0.016*	*0.002*	*0.017*	*0.003*
COMPETE	-0.1004[a]	-0.1028[a]	-0.1010[a]	-0.1035[a]	-0.1006[a]	-0.1017[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
INITBID	-0.0498	0.0327	-0.0507	0.0310	-0.0495	0.0299
	0.240	*0.586*	*0.234*	*0.609*	*0.245*	*0.622*
TENDER	0.0905[a]	0.0925[a]	0.0909[a]	0.0948[a]	0.0906[a]	0.0898[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
TARTERM	0.0272	0.0406	0.0281	0.0428[c]	0.0269	0.0393
	0.173	*0.101*	*0.159*	*0.081*	*0.179*	*0.114*
TOEHOLD	-0.0153	-0.031	-0.0143	-0.0281	-0.0159	-0.0301
	0.601	*0.497*	*0.625*	*0.537*	*0.585*	*0.507*
BIDLOCK	0.0383	0.0278	0.0389	0.0301	0.0382	0.0285
	0.234	*0.498*	*0.228*	*0.464*	*0.236*	*0.488*
Constant	0.3889[a]	0.5197[a]	0.3982[a]	0.5422[a]	0.4224[a]	0.6015[a]
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
n	1,265	1,265	1,265	1,265	1,265	1,265
Adj. R^2	0.137	0.143	0.135	0.143	0.135	0.143