Target Firm Earnings Management and the Method of Sale: Evidence from Auctions and Negotiations

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Abstract:

We contend that target managers have incentives to manage earnings and the decision to manage earnings can also have an impact on the method of sale. If target management engages in "window-dressing" their financial statements, selling through an auction, instead of through a one-on-one negotiation, can limit the level and timing of the information that bidders can scrutinize. The risk of earnings management detection, thus, decreases. We find that once we control for self-selection bias and simultaneity, earnings management is positively associated with the target's decision to sell via an auction. Additionally, after we control for potential earnings management, multivariate analysis indicates both cumulative abnormal returns and offered premiums increase for targets when they sell through an auction. Conversely, managing earnings significantly reduces these wealth changes. Our findings suggest both the market and the bidder rationally expect lower value acquisitions due to increased uncertainty about reported earnings. Clinical evidence supports the conjecture that negotiating acquirers detect potential earnings management more often than auctioning acquirers.

Keywords: Acquisitions, Earnings Management, Auction, Negotiation, Self-Selection.

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1. Introduction

The extensive literature investigating the wealth effects accruing to both acquirer and target shareholders during merger and acquisition (M&A) transactions has focused primarily on the *post*-public announcement period of the acquisition process.[1] A recent study by Boone and Mulherin (2007b) incorporating the *pre*-public announcement takeover period documents that this process is substantially more competitive than previously reported. To illustrate, they find that half of the target firms were sold via auction in which the target firm privately contacted multiple potential buyers prior to the public announcement (21 bidders on average). This finding sharply contrasts with prior literature that has focused on the average single bidder identified at the public announcement date (see e.g., Andrade, Mitchell and Stafford, 2001). Another interesting finding documented by Boone and Mulherin (2007b) is that the target's wealth effects (abnormal returns at announcement date) for auction transactions do not differ from the wealth effects in negotiated transactions.

The aim of our study is to further our understanding of the dynamics at play in this more competitive M&A environment by asking whether earnings management plays a role in the process. More specifically, we focus on the potential impact that earnings management by the target's management can have on the method of sale decision (auction versus negotiation) and, consequently, on the wealth effects accrued to target shareholders. This examination is important for several reasons. First, motivated by Boone and Mulherin's (2007b) failure to reject the null hypothesis of no wealth effects differences between auction and negotiation transactions, our examination has the potential to shed light on this unexpected result. The auction theoretical literature has offered mixed arguments indicating either a positive or negative impact on the

[1] See Jensen and Ruback (1983), and Andrade, Mitchell and Stafford (2001) for selected surveys of the literature.

target shareholder's wealth, depending on the specific method of sale.[2] In particular, in their review of the corporate finance auction literature, Dasgupta and Hansen (2006, p. 40) posit that "the auction process is extremely efficient at extracting value from the high bidder, more so than even an optimally conducted negotiation." However, both Cantillon (2008) and Povel and Singh (2006) posit that higher competition does not necessarily result in higher expected prices for the target. Our documentation of the role of target management's incentives in the method of sale decision and the resulting impact on target shareholder's wealth is an important contribution.

Secondly, our analysis complements and extends extant research presenting evidence that managers of acquiring firms using equity as the means of acquisition overstate their earnings in the quarter preceding the public merger announcement (Louis 2004). Louis (2004, p. 123) suggests that "[i]n the case of a stock-for-stock merger, the managers of the target firms should have enough incentives and expertise to detect earnings management by acquirers." However, target management can have other incentives and can play the same game. For instance, prior studies report target management structure acquisitions to benefit themselves (through special payments), often to the detriment of their shareholders (Hartzell, Ofek and Yermack, 2004).[3]

In our setting, we contend that target management has incentives to "window dress" reported earnings, whether to benefit themselves or target shareholders. Additionally, target management can reduce the likelihood of earnings management detection by selling through an auction instead of through a single bidder negotiation. This expectation is motivated by the fact that while acquiring managers can have the incentives and expertise to detect earnings management by target managers, they do not always have access to the same information in an auction setting where data is generally provided in an off-site data-room, as opposed to the often

[2] See Cantillon (2008), Povel and Singh (2006), Hansen (2001), Bulow and Klemperer (2002), Klemperer (1996) and (2002), among others.
[3] Wulf (2004) and Moeller (2005) are other examples of this type of behavior.

on-site accessibility granted in single-bidder negotiations (at least during the pre-announcement takeover process). Target management can rationally justify limiting the exchange of information during the auction process based on what Hansen (2001) calls the *competitive information effect*. He reports that "in corporate auctions we see sellers purposely withholding relevant information" to reduce the leaking of strategic information to competitors. Hansen concludes that targets have larger incentives to give better access to information in single bidder negotiations. We contend that target managers can excuse the limited access of information because of the *competitive information effect* while, in reality, adverse selection is one of the main drivers of the decision to sell through an auction to reduce the risk of detection. An alternative perspective suggests that having more bidders in auctions increases the scrutiny process, thus making it harder to hide earnings management. Ultimately, the main empirical issue is whether the target, through its method of sale decision, can limit the level and timing of the information that bidders can scrutinize.

To assess whether earnings management affects the decision to sell through an auction and the wealth of the target shareholders, we use a hand-collected dataset from SEC filings from 1998 to 2005. We determine auction and negotiated acquisitions by evaluating the "Acquisition process / Background of the merger" sections of the SEC filings. We observe that there is extensive variation in the evolutionary process of M&A transactions and, as in Boone and Mulherin (2007b), we identify all acquisitions with multiple bidders as auctions.

We control for both simultaneity and self-selection biases since, as Li and Prabhala (2006) argue, most corporate decisions face the risk of endogeneity. Our analysis, thus, starts with simple OLS regressions and evolves to control for simultaneity and self-selection biases. To allow for a clear comparison with prior literature, we first replicate the findings reported by

Boone and Mulherin (2007b). Using OLS and two-stage estimation, we also find no wealth effects differences between auction and negotiation transactions. We note, however, that given our research question, neither OLS nor two-stage estimation sufficiently controls for self-selection. While two-stage estimation controls for the possibility that the chosen method of sale depends on the *expected* wealth effects resulting from the transaction, it does not fully control for the selectivity bias (Heckman 1979). Stated differently, our question faces potential endogeneity due to self-selection bias because the decision to sell through an auction might be co-determined with the decision to manage earnings in previous periods. In tests of independent equations between the decision to sell through auction and wealth changes, we confirm the existence of self-selection. Hence, to appropriately control for these econometric issues, we use treatment effects regression in our main analysis (Li and Prabhala 2006).[4] We find the results change when controlling for simultaneity and selectivity bias.

Our main findings are summarized as follows. We find that industry-adjusted, performance-matched discretionary accruals (our proxy for earnings management) is positively associated with the target's decision to sell via an auction. We interpret this to be consistent with target management engaging in "window dressing" preferring to sell via an auction to reduce the risk of detection. Additionally, while managing earnings significantly reduces wealth changes in all transactions, once we control for simultaneity and self-selection biases with treatment-effect regressions, we find that auctions result in higher wealth changes to target shareholders, both in the form of cumulative abnormal returns at announcement date and in offered premiums. In other words, both the market and bidders appear to rationally expect lower value acquisitions due to increased uncertainty about reported earnings, but target managers mitigate this impact by selling via an auction.

[4] See Fang (2005), and Campa and Kedia (2002) for examples using the treatment effects techniques.

Additional analysis indicates that auctions are associated with a lower likelihood of terminating the acquisition and of earnings management detection. These results are consistent with the conjecture that the likelihood of terminating an acquisition is lower in auctions because managers have a greater ability to limit the bidder's information gathering process, which in turn, hinders the likelihood of detection of earnings management.[5] We confirm this conjecture in a clinical analysis looking at the cases in which acquirers detect earnings management conditions through due diligence examinations during the pre-announcement and post-announcement takeover processes. We find that auctioning acquirers detected only 5 out of the 14 suspected earnings management conditions in pre-announcement period due diligence. Moreover, we find that only 1 out of 9 transactions were uncovered by auctioning acquirers in the post-announcement takeover period. Since this is a small sample of fairly egregious attempts at managing earnings, some of them involving potential fraud, we can only suggest that these results indicate negotiations afford a greater likelihood of earnings management detection.

Collectively, our results suggest that the method of sale has a significant impact on the wealth of the target shareholders. Earnings management by the target managers plays a key role in this decision and in target shareholder's wealth changes. Just as recent studies in the diversification literature (for example, Campa and Kedia, 2002) have shown that controlling for simultaneity bias and self-selection bias enriches our understanding of corporate decisions, this paper enriches our understanding about the motives and drivers of wealth changes in the takeover process.

This paper is organized as follows. Section 2 briefly reviews the earnings management literature as it relates to this study. Section 3 outlines the pre-announcement, private takeover

[5] In addition, the information limitations complement a lower probability of challenging offers in auction transactions after the announcement date.

period environment. Section 4 presents our data and descriptive statistics, and Section 5 our results. Section 6 concludes.

2. Earnings management and the method of sale

There is an extensive body of research suggesting that firms use accounting flexibility to manage reported earnings (Fields, Lys and Vincent, 2001). The use of aggressive accrual accounting policies to inflate current earnings prior to major corporate events has been of particular interest to both accounting and finance academics and there are several studies to date suggesting that acquirers, particularly those using stock as the means of acquisition, use discretionary accruals to inflate earnings in the quarter prior to the merger announcement. Erickson and Wang (1999) suggest that managers engage in earnings management prior to stock-based acquisitions due to their incentives to increase their firm's stock price prior to the acquisition. Louis (2004) also finds that stock-for-stock acquirers manage earnings in the quarter prior to the announcement, and that part of the future stock price underperformance of acquiring firms can be attributed to a reversal of the pre-merger earnings management effects.[6]

While the acquiring firm's management can have strong incentives to manage earnings prior to a stock for stock merger, agency theory would suggest (as noted by Erickson and Wang, 1999, and documented by Gong, Louis and Sun, 2008) that acquirers manage earnings when the cost of managing earnings is lower than the target's cost of detecting the earnings management (Watts and Zimmerman, 1986). Target firms are themselves sophisticated users of accounting information, likely to be familiar with the "tricks of the trade". Additionally, they have a fiduciary duty to target shareholders to engage in due diligence which can deter some

[6] Prior studies documenting the future underperformance of acquiring firms include, but are not limited to, Loughran and Vijh (1997), and Rau and Vermaelen (1998).

acquirers from inflating earnings (Ball and Shivakumar, 2008).[7] However, the risk of litigation may not dissuade the acquirer from using earnings management techniques which are well within the confines of generally accepted accounting principles and thus, not easily detected nor prevented. As was seen in the case of Cendant (in the 1998 merger of CUC International, Inc. and HFS, Inc.), skillful fraud, even when egregious, can escape due diligence detection. In this instance CUC International, Inc. overstated earnings for the three years preceding the merger, successfully fooling both their auditors and the management of HFS.[8]

We contend that target managers also have incentives to manage earnings and, as Erickson and Wang (1999, pg. 154) observe, "[that] it seems reasonable to believe that both the acquirer and the target would rationally anticipate that the other would manage pre-merger earnings, and that each would adjust the transaction price [accordingly]." If neither party manages earnings as the other anticipates, they run the risk of undervaluation (in the case of the target) or overpayment (in the case of the equity-financing acquirer). From a theoretical perspective using a model of competition, French and McCormick (1984) posit that the seller "has an incentive to provide optimistic information about the value of the asset." In our empirical analysis we assess whether acquirers reduce the offered price based on potential earnings management by the target. Acquirers, however, can also aim to detect earnings management during the negotiation process.

[7] Although recent studies have documented that target management may also have personal incentives contrary to target shareholders' interests which may result in acquisitions that harm target shareholders. Hartzell, Ofek and Yermack (2004) find that certain target CEOs negotiate large cash payments, special bonuses, or golden parachutes for themselves and that these excessive payments are associated with lower acquisition premia to target shareholders. Wulf (2004) finds evidence that CEOs in mergers of equals trade control in the merged firm for lower acquisition premia. Moeller (2005) additionally finds evidence that strong CEOs with high share ownership significantly reduce takeover premiums.

[8] The Cendant scandal was the largest accounting fraud scandal at the time and the fraud was not detected until after the merger was completed.

Acquirers can conduct due diligences before and after the announcement date to minimize information asymmetries. According to practitioners, two of the key antecedents to reduce information asymmetries before completing an acquisition are (i) to conduct a rigorous due diligence and (ii) to draft adequate acquisition contracts.[9] However, while both parties are entitled to perform due diligence which should detect more egregious earnings management, the acquirer's access and timing of due diligence in the pre-announcement period can be considerably different depending upon the method of sale chosen by the target.

Although more bidders scrutinize the information provided by the target in auctions (Ye, 2008), the target can limit the scope and time that information is available. In his description of the auction process, Hansen (2001, p. 32) mentions that "although the information given to potential buyers is extensive, it is not complete" since the target can claim some information is "too confidential to reveal". An auction setting can result in the target's establishment of an off-site data-room where *all* bidders are granted access to selected financial information for a predetermined period of time. From a practitioner's point of view, Kummer and Sliskovic (2007), who contrast virtual vs. on-site data rooms, argue that "due diligence is never perfect given many limitations, resulting in risks and potential benefits remaining hidden regardless of the time spent analyzing the information provided".[10] The authors also mention that "resources found in a data room vary among transactions". Complementing Hansen's (2001) *competitive information effect,* Kummer and Sliskovic reiterate that targets can rationally justify limiting the information exchange on the grounds of security concerns (i.e., spying, confidentiality abuses,

[9] See anecdotal evidence in BCG's Cools (2006), McKinsey's Christofferson et al. (2004), and Accenture's Chanmugam et al. (2005). See Macias (2008b) for further discussion on efficient contracting in acquisitions.
[10] Virtual data-rooms are now a growing business service provided by several companies via Internet websites which allow the target firm to upload data for approved bidders to examine in the information gathering, due diligence process. According to a recent article in the Boston Globe (2006) 20 percent of all US merger and acquisition transactions are now done virtually. Leighton-Jones (2004) documents how the leading provider of virtual data rooms, http://www.intralinks.com, reports a 256% annual growth of transactions in 2004. Kummer and Sliskovic (2007) report that the first virtual data rooms were used in "the late 1990s."

misuse of information). Target managers, thus, can excuse a limited access of information to reduce the risk of earnings management detection based on the *competitive information effect.* In the aforementioned case of the Cendant merger, "CUC's concern that HFS might get competitive information if the merger were not consummated" was provided as part of the reason they were given only limited access to nonpublic information regarding CUC's businesses.[11]

In practice, the access to information in an auction transaction cannot be as complete as the accessibility afforded in negotiations with single-bidders who are often granted on-site access to the target's management, operations, and financial information for a more generous period of time, as well as closer interaction with target employees. Cantillon (2008) and Povel and Singh (2006) provide theoretical support for a higher information sharing in single-bidder processes to exploit information asymmetries. The auction literature, however, has focused on information asymmetries for value creation among the bidders, and not necessarily on the adverse selection of the target (as is the case with earnings management). In addition to looking for potential synergies, the negotiator's on-site access can reduce information asymmetry by providing additional information to estimate more accurately the extent of earnings management.[12]

Research on the method of sale posits that the tradeoff between competition and information costs should drive the decision between selling through an auction or negotiation. Prior theoretical papers posit that the method of sale impacts the expected wealth changes for the target (for instance see, Hirshleifer and Png, 1989; Bulow and Klemperer, 1996; Ye , 2008). In their survey paper on auctions, Dasgupta and Hansen (2006) posit that overall the existent

[11] Fink, Ronald. "Hear No Fraud, See No Fraud, Speak No Fraud", *CFO.com* October 1, 1998 at: http://www.cfo.com/article.cfm/2990148/c_3046558?f=magazine_coverstory

[12] Povel and Singh (2006, p. 1405) mention that one source of information asymmetries among bidders is the "unequal experience with the target or the industry" leading to unequal ability to interpret the information. If the target wants to reduce the risk of earnings management detection, the target can limit the information sharing process to an experienced bidder based on the *competitive information effect* in either auctions or negotiations. The excuse based on *competitive information effect* is stronger if more experienced bidders participate in the auction.

[empirical] "evidence suggests that auctions tend to yield great results for targets" yet "gains to bidders are at best minimal." Since Bazerman and Samuelson (1983) researchers have explored the potential winners curse face by the acquirers, examining either information asymmetries among bidders or over-optimistic expectations on the value of the target. In either case, targets want to obtain the highest expected value out of the transaction. As Dasgupta and Hansen (2006, p. 40) posit, and Bulow and Klemperer (1996) theoretically shows in its English auction model, targets can extract higher values from the highest bidder in auction vs. negotiated transactions. Boone and Mulherin (2008 and 2007b), however, provide evidence against the winners curse and against differences in wealth for the target shareholders in auctioned vs. negotiated acquisitions. Moreover, auction theory literature has evolved recently to propose optimal selling mechanisms including private and common value components for the bidder. For instance, Povel and Singh (2006) and Cantillon (2008) examine the impact of information asymmetry among bidders on the expected gains for both the bidder and the target from a theoretical perspective using a sequential selling mechanism. In this paper we provide empirical evidence of how the target chooses the method of sale and how this decision impacts the target shareholders' wealth.

The above discussion considers the target's incentives to manage earnings in conjunction with the decision to sell the firm. However, the target is not always the sale initiator nor is earnings management necessarily restricted to the period immediately preceding the decision to sell. Targets can engage in aggressive accounting to increase reported earnings in earlier periods for various reasons, prior to contemplating the sale of the firm. While we focus our primary analysis on targets initiating an auction or negotiation since we are interested in the role of

earnings management in the determination of the method of sale, we retain the unsolicited/hostile acquisitions for comparison purposes.[13]

We estimate two measures of industry-adjusted, performance-matched, discretionary accruals (our proxy for earnings management): one for the fiscal year immediately preceding the acquisition announcement (DA-1) and the second (DA-2), which averages the two years immediately prior to the announcement.[14] We acknowledge that any proxy of earnings management can contain measurement error adding noise to the regressions (see Fields, Lys and Vincent, 2001; Yu, 2008). Despite their limitations, the industry-adjusted performance-matched measures have been used widely in previous research (for instance, Cornett, Marcus and Tehranian, 2008; Gong, Louis and Son, 2008) and represent the latest technology to estimate discretionary accruals (Kothari, Leone and Wasley, 2005). Hence, we believe that if anything, the use of this measure would work against our finding results since it may add noise but not bias.

3. The Pre-Announcement and Post-Announcement Takeover Process

The research outlining the pre-announcement period in the acquisition process is quite new, largely due to the need to extract the merger agreement information from Securities and Exchange Commission proxy statement filings, reports of tender offers, and current reports filed on Form 8-K. While there is some literature providing some insight into the takeover process prior to the public announcement of a bid, to the best of our knowledge, Boone and Mulherin (2007a, 2007b, 2008) and Macias (2008a, 2008b) are the only studies to date that investigate the

[13] See more details in the classification process in the next Section.
[14] For brevity, we present the results for DA-2 and note that the main results are qualitatively similar for DA-1.

pre-announcement takeover process in detail.[15] Following Figure 1 (extracted from Macias; 2008b, pg. 42), the announcement date, defined as the first public announcement of the transaction, delineates the takeover pre-announcement period events from the post-announcement period.

We identify three general classifications of acquisitions between targets and acquirers, namely auctions, negotiations, or unsolicited/hostile offers.[16] We then determine whether they chose to auction the firm to multiple bidders or negotiate with a single bidder from the outset. We determine the proper classification based upon our reading of the "Acquisition process / Background of the merger" sections of the various SEC documents pertaining to mergers, acquisitions, and tender offers (Macias; 2008a, 2008b). We find that often firms will negotiate with many potential acquirers without establishing a formal auction process.[17] We remain consistent with prior research and classify all multiple bidder acquisitions as auctions, whether or not a formal auction process is established.[18]

Transactions which are neither considered auctions nor negotiated are classified as unsolicited/hostile acquisitions. Examples of such acquisitions can include an acquirer approaching target management indicating interest in buying the firm when they are not willing to sell and tender offers made by acquirers directly to target shareholders, offering them the

[15] Legal background on the takeover process is presented in Herzel and Shepro (1990). Some examples of takeover auctions during the 1980s and 1990s are provided in Wasserstein (2000), and Subramanian (2003) also discusses the 1990s takeover competition environment.
[16] This differs from Boone and Mulherin (2007b). All acquisitions in their study are classified as auction or negotiation, with unsolicited/hostile acquisitions classified as a subset of each (Table IV, pg. 854).
[17] An example of an "informal auction" acquisition is that of Microware Systems Corp, where the company retained an investment banker (Houlihan Lokey Howard & Zukin Capital), who in turn, initially contacted over 150 firms. See form ST TO-T- Microware Systems Corp, filed on 7/5/01.
[18] Boone and Mulherin (2007b) define a formal process as one with pre-auction rules establishing multiple bidding rounds yet find that the use of a single auction classification does not affect their results. We obtain higher levels of significance in our results if we use the formal definition of auctions instead of the formal plus informal definition presented here.

opportunity to sell a specified minimum number of their shares at a fixed price for a set time period.

For target initiated acquisitions, the pre-announcement period of the takeover process usually begins with the target management making the decision to sell the firm and the method of sale to use: auction vs. negotiation (Hansen 2001; Ye 2008, and Boone and Mulherin 2007b provide further explanation on the overall two-stage auction process). Management can consult with an investment banker prior to, concurrent with, or subsequent to deciding to sell and the investment banker can assist them in determining a potential bidder (or bidders). Alternatively, target management can contact a potential acquirer and initiate negotiations directly. In an auction setting, interested bidders will sign confidentiality agreements and be asked to submit a preliminary indication of interest. The target will determine which bidders they wish to receive offers from and an information gathering process for both parties, acquirer(s) and targets, will ensue, mainly through due diligence. Auction acquisitions often establish a deadline for the submission of an offer which can limit the time each potential bidder has to access the target firm's records – whether on site or in an off-site data-room.[19] Both parties can perform pre-announcement due diligence to evaluate the potential synergies and acquisition value for their respective shareholders; however, as discussed in the previous section, target managers can limit the extent and timing of the information sharing. In the case of an auction, the winning bidder will be selected by the target from the offers received.[20] At some point during or subsequent to

[19] As noted earlier, there is a growing business in the provision of "virtual" data-rooms whereby target firms can efficiently grant access to the same information which was previously deposited in boxes and files at an off-site location. See Kummer and Sliskovic (2007) for more details.

[20] The above is only meant to be a general outline of the process. In reality, there are potentially as many variations in the acquisition process as there are acquisitions since each party to the acquisition determines its own course of action. For example, it may be difficult to determine which party initiated the acquisition. In case of doubt we classify it as "both" parties initiating the process. We have some auction acquisitions in which an acquirer initiated acquisition talks but then the target chose to sell via an auction. See descriptive statistics of the sale process reported

this preliminary due diligence process, the acquirer and the target will negotiate and settle upon acquisition terms, which include the premium and the conditions specified by the acquirer that can result in termination of the acquisition (known as Material-Adverse-Change Clauses, MACs) and exclusions to those conditions as negotiated by the target (Material-Adverse-Event, or MAE, exclusions).[21] Overall, target managers who managed earnings prefer to negotiate weaker abandonment options for the acquirer (to increase the probability of completion) and to complete the acquisition as soon as possible (to reduce the risk of detection).

Following the public announcement of an acquisition, the post-announcement takeover process begins. Acquirers can continue with more detailed due diligence now focusing on the post-merger-integration stage. The post-announcement period ends with either the completion or termination of the acquisition. Along the way, terms can be renegotiated by either or both parties (in the event that a material adverse event occurs) regardless of whether the acquisition is ultimately completed. Macias (2008a) documents that the probability of completion of the transaction under the terms originally negotiated at announcement declines with the time required to complete the acquisition and with the number of MAE exclusions negotiated in the merger agreement. In additional analysis, we conduct a clinical study to assess the extent acquirers renegotiate or terminate the acquisition after detecting potential earnings management behavior on the target before and after the announcement date.

4. Data sample and sale process descriptive statistics

Our sample begins with all U.S. public acquisition announcements of U.S. public targets seeking to gain control (more than 50% of target ownership) from 1998 to 2005 as reported in

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in Table 2. Hansen (2001, Boone and Mulherin (2007b) and Dasgupta and Hansen (2006) present more detailed explanations about the auction process.

[21] See Macias (2008b) provides a more detailed explanation and descriptive statistics of the pre-announcement and post-announcement takeover processes, including the financial vs. legal negotiations.

Thomson Financial's SDC Platinum Mergers and Acquisition Database.[22] As detailed in Table 1, Panel A we lose 873 observations missing data in the Wharton Research Data System combined Compustat/CRSP Merged Database. In order to remain consistent with the selection criteria employed by Boone and Mulherin (2007b), we remove 240 small acquisitions of targets with market capitalizations less than 1% of the acquirer's market capitalization immediately preceding the acquisition. We remove 66 acquisitions of targets with non-U.S. parents and 22 with insufficient information in SEC files. Finally, we lose 301 observations due to missing Compustat data needed to calculate discretionary accruals. Our final sample consists of 543 firm year observations for our single year discretionary accrual measure (DA-1). Requiring two fiscal years of pre-announcement discretionary accrual data (for DA-2) results in a loss of 37 observations, for a total of 507 observations. In some of our analysis, we focus on the 477 observation subsample of target-initiated acquisitions (the final sample of 543 excluding 66 unsolicited/hostile observations). Requiring two fiscal years of pre-announcement discretionary accrual data for the target-initiated subsample results in a loss of 31 observations, for a total of 446 target-initiated (DA-2) observations.

Since Boone and Mulherin (2007a) suggest that SDC is not comprehensive, our data gathering process uses several different sources to verify and supplement the SDC data obtained. We double-check the announcement-, renegotiation-, termination- and completion-dates in Factiva and SEC filings. We define the announcement date as the first trading date in which the acquirer or the target publicizes the acquisition. Our sample does not include any of the

[22] Boone and Mulherin (2007b) use a sample of 400 takeovers of major U.S. target corporations from the Value Line Investment Survey from 1989 through 1999. As indicated in their study, the Value Line Investment Survey follows publicly-traded, large cap corporations. While they compare the composition of their sample with a random sample taken from SDC, their sample is likely not to be comparable to ours due to the time-period of the sample coverage (our sample spans the bursting of the internet bubble, the terrorist attacks of 9/11/2001, the elimination of the pooling-of-interest method under SFAS 141 effective for fiscal years subsequent to 12/15/2001, and the Sarbanes-Oxley Act of 2002), and our separate classification of unsolicited/hostile acquisitions. In addition, the 1% threshold serves to ensure that the acquisition is significant enough for the acquirer to negotiate the risk allocation.

acquisitions in which SDC classifies the acquisition as a rumor and confirm this is the case with Factiva. General acquisition information from the SEC files is confirmed via the LivEdgar M&A Database. Officer (2004) also reports that the method of payment and premiums reported in SDC are not always reliable. Therefore, we verify the offer premium from several sources, using the following hierarchy in the case of data differences: *i*) the SEC proxy report filed, *ii*) the LivEdgar M&A Database, and *iii*) the SDC Database. Additionally, we manually check Factiva News for premiums in the top and bottom 5% of the sample distribution. Finally, for our clinical analysis on terminated and renegotiated acquisitions, we track any changes in the offer price until the final offer is made or paid, as well as any changes in the method of payment terms.

Continuing in Table 1 Panel B, we detail the sample observations by method of sale and by year and find that, for our time period, only 198, or 36%, of acquisitions were auctions, somewhat lower than the 50% share reported in Boone and Mulherin (2007b). When we compare our sample years 1998 and 1999 with Boone and Mulherin (2007b) for the same time period, we have significantly more observations: a total of 121 acquisitions in each year when compared to their 61 and 46 acquisitions for 1998 and 1999, respectively. Since we classify unsolicited/hostile acquisitions in a separate category, it is clear that our sample difference is primarily due to a higher number of negotiated acquisitions. We report 65 and 69 negotiations for 1998 and 1999 while Boone and Mulherin (2007b) reports only 35 and 17 for the corresponding time period. We also note a fairly steep decline in the number of acquisitions in our sample from the 121 total acquisitions of the late 1990's to a sample low of 29 total acquisitions in 2002, with subsequent increases in 2003 and 2004 to 35 and 48, respectively, followed by a slight decline again to 38 in 2005.

The sample year with the greatest percentage of auction acquisitions at 46% was 2003, still lower than the 50% sample gathered by Boone and Mulherin (2007b). A key difference between our samples is that their Value Line Investment Survey sample comprises 400 takeovers of major US target corporations that existed in 1990, whereas our sample does not contain this size filter. Another difference is that Boone and Mulherin (2007b and 2008) define bidders as those who sign a confidentiality agreement. In our case, we estimate three numbers: the number of bidders initially contacted, those who request information and sign a confidentiality agreement, and lastly, those who submit a serious bid at the end of the pre-announcement takeover process.

Table 2, Panels A through D, provides a detailed description and summary statistics of the sale process for our sample in full (Panel A) and by method of sale (Panels B-D). Appendix 1 contains the variable definitions. Consistent with Boone and Mulherin (2007b), we find considerable acquisition activity prior to the public announcement of an acquisition that is far from homogeneous. On average, the first mention of any serious acquisition talk occurs a median of almost 102 days prior to the public announcement. In Table 2 Panel A, the mean (median) number of bidders contacted per acquisition of 5.8 (1.0) for our total sample is significantly lower (p-value <0.01) than the mean (median) number of bidders contacted for auction acquisitions in Panel B of 14 (5.0). Our classification of all multiple bidder acquisitions as auction acquisitions explains this result. It follows that the number of bidders requesting information and submitting serious bids are also highest for auction firms.[23] While it appears that the acquirer's length of the pre-announcement due diligence process is longer for auctions, with a mean (median) of 53 (28) days, as previously discussed in Section III, the total days of

[23] We also note that all of the summary information for the various number of bidders, information memorandum parties, parties contacted, and the various ratios constructed from these variables only pertain to auction acquisitions and, as such are not reported in Table 2, panels C and D.

acquirer due diligence are shared by the number of bidders participating in the auction. In our sample, the number of pre-announcement due diligence days per serious bidder in an auction transaction is approximately 26 days; compared to 41 days in a private negotiation.

Panel A in Table 2 reports that pre-announcement due diligence is conducted by the acquirer in 82% of our sample acquisitions, while target firms only conduct due diligence 40% of the time (practically all the acquirers require a post-announcement due diligence in the merger agreement). Reviewing Panels B and C, we find that acquirers in auctions and negotiations, respectively, actually perform pre-announcement due diligence at least 91% of the time. As expected, hostile/unsolicited acquirers (Panel D) are not likely to have the opportunity to perform pre-announcement due diligence (only 9% of our observations were able to do so).

We also report considerable heterogeneity in the identification of the party to initiate the acquisition. As reported in Panel A, 31% of all acquisitions are initiated by the target, 45% are initiated by the acquirer, both parties mutually agree to initiate the acquisition 18% of the time, and 6% of our acquisitions were originally initiated by acquirers as negotiations, only to have the target decide to sell through an auction.[24] This latter classification seems to support the existence of an optimal sequential procedure, such as the one proposed by Povel and Singh (2006); however, we do not find that targets exclude the initial bidder in the subsequent auction. The main driver for the target's decision to sell through an auction instead of continuing with the single-bidder negotiation, as reported in the "Background of the merger" section of the merger agreement, is to increase the expected premium for the target shareholders. We conduct further analysis on this subsample in Section 5.3

[24] In less formal auctions, the acquirer can initiate the first contact, yet the target can decide to continue through a negotiated acquisition or to contact more bidders and change into an auction acquisition (either formal or informal auction).

Panel B in Table 2 reports that it is possible for auction acquisitions to be initiated by both parties (16% of the time), the acquirer (19% of the time), but in at least 50% of all auction transactions, the target initiates the auction sale process. This is more likely the case in less formal auctions. By definition, Panel D reports that all hostile/unsolicited acquisitions are acquirer initiated.

Table 2 also documents interesting dynamics in the post-announcement takeover process. A considerable number of acquisitions in our sample are renegotiated 12% and/or terminated 14% (renegotiation can still result in termination). Single-bidders in negotiations terminate the acquisition 9% of the time, as opposed to 3% of bidders in auctions. These findings suggest that targets can increase the likelihood of completion based on the decision of method of sale. This is consistent with greater access in the due diligence process resulting in negotiators having a better chance of detecting earnings management. We exploit these acquisition dynamics in our clinical analysis focusing on the cases related to potential earnings management.

5. Results

After having described the general sale process, we turn to firm characteristics in the two sections of Table 3. Section 1 Panels A through C present descriptive statistics for the full sample. Panel A shows that the mean (median) relative size of the acquisition is 0.37 (0.18) suggesting that target firms are significantly smaller than acquiring firms. As evidenced by the mean (median) premium of 46% (40%), target shareholders are well compensated in the acquisition. In 37% (44%) of the times the transaction is completed with cash (stock) only and 31 (10) percent of the transactions are diversifying acquisitions (in regulated industries). Panel B shows that, in general, both the target and the acquiring firm have positive performance. Panel C

shows that mean (median) discretionary accruals are slightly negative both in years t-1 and the average of year t-1 and t-2 (we discuss the estimation of discretionary accruals below).

Section 2 of Table 3 presents descriptive statistics partitioned by method of sale (Auction, Negotiation and Hostile/Unsolicited). Panel A presents acquisition-specific summary statistics. The mean (median) market value of assets (in millions) of target firms is 1,115 (240) for auction acquisitions, 1,439 (365) for negotiations, and 3,510 (502) in hostile/unsolicited acquisitions. As reported in the last three columns of Table 3, these mean differences in size are significant between hostile acquisitions and the remaining two methods of sale (auction and negotiation). While the mean size of acquirers (again, as proxied by the acquirer's market value of assets in millions) is not significantly different across acquisition types, the mean (median) *relative* size of the target as compared to the acquirer is significantly higher for negotiated acquisitions at 0.36 (0.15) versus 0.24 (0.13) for auctions. Mean tests of differences indicate the average relative size acquisition for auctions and negotiations are significantly smaller than the mean 0.79 in hostile acquisitions.[25]

The target premium is significantly lower in hostile/unsolicited acquisitions when compared to either auctions or negotiations, but insignificantly different between auctions and negotiations; a finding consistent with Boone and Mulherin (2007b) and Schwert (2000).[26] Cash as the only means of payment is significantly greater in hostile/unsolicited acquisitions over the other two acquisition types: 50% of hostile/unsolicited acquisitions are cash only transactions vs. 38% and 34% for auctions and negotiations, respectively. Finally, stock as the only method of payment is significantly different between all three acquisition types. Over half of all

[25] Median tests of differences (using the Wilcoxon rank-sum test) yield similar conclusions throughout.
[26] The lower returns for hostile acquisitions can be related to the lower expected probability of completion.

negotiations (51%) use stock only, followed by auctions at 40%, and hostile/unsolicited acquisitions at 23%.

We present firm level descriptive statistics by method of sale in Table 3, Panel B. Accounting performance (ROA) for target firms is positive on average, and only marginally significantly lower for auctions vs. hostile/unsolicited acquisitions. On the other hand, market performance for both target and acquirers appears to be larger in negotiations, when compared to auctions and hostile acquisitions. For example, the mean (median) Tobin's Q of 2.37 (1.53) for target firms selling though a negotiation is significantly higher than both the Tobin's Q of 1.94 (1.44) for auction acquisitions, and the Tobin's Q of 1.79 (1.28) for hostile/unsolicited acquisitions. Similar patterns emerge for acquirers' market performance.

Panel C in Table 3 presents descriptive statistics for our earnings management proxies: discretionary accruals for year t-1 (DA-1) and discretionary accruals averaged over years t-1 and t-2 (DA-2). Following Guenther (1994), Teoh et al. (1998a and 1998b), and Louis (2004), we save the residual from estimation of the following model for DA-1:

$$CA_{it} = \alpha + \beta(\Delta Sales_{it} - \Delta AR_{it}) + \varepsilon_{it},$$

where CA is the current accrual of firm i in year t, ΔSales is the annual change in sales for firm i in year t, and ΔAR is the change in accounts receivable for firm i in year t. We calculate current accrual (CA) by subtracting the change in current liabilities from the change in non-cash assets. All variables are scaled by total assets as of year t-1. The residual from this model is then industry - and performance - adjusted by subtracting the mean discretionary accrual of a portfolio of firms matched on prior year return on assets and two-digit SIC codes (Kothari et al. 2005). The DA-2 measure is constructed by taking the average of the residuals from years t-1 and t-2

and then adjusting for industry and performance. Our multivariate analysis presents all tests using the DA-2 measure. Results (except as noted) are qualitatively similar for DA-1.

5.1 Univariate Tests

Consistent with prior research (e.g., Andrade et al., 2001; Boone and Mulherin, 2007b), we conduct an event study centered on the (first) public announcement date to examine the target wealth effects by each method of sale: Auction, Negotiation, and Hostile/Unsolicited. We also compare cumulative abnormal returns (CARs) for three different short windows across each method: (-1,+1); (-2,+2); (-3, +3); where day 0 is the initial announcement date and net-of-market (abnormal) returns are adjusted by the CRSP value-weighted index.[27] Additionally, we consider the premium paid to target shareholders (the difference between the price offered and the target price 4 weeks prior to the announcement) as an alternative measure of wealth. Table 4 presents the result of this analysis in Section 1 (for the full sample) and Section 2 (partitioning by method of sale).

Table 4 Section 1 Panel A shows significantly positive wealth effects using both CARs (for all three windows examined) and premiums. To shed light as to whether earnings management has any impact on the wealth effects realized by target shareholders, in Panel B we compare short-window returns and premiums realized conditional on discretionary accruals. Specifically, we compare wealth effects between the top and bottom terciles of discretionary accruals for each sale category. We find that target firms with higher (more positive, and hence income-increasing) levels of discretionary accruals are associated with significantly lower short-window returns and premiums. This result is consistent with the notion that both the market and bidding firms discount the managed portion of earnings.

[27] As previously indicated in Section 4, we define the initial announcement date as the date the acquirer or the target first publicizes the acquisition.

Section 2 of Table 4 presents the wealth effects analysis partitioning by method of sale. Despite our considerable sample construction differences, the results in Panel A are largely consistent with Boone and Mulherin (2007b). For example, for the 3 day event window, we find that the abnormal return for the target shareholders is approximately 20% (i.e., 24.35%, 24.93%, and 18.79% for auctions, negotiations, and hostile acquisitions, respectively). Also consistent with Boone and Mulherin (2007b), we find no statistically significant differences between auctions and negotiations in short-window returns (or premiums) in univariate tests between auctions and negotiated acquisitions. We do find, however, that hostile/unsolicited abnormal returns are significantly different at the 5% level (or better) for all negotiated acquisition window specifications, and the premiums for both methods (although, in the case of the auction premium, this difference is only marginally significant at the 10% level in this univariate analysis).

In Panel B, in which we condition the analysis on earnings management, several interesting patterns emerge. First, we find that target firms with higher (more positive, and hence income- increasing) levels of discretionary accruals are associated with lower short-window returns for both auction and negotiation acquisitions. To illustrate, the mean (-1,+1) cumulative abnormal return in negotiated acquisitions for the top third of discretionary accruals is 21.45%, compared to a mean of 27.99% return in negotiated acquisitions in the bottom third of discretionary accruals. A similar result extends to the (-2, +2), (-3, +3) windows, and the premium. In contrast, in this univariate analysis we do not observe any significant differences in any of our measures of wealth effects for hostile acquisitions between high and low discretionary accruals.

Conditional on the level of discretionary accruals, we find hostile/unsolicited acquisitions have significantly lower target cumulative abnormal returns and premiums than both auctions

and negotiations at the 5% level or better for the bottom third of discretionary accruals (with the exception of the (-1, +1) window which is only at the 10% level). While only the premiums are significantly different for the top third of discretionary accruals for these same groups (hostile/unsolicited vs. auctions and negotiations).

5.2 Multivariate Tests

The mean tests reported in Table 4 offer some support for the notion that earnings management can influence the wealth effects of auctions and negotiations. Mean tests, however, do not control for other important factors that can impact the wealth changes in acquisitions.

Our main contention is that target managers have incentives to engage in some level of earnings management, particularly if they chose to sell the firm through an auction where the risk of detection by the acquirer can be lower. Hence, we first test the association between selling the firm through an auction and discretionary accruals (DA), after controlling for other factors identified in prior literature (e.g., target's Tobin's Q, Size, technology industry, target's ROA, target's research and development as a percentage of sales, target's state of incorporation is Delaware, and growth in the prior quarter of the announcement for the S&P 500 index).[28]

Table 5 presents the estimation of a logit model excluding the hostile acquisitions, since these acquisitions are not target-initiated by definition. We find that the odds ratio of DA is significantly greater than one (i.e., 2.05; p-value = 0.040). In addition, the standardized marginal effect of DA appears to have an important economic impact relative to the rest of the control variables. For instance, the standardized marginal effect of 1.159 suggests that a one standard deviation increase in DA is associated with a 15.9% increase in the likelihood of selling via an auction. Figure 2 depicts this relationship by graphing the predicted change in the probability of

[28] Our reported measure of discretionary accruals for all multivariate analysis is DA-2, as previously indicated. See Appendix 2 and Macias (2008b) for discussion of the variables of interest in the pre-announcement discussion process. Bebchuk and Ferrell (2002) discuss "the position of Delaware, the recognized leader of state competition."

selling through an auction conditional on discretionary accruals. Consistent with the conjecture that smaller targets want to increase their bargaining power by attracting more bidders in an auction, we find a negative relation between the target size and the decision to auction.[29]

In Table 6, we regress (using OLS) short-window cumulative abnormal returns (CARs) on DA, Auction, and control variables identified in prior literature.[30] As in Boone and Mulherin (2007b), we control for the target's size relative to the acquirer (Jarrell and Poulsen 1989), and the use of cash or tender offer (Huang and Walkling 1987). We find that Auction has no significant effect on the wealth effects of the target (either CARs or the target premium). Models (1) and (2) essentially replicate Boone and Mulherin (2007b) for our Auction and Negotiation sample. Models (3) and (4) include our discretionary accrual measure, DA-2, as an additional explanatory variable. Our results show that discretionary accruals significantly reduce the target's CARs at the 5% level, yet the auction coefficient is still insignificant. We repeat the same analysis in models (5) and (6), replacing CARs with the target premium (the offered premium compared to the target's stock price 4 weeks before the announcement date). Again we find that discretionary accruals significantly reduce the premium offered but, as mentioned above, the OLS regressions do not properly address the endogeneity bias, either from the simultaneity or the self-selection of the decision.

In Table 7 we run two regressions to control for two potential sources of endogeneity bias, namely, simultaneity and self-selection. The first model, a two-stage model, controls for the simultaneity bias, which can result from the possibility that the chosen method of sale

[29] In unreported analysis we find that the relative size of the acquirer is negatively related to the probability of choosing auctions, suggesting that *relatively* smaller targets (vs. the final bidder) can choose to sell through auctions to increase their bargaining power. Note that at the moment of the auction decision, the only variable that the target knows is its own size and not the size of the final bidder nor the relative size vs. the final bidder. Boone and Mulherin(2007b) also find that auctioning targets are smaller than negotiating targets.

[30] Any potential correlation between tender and only-cash payments dummies does not affect the significance .of our variable of interest, Discretionary Accruals, DA-2. Controlling for the *terminated* dummy does not change our results, although we question the validity of controlling for an ex-post variable as used in prior literature.

depends on the *expected* wealth effects resulting from the transaction. With this model we attempt to reconcile our findings by replicating the Boone and Mulherin (2007b) two stage regression analyses, and find no difference in the wealth change.

The second model in Table 7, a treatment effects model, which controls for simultaneity *and* selectivity bias, uses the information about the nature of the single binary endogenous regressor to get a more efficient estimation (See Appendix 2 for an overview of treatment effect models). Models 2 in Table 7 estimate simultaneously the auction decision and the wealth effects models, namely CARs in Panel A and the target premium in Panel B. The treatment effects regressions control for self-selection in the target's choice of sale method. The other key element of our specification is our inclusion of the discretionary accrual measure to control for potential earnings management.

Consistent with the results in Table 5, regardless of the wealth effect examined, we find that the coefficient on DA is positively and significantly related to the likelihood of selling through an auction. Importantly, we also find that when the dependent variable is CAR (-1, +1) or the premium realized by target shareholders, auctions are positively associated with the target's wealth effects. Additionally, discretionary accruals significantly reduce wealth effects. The Wald test of independent equations rejects the null hypothesis that rho is zero in both models 2 in Panel A and B, confirming the existence of self-selection.[31]

Collectively, these results are consistent with our conjecture that targets that have managed earnings are more likely to sell via an auction. We find that controlling for *both* the simultaneity and the self-selection of the decision seems to matter in the detection of the impact

[31] We also use the Heckman (1979) two-step approach with similar results. The use of Eicker-Huber-White-Sandwich heteroskedastic-robust standard errors corrected for within-industry dependence addresses concerns about the normality of the bivariate normal assumption used in the Maximum Likelihood estimation process. Results are qualitatively similar, yet somewhat weaker, when we use bootstrapped standard errors. Results are similar after winsorizing or censorizing at the 1-99 and 5-95 percentiles.

of the method of sale on the target's wealth effects. While both the market and the acquirer price the wealth effects associated with managing earnings (the coefficient on DA is significantly negative), our results suggest that selling the firm through an Auction will have a dampening positive impact. In other words, targets can choose to sell via an auction to reduce the negative wealth implications from earnings management.

5.3 Additional Analysis

Thus far, our results suggest that discretionary accruals (our proxy for earnings management) increase the likelihood that a target will sell via an auction and that auctions have positive wealth effects implications for the target. We extend our analysis examining the acquisition dynamics on three fronts. First, we consider whether the method of sale is associated with the likelihood of terminating the acquisition. Second, we conduct a clinical analysis to compare the probability of detecting potential earnings management before and after the announcement depending on the method of sale. Third, we examine in more detail the subsample in which the target decides to sell through an auction instead of continuing with a single-bidder negotiation.

Probability of Termination.

We conjecture that the likelihood of terminating an acquisition is lower in auctions because managers have a greater ability to limit the bidder's information gathering process, which in turn, hinders the likelihood of detection of earnings management. Table 8 presents the results of the additional analysis on the probability of termination. Column (1) shows the estimation results of a logit model where the dependent variable is coded 1 if the acquisition is terminated; 0 otherwise. Consistent with our conjecture, we find that the coefficient of our variable of interest, Auction, is negative and significant suggesting the likelihood of terminating

the acquisition is lower in auction acquisitions. Columns (2) and (3) present the estimation results of a seemingly unrelated bivariate probit model that controls for the potential endogenous nature of Auction and the termination decision. The results are very similar to those reported in column (1): the coefficient on Auction is negative and significant, consistent with our expectation. Unreported regressions using treatment effect regressions support the negative significant coefficient for auctions on the probability of termination.

Clinical analysis on Terminated and Renegotiated acquisitions and earnings management.

We conduct a clinical analysis looking at the cases in which acquirers detect potential earnings management conditions through due diligences during the pre-announcement and post-announcement takeover processes. We examine all of the terminated and renegotiated acquisitions in our sample and assess the reasons for the termination (in the post-announcement takeover process) or renegotiation (in the pre- and post- announcement takeover process).[32] We focus on the acquisitions with potential earnings management, as assessed by the catalyst to terminate or renegotiate. Since firms that detect potential earnings management do not normally openly announce such findings, we look for information reported in the "Background of the merger" section of the merger agreement in the case of the pre-announcement takeover process. In the case of the post-announcement takeover process, we search for news articles in Factiva, SEC proxies and LivEdgar M&A database related to the renegotiation events.

Table 9 presents the results of our hand-collected sample of detections in the pre-announcement (Panel A) and post-announcement takeover processes (Panel B). We find that auctioning acquirers (vs. negotiating acquirers) detect 5 out of the 14 suspected earnings

[32] Macias (2008a) documents that a Material-Adverse-Event (MAE) is the catalyst in approximately 50% of the terminations or renegotiations in the post-announcement takeover process during 1998-2005; challenging offers originate the other 50%. In this paper we focus on the acquisitions in which MAEs are the catalyst. Since only announced acquisitions present information on termination, we cannot examine the acquisitions that are terminated in the pre-announcement takeover process.

management conditions in the due diligence during the pre-announcement period. The acquirers that detect potential earnings management and related concerns achieve, on average, a 15% reduction in the *offered* price. We check that the change in the offered price is unrelated to the bidding process. Interestingly, after the announcement period, only one acquisition i renegotiated and none are terminated. Using the MACs information (Macias 2008b), we find that targets negotiate the merger agreement to contain a material-adverse-exclusion related to the condition found in the pre-announcement takeover process.

When we examine the post-announcement takeover process, we find that only 1 out of 9 transactions were uncovered by auctioning acquirers (vs. negotiating acquirers). More importantly, acquirers are able to achieve, on average, a 29% reduction in the *offered renegotiated* price. Most of the acquisitions, however, are terminated eventually because of this material adverse event. Note that one target was able to terminate the acquisition after the target firm detected earnings management by the acquirer.

Since this is a small sample of fairly egregious attempts at managing earnings, some of them involving potential fraud, we can only claim that the results are consistent with negotiations affording a greater likelihood of earnings management detection. This likelihood of detection increases dramatically during the post-announcement takeover process in negotiated vs. auctioned acquisitions. Targets seem to be able to limit the information transfer to acquirers when selling through an auction.[33]

Sequential procedure single-bidder-then-auction acquisitions

Povel and Singh (2006) propose an optimal sequential procedure for the target to sell the firm in which the target initially considers a negotiation and then decides to sell via an auction. Based on our sample construction, we can detect 30 cases in which the acquirer initiates the

[33] Due to the limited sample size we cannot run regression analysis to control for the target's level of risk.

acquisition discussion, but then the *target* decides not to continue with the single-bidder negotiation process and instead pursues an auction. In no case do we find evidence that the target forbids the original bidder from participating in the second stage auction. In unreported analysis we find that the mean and median premiums and CARs (for these targets that later decide to auction) are higher than in the rest of the sample, whether an auction or negotiation. The average and median DA-2, our proxy for earnings management, are also the largest in this subsample vs. the rest of the sample. In simple OLS regression, controlling for industry clustered-heteroskedastic errors, the premium and the DA-2 are significantly negative. Prior results in the paper are unaffected after deleting these 30 observations, yet because of the small sample of these negotiation-then-auction acquisitions, we cannot make strong statistical inferences or general interpretations.

6. Discussion and Conclusion

Using a sample of acquisitions with detailed data from SEC filings detailing the *pre*- (and *post*-) announcement takeover period, we provide additional insight into the acquisition process. Defining auctions as acquisitions with multiple bidders, our analysis reveals that during our sample period of 1998-2005, auctions comprised approximately 36% of all acquisitions. We provide additional descriptive evidence of the heterogeneity of the acquisition process.

More importantly, we provide additional insight into the target's decision to sell the firm via auction or negotiation. We maintain that, irrespective of their individual incentives, target managers also have incentives to "window-dress" their financial statements. Indeed we suggest, as do Erickson and Wang (1999), that it is not unreasonable to believe that both targets and acquirers rationally expect each other to manage pre-merger earnings and to price protect themselves accordingly. To the best of our knowledge, we are the first to provide empirical

evidence that acquirers rationally adjust the offered price based on potential earnings management.

While both parties are entitled to perform pre-announcement due diligence, which should detect more egregious earnings management, the acquirer's access and timing of due diligence in the *pre-announcement* period can be considerably different depending upon the method of sale chosen by the target. Within our sample and based on the information reported in the "Background of the merger" section of the merger agreement, we find that pre-announcement due diligence appears to be standard procedure for acquirers; over 90% of acquirers in auction and negotiation acquisitions perform some form of pre-announcement due diligence. However, as we outlined in section III, not all pre-announcement due diligence is created equal: a data-room environment (whether physical or "virtual") cannot provide the same level of accessibility afforded in negotiations with bidder(s) who are often granted on-site access to the target's management, operations, and financial information. Moreover, target managers can excuse the limited access of information because of the *competitive information effect* mentioned by Hansen (2001) while in reality adverse selection can be one of the main drivers for choosing to sell through an auction and reduce the risk of earnings management detection. Since auctioning acquirers can continue the due diligence during the post-announcement takeover process, the main concern is that target managers can limit the extent and timing of the information sharing.

Our logit analysis shows that discretionary accruals are positively associated with the decision to sell through an auction process. We replicate the results of Boone and Mulherin (2007b) using OLS and two-stage estimation, and find the same insignificant impact of auctions on wealth changes. However, when we incorporate the decision to manage earnings in the

analysis our results differ.[34] To control for the potential simultaneity and self-selection of the decision to sell the firm and also manage earnings, we perform a treatment effects analysis on both the short-window cumulative abnormal returns at announcement and the premium offered. We find significantly higher target wealth effects for auction acquisitions for both measures. In addition, the results show that discretionary accruals (our proxy for earnings management) increase the likelihood that a target will sell via an auction and that auctions have positive wealth effects implications for the target, somewhat offsetting the discretionary accruals' negative impact on wealth effects. These results are consistent with the conjecture that targets will choose to sell via an auction to reduce the negative impact from earnings management.

One important difference between the earnings management of IPO firms and firms issuing SEOs is that target managers can avoid future reversals if the acquirer does not detect earnings management before completing the acquisition. The clinical evidence presented for the sample of suspicious earnings management in the post-announcement takeover process shows that auctioning acquirers uncover issues in only 11% (1 out of 9) of the transactions. As Povel and Singh (2006) propose and Macias (2008b) documents, targets and acquirers can negotiate specific risk allocation through contractual mechanisms in merger agreements. Targets, however, seem to have a stronger bargaining power to set the level of information sharing and the protection offered to the acquirer in auctions vs. negotiations.[35] The observed renegotiations after the material-adverse-event stress the importance of drafting contractual mechanisms that provide efficient renegotiation. The decision to sell through an auction impacts the acquisition

[34] In a similar way, Cornett et al (2008) also shed light on the prior pay-per-performance literature after including earnings management in the analysis.

[35] Macias (2008b) documents that targets achieve weaker abandonment options through Material-Adverse-Change clauses in auction transactions, arguably because targets anchor on the first proposed draft of the merger agreement and exploit the competition among bidders, who mainly differentiate their offers based on the offered premium.

outcome on two fronts, the drafting of the merger agreement and the reduction of earnings management detection risk.

As Boone and Mulherin (2007b) observe, analysis of auctions and negotiations is relevant to many areas in corporate law and finance. Our evidence that auctions somewhat offset the negative wealth effects resulting from "window-dressing" is consistent with the information asymmetry hypothesis prediction of superior returns to auctioning firms. In other words, both the market and bidders appear to rationally expect lower value acquisitions due to increased uncertainty about reported earnings, but targets can mitigate this impact by selling via an auction.

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Appendix 1. Variable Definitions

Variable Name **Acquisition Characteristics**	Description	Data Source
Auction	Binary variable. Auction = 1 when there are more than one bidder in the pre-announcement acquisition process. This classification includes formal auctions with an organized bidding process, as well as informal auctions in which the target is contacted or negotiates with more than one bidder.	SEC files
Negotiated	Binary variable. Negotiation = 1 when there is only one bidder in the pre-announcement acquisition process.	SEC files
Hostile/Unsolicited	Binary variable. Hostile/Unsolicited = 1 Acquirer submits a hostile or unsolicited bid to the Target.	SEC files, SDC, Factiva
Challenging Acquisition	Binary variable. 1= Acquirer submits or starts an acquisition process after a previous acquisition has already been announced or is in process.	SEC files, Factiva, SDC, LivEdgar M&A database
Challenged Acquisition	Binary variable. 1= A third-party submits or starts an acquisition process after the acquisition with the acquirer has already been announced or is in process.	SEC files, Factiva, SDC, LivEdgar M&A database
Completed acquisition	Binary variable. 1= Acquisition is completed.	SEC files, SDC, Factiva

Terminated acquisition	Binary variable. 1= Acquisition is terminated.	SEC files, SDC, Factiva
Renegotiated acquisition	Binary variable. 1= Acquisition is renegotiated. An acquisition is renegotiated if the original terms of the acquisition change after the first announcement date. In some cases, the price does not change, but only the method of payment changes. Acquisitions where changes in exchange ratios occur within the negotiated range of an original collar provision are not labeled as renegotiated.	SEC files, Factiva, LivEdgar M&A database
Only-cash payment	Offered price is 100% in cash	SEC files, SDC, LivEdgar M&A database
Target Wealth Effects		
CARs	3-day window Cummulative Abnormal Return in the days surrounding the Announcement day (day=0)	CRSP, Eventus
Premium offered	Offered premium compared to target's stock price 4 weeks before the announcement date. (We define as the Announcement date as the first trading date in which the acquirer or the target publicizes the acquisition. See Data Section for more details).	SEC file, SDC, LivEdgar M&A database, (Check prices with CRSP)

Characteristics of the Acquisition Processes		
Due diligence by Acquirer (During the Pre-announcement takeover process)	Dummy for the due diligence conducted by the acquirer according to what is reported in the "background of the merger" section in the merger agreement. 1=Yes, 0=No.	SEC files
Length of Due Diligence by Acquirer (During the Pre-announcement takeover process)	The number of days of due diligence conducted by the acquirer according to what is reported in the "background of the merger" section in the merger agreement. 1=Yes, 0=No	SEC files
Due diligence by Target (During the Pre-announcement takeover process; mainly driven by stock deals)	Dummy for the due diligence conducted by the target according to what is reported in the "background of the merger" section in the merger agreement. 1=Yes, 0=No	SEC files
Length of Due Diligence by Target. (During the Pre-announcement takeover process)	The number of days of due diligence conducted by the target according to what is reported in the "background of the merger" section in the merger agreement. 1=Yes, 0=No	SEC files
Number of Bidders that request information	The number of bidders that, after being contacted, request the information memorandum	SEC files
Number of Bidders submitting a serious bid	Number of bidders that submitted a serious bid considered by the target at the end of the pre-announcement takeover process,	SEC files
Number of Info. Memo. parties / Number of parties contacted	Ratio of parties that, after being contacted, requested the information memorandum and the bidders that submitted a serious bid at the end of the pre-announcement takeover process	SEC files
Number of Serious Bidders/Number of parties contacted	Ratio of the number of bidders that submitted a serious bid at the end of the pre-announcement takeover process and the number of parties contacted	SEC files
Number of Serious Bidders/Number of Information Memo parties	Ratio of the number of bidders that submitted a serious bid at the end of the pre-announcement takeover process and the number of parties that, after being contacted, requested the information memorandum	SEC files

Characteristics of the target and the acquirer		
Industry-adjusted, Performance-matched Discretionary Accruals (year t-1), *DA-1* (see Compustat data items below in DA-2 definition)	Residual from Model: $CA_i = \alpha + \beta(\Delta Sales_i - \Delta AR_i) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1} Where CA is current accrual: Compustat data items [Δ(Current Assets-Cash & ST Investments)-Δ(Current Liabilities-Debt in Current Liabilities)]/Total $Assets_{t-1}$ Sales = Compustat data items Net Sales/Total $Assets_{t-1}$ AR is accounts receivable, Compustat data items Receivables/Total $Assets_{t-1}$ All variables are scaled by lagged total assets (Compustat data item 6).	Compustat
Industry-adjusted, Performance-matched Discretionary Accruals (Average years t-1 and t-2), *DA-2*	Residual from Model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1} Where CA is current accrual: Compustat data items [Δ(4-1)-Δ(5-34)] / 6_{t-1} Sales = Compustat data items $12/6_{t-1}$ AR is accounts receivable, Compustat data items $2/6_{t-1}$ All variables are scaled by lagged total assets (Compustat data item 6).	Compustat
Log(MVAssets Trgt)	Log of market value of Target's assets Compustat data: Market Value of Assets = (book_value_assets -book_common_equity - Common Shares Outstanding*Price -- Fiscal Year -- Close) = data6 - data60 + data25*data199	Compustat
Log(MVAssets Acq)	Log of market value of Aquiror's assets Compustat data (Estimation: same as above for Target)	Compustat
Relative Size (MVAssets)	MVAssets Target / MVAssets Acquirer	Compustat
Diversified acquisition	Different Industry, using all SIC4	SDC, Compustat
Industry-relatedness ratio Acq	Number of matched Acquirer's - Target's SIC4 / # Acquirer's SIC4	SDC, Compustat

Industry-relatedness ratio Trg	Number of matched Acquirer's - Target's SIC4 / # Target's SIC4	SDC, Compustat
Log(Tobin's Q Target)	Log of Tobin's Q for Target Compustat data: Tobin's Q = tobinsq = (data6 + (data25*data199) - data60 - data74) / (data6) data6: Total assets; data25: common shares outstanding; data199: Price close fiscal year; data60: Common equity; data74: Deferred taxes	Compustat
R&D-to-sales target	Research and Development Expense (data46) / Book_value_of_Assets (data6)	Compustat
ROA target	Operating Income Before Deprec. (data13) / Book_value_of_Assets (data6)	Compustat
S.Dev. TrgRet prior yr	Standard deviation of Target's stock return in year prior to announcement	CRSP
Target Regulated Industry	Following Barclay and Smith (1995) and Boone and Mulherin (2008) regulated industry classification and apply it to the Fama-French 48 industries. A firm is classified as regulated if the main industry of the target is classified as: Defense, Petroleum and Natural Gas, Utilities, Communication, Banking, Insurance or Trading.	Compustat SIC to estimate the 48 Fama-French Industries
Target Technology Industry	Fama-French 48 Industries are classified as Technology if the main industry of the target is classified as: Medical Equipment, Pharmaceutical Products, Machinery, Electrical Equipment, Defense, Computers, Electronic Equipment, or Measuring and Control Equipment.	Compustat SIC to estimate the 48 Fama-French Industries
Target incorporated in Delaware	Target state of incorporation is Delaware (binary)	Compustat, SDC
Tender offer	Tender is a categorical variable coded 1 if a takeover bid takes the form of a public invitation to shareholders to sell their stock, with or without prior contact with the target, as classified by SDC; 0 otherwise.	SDC

Appendix 2. Treatment Effects Regressions

This appendix explains the intuition and rationale of the special methods used beyond OLS regressions. We provide references of papers that explain in detail or use the methods in a corporate finance context. Overall, the analysis with the additional methods complements and strengthens the straightforward findings from the analysis with OLS regressions and addresses econometric concerns that the analysis faces, such as self-selection (i.e. simultaneity and endogeneity of decision making).

Most managers decide to make certain corporate decisions based on their expectations on the consequences of making such a decision. An endogeneity problem occurs if we do not control for omitted-variable bias or for the simultaneity in the decision process, as discussed in Wooldridge (2002 pg. 50). In acquisitions, the omitted variable can be related to private or asymmetric information. Our questions face potential endogeneity of self-selection bias. First, the decision to sell through an auction can be co-determined with the decision to manage earnings in prior quarters. Second, acquisitions with higher risk of detection can choose different methods of sale based on the expectations of their impact on the probability of terminating or renegotiating the acquisition; hence, simple OLS regressions can be biased. One way to control for a potential endogeneity because of omitted-variable, measurement error and simultaneity problems is using Instrumental variables in 2- or 3-Stage-Least-Squares models (see Baum (2006, p 185)). An IV or 2SLS, however, is not enough to address the self-selection bias (See Heckman (1979)).

One way to control for potential endogeneity and sample selection is to use models that control for self-selection, specifically through treatment effects in a switching-regressions framework (See Li and Prabhala (2006) for an overview; Fang (2005) and Song (2004) for funding decisions; and Campa and Kedia (2002), and Bris, Welch and Zhu (2006), for corporate decisions).[36] Because of the potential existence of asymmetric information in the decision to choose the method of sale, we use the treatment-effects approach. The treatment-effects model includes the additional dummy variable for the self-selection decision to the Heckman model; consequently, the estimated coefficient for the decision reflects the effect of the "treatment".

[36] Li and Prabhala (2006) argue that most (if not all) of the managerial decisions are affected by asymmetric information which would involve omitted variables in the analysis.

The treatment-effect approach follows a switching regression model in which the first stage estimates the probability of self selection and the second stage controls for the potential self-selection bias. Simultaneous-equations solved with Maximum-likelihood or with a 2SLS method estimate the effect of an endogenous decision and the expected outcome of that decision (See Wooldridge (2002) and Greene (2003)); [We] use the method that Maddala (1983) proposes to appropriately estimate the standard errors.

Table 1: Sample Description

Panel A. Details of Sample Construction, 1998-2005

Initial acquisition sample, completed and terminated, from Thomson Financial SDC Platinum database	2,045
Less: Compustat/CRSP missing data for acquirer or target	-873
	1,172
Less: Acquisitions with target's market capitalization < 1% of acquirer's market capitalization	-240
	932
Less: Acquisitions with Non-U.S. targets	-66
	866
Less: Acquisitions with insufficient information from SEC files	-22
Full Sample	844
Less: Acquisitions missing Compustat data for discretionary accrual calculation	-301
Full sample	**543**
Less: Unsolicited/Hostile Acquisitions	-66
Auction and Negotiation subsample (DA-1)	477
Less: Missing target Compustat data to calculate DA-2	-31
Auction and Negotiation subsample (DA-2)	**446**

Panel B. Sample Distribution by Year and Method of Sale*

Year	All Deals	Auction	Negotiation	Hostile / Unsolicited
1998	121	41	65	15
1999	121	33	69	19
2000	87	30	48	9
2001	64	30	28	6
2002	29	13	14	2
2003	35	16	15	4
2004	48	18	26	4
2005	38	17	14	7
Full Sample	**543**	**198**	**279**	**66**

*We follow Boone and Mulherin (2008a) to classify Acquisitions as Auction, Negotiation or Hostile/Unsolicited.

Table 2 - Description and Summary of Sale Process
Refer to Appendix 3 for variable definitions.

Panel A - All Acquisitions (n=543)	**Mean**	**Median**	**Min**	**Max**
Number of Bidders Contacted	5.8	1	1	350
Number of Bidders that request information	2.3	1	1	40
Number of Bidders submitting a serious bid	1.4	1	1	11
Number of Days to announce deal (First mention of idea of acquisition to initial announcement)	308	147	0	3,750
Number of Days to announce deal (First serious talk about this acquisition to initial announcement)	102	90	0	943
Number of Days to close deal (initial announcement to completion or termination date)	129	101	0	981
Terminated Acquisitions in the Post-Announcement takeover process	0.14	0	0	1
Renegotiated Acquisitions in the Post-Announcement takeover process	0.12	0	0	1
Due diligence conducted by acquirer	0.82	1	0	1
Length of Due diligence by acquirer (in days)	40.8	19	0	633
Due diligence conducted by target	0.40	0	0	1
Length of Due diligence by target (in days)	9.0	0	0	296
Target Initiates Acquisition talks	0.31	0	0	1
Acquirer Initiates Acquisition talks	0.45	0	0	1
Both (Target and Acquirer) Initiate Acquisition talks	0.18	0	0	1
Acquirer Initiates Negotiated Acquisition talks but then Target chooses to sell through Auction	0.06	0	0	1
Target incorporated in Delaware	0.56	1	0	1
Target in strong legal state	0.10	0	0	1
Panel B - Auction Acquisitions (n=198)	**Mean**	**Median**	**Min**	**Max**
Number of Bidders Contacted	14.0	5	2	350
Number of Bidders that request information	4.5	3	1	40
Number of Bidders submitting a serious bid	1.9	2	1	11
Number of Days to announce deal (First mention of idea of acquisition to initial announcement)	258	164	0	1,822
Number of Days to announce deal (First serious talk about this acquisition to initial announcement)	110	97	0	336
Number of Days to close deal (initial announcement to completion or termination date)	122	103	28	488
Terminated Acquisitions in the Post-Announcement takeover process	0.03	0	0	1
Renegotiated Acquisitions in the Post-Announcement takeover process	0.08	0	0	1
Due diligence conducted by acquirer	0.95	1	0	1
Length of Due diligence by acquirer (in days)	53.1	28	0	396
Due diligence conducted by target	0.39	0	0	1
Length of Due diligence by target (in days)	7.1	0	0	81
Target Initiates Acquisition talks	0.52	1	0	1
Acquirer Initiates Acquisition talks	0.19	0	0	1
Both (Target and Acquirer) Initiate Acquisition talks	0.16	0	0	1
Acquirer Initiates Negotiated Acquisition talks but then Target chooses to sell through Auction	0.14	0	0	1
Target incorporated in Delaware	0.58	1	0	1
Target in strong legal state	0.07	0	0	1

Table 2 - Description and Summary of Sale Process (*continued*)				
Panel C - Negotiation Acquisitions (n=279)	**Mean**	**Median**	**Min**	**Max**
Target in strong legal state	1.0	1	1	1
Number of Bidders that request information	1.0	1	1	1
Number of Bidders submitting a serious bid	1.0	1	1	1
Number of Days to announce deal (First mention of idea of acquisition to initial announcement)	378	163	0	3,750
Number of Days to announce deal (First serious talk about this acquisition to initial announcement)	118	98	0	943
Number of Days to close deal (initial announcement to completion or termination date)	130	99	8	713
Terminated Acquisitions in the Post-Announcement takeover process	0.09	0	0	1
Renegotiated Acquisitions in the Post-Announcement takeover process	0.08	0	0	1
Due diligence conducted by acquirer	0.91	1	0	1
Length of Due diligence by acquirer (in days)	41.3	21	0	633
Due diligence conducted by target	0.50	0	0	1
Length of Due diligence by target (in days)	12.4	0	0	296
Target Initiates Acquisition talks	0.25	0	0	1
Acquirer Initiates Acquisition talks	0.51	1	0	1
Both (Target and Acquirer) Initiate Acquisition talks	0.23	0	0	1
Target incorporated in Delaware	0.56	1	0	1
Target in strong legal state	0.11	0	0	1
Panel D - Hostile/Unsolicited Acquisitions (n=66)	**Mean**	**Median**	**Min**	**Max**
Target in strong legal state	1.5	1	1	15
Number of Bidders that request information	1.4	1	1	8
Number of Bidders submitting a serious bid	1.3	1	1	3
Number of Days to announce deal (First mention of idea of acquisition to initial announcement)	162	0	0	1,650
Number of Days to announce deal (First serious talk about this acquisition to initial announcement)	13	0	0	214
Number of Days to close deal (initial announcement to completion or termination date)	143	92	0	981
Terminated Acquisitions in the Post-Announcement takeover process	0.70	1	0	1
Renegotiated Acquisitions in the Post-Announcement takeover process	0.44	0	0	1
Due diligence conducted by acquirer	0.09	0	0	1
Length of Due diligence by acquirer (in days)	1.9	0	0	50
Due diligence conducted by target	0.02	0	0	1
Length of Due diligence by target (in days)	0.0	0	0	1
Target Initiates Acquisition talks	0.00	0	0	0
Acquirer Initiates Acquisition talks	1.00	1	1	1
Both (Target and Acquirer) Initiate Acquisition talks	0.00	0	0	0
Target incorporated in Delaware	0.52	1	0	1
Target in strong legal state	0.12	0	0	1

Table 3 - Descriptive Statistics
Section 1. Full Sample

Relative Size is defined as the ratio of the target's market value of assets to the acquirer's market value of assets, where market value of assets (Mkt. Value) is calculated as follows: book value of assets (data6) – book value of equity (data60) + common shares outstanding (data25) *FY closing price (data199); Premium is defined as the percent difference of the price offered to target shareholders and the target's stock price four weeks prior to the announcement; Only cash Payment is a categorical variable coded 1 if the offered price is made 100% in cash, 0 otherwise; Only stock Payment is a categorical variable coded 1 if the offered price is made 100% in stock, 0 otherwise; Diversified Acquisition is a categorical variable coded 1 if the acquisition involves a target in a different industry (using 4-digit SIC), 0 otherwise; Regulated Industry is a categorical variable coded 1 if the target's main industry is in the following industries (using Fama-French industry classifications): Defense, Petroleum and Natural Gas, Utilities, Communication, Banking, Insurance or Trading, 0 otherwise; ROA is defined as the ration between operating income before depreciation (data13)/total assets (data6); Std Dev Target's stock price is defined as the standard deviation of the target's stock return in the year prior to year of announcement; Tobin's Q is calculated as follows: [assets (data6) + common shares outstanding (data25)* FY closing price (data199) - book value of equity (data60) - deferred taxes (data74)/assets (data6)]; MTB is the ratio of market (data25*data99) to book value (data60); DA is the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable $(data\ 2/data6_{t-1})$. The sample period is 1998-2005.

	Full Sample			
Panel A. - Acquisition Specific Statistics	**n**	**Mean**	**Median**	**SD**
Relative Size (Mkt. Val target/Mkt. Val Acq.)	543	0.37	0.18	0.76
Mkt. Value - Acquirer (MM USD)	543	10,977	2,049	32,738
Mkt. Value - Target (MM USD)	543	1,573	315	5,020
Premium (percent)	543	46.0	40.0	43.0
Only cash payment dummy	543	0.37	0	0.48
Only stock Payment dummy	543	0.44	0	0.50
Diversified Acquisition	543	0.31	0	0.46
Regulated Industry	543	0.10	0	0.30
Panel B - Firm Level Financial Variables Characteristics				
ROA (EBITD/Assets) - Target	543	0.09	0.13	0.17
Std Dev Target's stock price t-1	543	4.10	3.61	2.21
Tobin's Q - Target	543	2.14	1.45	2.08
Tobin's Q - Acquirer	536	2.83	1.82	4.86
MTB - Target	543	4.35	2.87	4.79
MTB - Acquirer	543	3.38	2.04	3.95
Panel C - Earnings Management Proxy (Industry Adjusted, Performance-Matched Discretionary Accruals)				
DA-1 (yr t-1)	543	-0.008	-0.003	0.077
DA-2 (Avg yr t-1 & t-2)	507	-0.012	-0.001	0.072

Table 3 - Descriptive Statistics, continued
Section 2. By Method of Sale

Relative Size is defined as the ratio of the target's market value of assets to the acquirer's market value of assets, where market value of assets (Mkt. Value) is calculated as follows: book value of assets (data6) – book value of equity (data60) + common shares outstanding (data25) *FY closing price (data199); Premium is defined as the percent difference of the price offered to target shareholders and the target's stock price four weeks prior to the announcement; Only cash Payment is a categorical variable coded 1 if the offered price is made 100% in cash, 0 otherwise; Only stock Payment is a categorical variable coded 1 if the offered price is made 100% in stock, 0 otherwise; Diversified Acquisition is a categorical variable coded 1 if the acquisition involves a target in a different industry (using 4-digit SIC), 0 otherwise; Regulated Industry is a categorical variable coded 1 if the target's main industry is in the following industries (using Fama-French industry classifications): Defense, Petroleum and Natural Gas, Utilities, Communication, Banking, Insurance or Trading, 0 otherwise; ROA is defined as the ration between operating income before depreciation (data13)/total assets (data6); Std Dev Target's stock price is defined as the standard deviation of the target's stock return in the year prior to year of announcement; Tobin's Q is calculated as follows: [assets (data6) + common shares outstanding (data25)* FY closing price (data199) - book value of equity (data60) - deferred taxes (data74)/assets (data6)]; MTB is the ratio of market (data25*data99) to book value (data60); DA is the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable $(data\ 2/data6_{t-1})$. We classify Acquisitions as Auction, Negotiation or Hostile/Unsolicited based on the total number of bidders (auctions # >1 vs. negotiation # = 1) and if the acquirer makes a Hostile/Unsolicited bid. The sample period is 1998-2005.

	Auction				Negotiation				Hostile/Unsolicited				Differences		
Panel A - Acquisition Statistics	**n**	**Mean**	**Median**	**SD**	**n**	**Mean**	**Median**	**SD**	**n**	**Mean**	**Median**	**SD**	**P-value for mean diff. Auct - Neg**	**P-value for mean diff. Auct - Host**	**P-value for mean diff. Negot - Host**
Relative Size (Mkt. Val target/Mkt. Val	198	0.24	0.13	0.31	279	0.36	0.15	0.83	66	0.79	0.41	1.15	0.015	0.000	0.003
Mkt. Value - Acquirer (MM USD)	198	10,198	1,914	23,330	279	10,717	2,539	24,564	66	14,412	978	68,503	0.408	0.313	0.334
Mkt. Value - Target (MM USD)	198	1,115	240	4,008	279	1,439	365	2,870	66	3,510	502	11,030	0.166	0.044	0.068
Premium (percent)	198	48.2	41.0	48.8	279	47.1	42.7	41.3	66	36.5	32.0	29.3	0.402	0.012	0.009
Only cash payment dummy	198	0.38	0	0.49	279	0.34	0	0.48	66	0.50	0.5	0.50	0.197	0.046	0.011
Only stock Payment dummy	198	0.40	0	0.49	279	0.51	1	0.50	66	0.23	0	0.42	0.01	0.003	0
Diversified Acquisition	198	0.29	0	0.45	279	0.31	0	0.46	66	0.36	0	0.49	0.287	0.134	0.217
Regulated Industry	198	0.11	0	0.31	279	0.08	0	0.28	66	0.14	0	0.35	0.195	0.265	0.121
Panel B - Firm Level Financial Variables Characteristics															
ROA (EBITD/Assets) - Target	198	0.08	0.13	0.18	279	0.10	0.13	0.18	66	0.12	0.13	0.13	0.255	0.071	0.159
Std Dev Target's stock price t-1	198	4.26	3.92	2.21	279	4.11	3.55	2.18	66	3.58	2.65	2.34	0.231	0.022	0.052
Tobin's Q - Target	198	1.94	1.44	1.61	279	2.37	1.53	2.45	66	1.79	1.28	1.45	0.01	0.243	0.007
Tobin's Q - Acquirer	195	2.36	1.79	1.78	276	3.34	1.96	6.53	65	2.08	1.53	1.55	0.009	0.115	0.003
MTB - Target	198	3.90	2.64	4.07	279	4.89	3.17	5.47	66	3.41	2.24	3.23	0.013	0.163	0.003
MTB - Acquirer	198	3.15	1.92	3.94	279	3.69	2.23	4.13	66	2.74	1.74	2.98	0.075	0.189	0.018
Panel C - Earnings Management Proxy (Industry Adjusted, Performance-Matched Discretionary Accruals)															
DA-1 (yr t-1)	198	-0.003	-0.003	0.073	279	-0.011	-0.001	0.081	66	-0.017	-0.006	0.066	0.135	0.069	0.244
DA-2 (Avg yr t-1 & t-2)	186	-0.005	0.000	0.068	260	-0.015	-0.002	0.074	61	-0.024	-0.011	0.072	0.080	0.042	0.198

Table 4 - Descriptive Statistics on Target Cumulative Abnormal Returns (CARs) and Premium
Section 1. Full Sample

CAR is defined as cumulative abnormal returns, where the abnormal returns were calculated using the market model (with the CRSP value weighted index as a benchmark); Premium is defined as the percent difference of the price offered to target shareholders and the target's stock price four weeks prior to the announcement; DA is performance-matched discretionary accruals and is calculated as the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable $(data\ 2/data6_{t-1})$. The sample period is 1998-2005.

	Full Sample			
Panel A - CARS	**n**	**Mean**	**Median**	**SD**
(-1,+1) Window	543	23.97	18.27	28.57
(-2,+2) Window	543	25.12	20.39	28.47
(-3,+3) Window	543	25.80	21.12	28.82
Premium	543	46.21	40.15	43.05
Panel B - CARS, Conditional on Performance-Matched Discretionary Accruals (DA-2 Avg yr t-1 & t-2) Terciles				
(-1,+1) Window				
High Tercile DA-2	169	21.51	17.71	23.08
Low Tercile DA-2	205	26.62	21.49	31.16
p-value for mean difference		0.01		
(-2,+2) Window				
High Tercile DA-2	169	22.58	19.70	22.94
Low Tercile DA-2	205	28.00	24.41	30.68
p-value for mean difference		0.01		
(-3,+3) Window				
High Tercile DA-2	169	23.05	19.22	23.27
Low Tercile DA-2	205	28.96	24.27	31.45
p-value for mean difference		0.00		
Premium				
High Tercile DA-2	169	51.32	44.35	49.12
Low Tercile DA-2	205	41.75	35.92	35.77
p-value for mean difference		0.01		

Table 4 - Descriptive Statistics on Target Cumulative Abnormal Returns (CAR) and Premium, continued
Section 2. By Method of Sale

CAR is defined as cumulative abnormal returns, where the abnormal returns were calculated using the market model (with the CRSP value weighted index as a benchmark); Premium is defined as the percent difference of the price offered to target shareholders and the target's stock price four weeks prior to the announcement; DA is performance-matched discretionary accruals and is calculated as the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable $(data\ 2/data6_{t-1})$. We classify Acquisitions as Auction, Negotiation or Hostile/Unsolicited based on the total number of bidders (auctions # >1 vs. negotiation # = 1) and based on the acquirer making a Hostile/Unsolicited bid. The sample period is 1998-2005.

	Auction				Negotiation				Hostile/Unsolicited				Differences		
Panel A - CARS	**n**	**Mean**	**Median**	**SD**	**n**	**Mean**	**Median**	**SD**	**n**	**Mean**	**Median**	**SD**	**P-value for mean diff. Auct - Neg**	**P-value for mean diff. Auct - HostUns**	**P-value for mean diff. Negot - HostUns**
(-1,+1) Window	198	24.35	17.60	28.83	279	24.93	19.49	30	66	18.79	14.72	19	0.42	0.04	0.02
(-2,+2) Window	198	25.25	19.55	28.13	279	26.58	21.68	30	66	18.56	16.28	19	0.31	0.02	0.00
(-3,+3) Window	198	26.15	21.73	29.28	279	27.40	22.81	30	66	17.94	15.39	19	0.33	0.01	0.00
Premium	198	44.60	39.07	48.43	279	48.33	42.75	43	66	36.55	31.95	29	0.19	0.06	0.01
Panel B - CARS, Conditional on Performance-Matched Discretionary Accruals (DA-2 Avg yr t-1 & t-2) Terciles															
(-1,+1) Window															
High Tercile DA-2	70	22.35	17.29	25	86	21.45	18.47	22	13	17.31	17.27	18	0.41	0.20	0.23
Low Tercile DA-2	69	27.47	21.25	35	104	27.99	23.92	32	32	20.30	17.20	17	0.46	0.09	0.04
p-value for mean difference		0.06				0.02				0.30					
(-2,+2) Window															
High Tercile DA-2	70	22.85	19.55	25	86	23.01	20.93	22	13	18.32	17.45	18	0.48	0.21	0.21
Low Tercile DA-2	69	28.73	23.82	33	104	30.23	24.94	32	32	19.18	17.48	18	0.38	0.02	0.01
p-value for mean difference		0.06				0.02				0.44					
(-3,+3) Window															
High Tercile DA-2	70	23.57	19.31	25	86	23.84	20.03	22	13	15.00	17.53	21	0.47	0.10	0.09
Low Tercile DA-2	69	30.05	24.98	35	104	31.08	26.76	32	32	19.71	16.07	15	0.42	0.02	0.01
p-value for mean difference		0.05				0.02				0.20					
Premium															
High Tercile DA-2	70	42.85	32.75	40	86	42.74	37.50	34	13	29.21	31.74	22	0.49	0.05	0.04
Low Tercile DA-2	69	56.34	50.77	60	104	52.46	44.75	46	32	36.80	32.47	29	0.32	0.02	0.01
p-value for mean difference		0.03				0.05				0.24					

Table 5 - Determinants of Selling through Auction – Logit Regression

DA is performance-matched discretionary accruals and is calculated as the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales ($data12/data6_{t-1}$); AR is accounts receivable ($data\ 2/data6_{t-1}$); Tobin's Q is calculated as follows: [assets (data6) + common shares outstanding (data25)* FY closing price (data199) - book value of equity (data60) - deferred taxes (data74)/assets (data6)]; Target in technology Industry is a categorical variable coded 1 if the target belongs to any of the following technology industries (using Fama-French industry classifications): Medical Equipment, Pharmaceutical Products, Machinery, Electrical Equipment, Defense, Computers, Electronic Equipment, or Measuring and Control Equipment, 0 otherwise; ROA is defined as the ration between operating income before depreciation (data13)/total assets (data6); Std Dev Target's stock price is defined as the standard deviation of the target's stock return in the year prior to year of announcement; R&D represents research and development expenses (data46) scaled by assets (data6); Target in Delaware is a categorical variable coded 1 if the target's state of incorporation is Delaware, 0 otherwise; Growth S&P 500 represents the growth in the prior quarter of the announcement for the S&P 500 index; We classify Acquisitions as Auction or Negotiation based on the total number of bidders (auctions vs. negotiation). We exclude Hostile/Unsolicited since the target does not make any decision in these cases. The sample period is 1998-2005. *** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests unless a prediction is made). Inferences are based on White (1980) standard errors corrected for within-industry dependence.

	Dependent Variable = Auction	
	coef/ p-value ŧ	**Standardized Marginal Effects**
Discretionary Accruals (DA-2 Avg yr t-1 & t-2)	2.05**	[1.159]
	(0.040)	
Log(Target Tobin's Q)	-0.264	[0.853]
	(0.143)	
Log (Target Market Value of Assets)	-0.108*	[0.83]
	(0.056)	
Target in Technology Industry	-0.364**	[0.842]
	(0.015)	
Target ROA	-0.032	[0.995]
	(0.951)	
Target R&D	0.413***	[1.182]
	(0.001)	
Target in Delaware	0.036	[1.018]
	(0.828)	
Growth S&P 500 (Prior quarter to Announcement Date)	-0.672	[0.958]
	(0.696)	
Intercept	1.201	
	(0.524)	
N	446	
Pseudo R2	0.024	

Table 6 - Determinants of Target CAR and Premium – OLS Regression

CAR is defined as the three day cumulative abnormal returns centered on the acquisition announcement date, where the abnormal returns were calculated using the market model (with the CRSP value weighted index as a benchmark); Premium is defined as the percent difference of the price offered to target shareholders and the target's stock price four weeks prior to the announcement; DA is performance-matched discretionary accruals and is calculated as the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable $(data\ 2/data6_{t-1})$; Auction is a categorical variable coded 1 when there are more than one bidder in the pre-announcement acquisition process, 0 otherwise; Hostile is a categorical variable coded 1 when the acquirer submits a hostile or unsolicited bid to the target, 0 otherwise; Relative Size is defined as the ratio of the target's market value of assets to the acquirer's market value of assets, where market value of assets (Mkt. Value) is calculated as follows: book value of assets (data6) – book value of equity (data60) + common shares outstanding (data25) *FY closing price (data199); Only cash Payment is a categorical variable coded 1 if the offered price is made 100% in cash, 0 otherwise; Tender is a categorical variable coded 1 if a takeover bid takes the form of a public invitation to shareholders to sell their stock, with or without prior contact with the target, as classified by the SDC database ; 0 otherwise. We follow Boone and Mulherin (2008a) to classify Acquisitions as Auction, Negotiation or Hostile/Unsolicited. The sample period is 1998-2005. *** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests unless a prediction is made). Inferences are based on White (1980) standard errors corrected for within-industry dependence.

	- Dependent Variable = CAR (-1,+1)				Dep. Var. = Premium	
	(1)	(2)	(3)	(4)	(5)	(6)
	coef/p-value	**coef/p-value**	**coef/p-value**	**coef/p-value**	**coef/p-value**	**coef/p-value**
Discretionary Accruals – (DA-2 Avg yr t-1 & t-2)			-0.535**	-0.483**	-0.808**	-0.766***
			(0.020)	(0.014)	(0.014)	(0.009)
Auction	-0.013	-0.010	-0.006	-0.007	0.007	0.010
	(0.605)	(0.682)	(0.803)	(0.875)	(0.891)	(0.837)
Hostile		-0.098***		-0.123***		-0.152***
		(0.001)		(0.000)		(0.008)
Relative Size	-0.047**	-0.033*	-0.046**	-0.031*	-0.067***	-0.047**
	(0.015)	(0.095)	(0.012)	(0.087)	(0.002)	(0.030)
Only Cash Payment	0.146***	0.133***	0.147***	0.138***	0.077	0.076
	(0.005)	(0.003)	(0.007)	(0.005)	(0.259)	(0.176)
Tender	0.054	0.063*	0.076*	0.080**	0.056	0.071*
	(0.213)	(0.096)	(0.061)	(0.026)	(0.229)	(0.056)
Intercept	0.203***	0.201***	0.192***	0.189***	0.444***	0.433***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Number of observations	477	543	446	507	446	507
Adjusted R2	0.093	0.088	0.122	0.118	0.036	0.042

Table 7 - Treatment Effects Regressions – Method of Sale and Target Wealth Effects

CAR is defined as the three day cumulative abnormal returns centered on the acquisition announcement date, where the abnormal returns were calculated using the market model (with the CRSP value weighted index as a benchmark); Auction is a categorical variable coded 1 when there are more than one bidder in the pre-announcement acquisition process, 0 otherwise; DA is performance-matched discretionary accruals and is calculated as the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,\ t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable $(data\ 2/data6_{t-1})$; Relative Size is defined as the ratio of the target's market value of assets to the acquirer's market value of assets, where market value of assets (Mkt. Value) is calculated as follows: book value of assets (data6) – book value of equity (data60) + common shares outstanding (data25) *FY closing price (data199); Only cash Payment is a categorical variable coded 1 if the offered price is made 100% in cash, 0 otherwise; Tender is a categorical variable coded 1 if a takeover bid takes the form of a public invitation to shareholders to sell their stock, with or without prior contact with the target; 0 otherwise; Regulated Industry is a categorical variable coded 1 if the target's main industry is in the following industries (using Fama-French industry classifications): Defense, Petroleum and Natural Gas, Utilities, Communication, Banking, Insurance or Trading, 0 otherwise; ROA is defined as the ration between operating income before depreciation (data13)/total assets (data6); Target in Delaware is a categorical variable coded 1 if the target's state of incorporation is Delaware, 0 otherwise; Growth S&P 500 represents the growth in the prior quarter of the announcement for the S&P 500 index; Std Dev Target's stock price is defined as the standard deviation of the target's stock return in the year prior to year of announcement. We classify Acquisitions as Auction or Negotiation based on the total number of bidders (auctions vs. negotiation). We exclude Hostile/Unsolicited since the target does not make any decision in these cases. The sample period is 1998-2005. *** $p<0.01$, ** $p<0.05$, * $p<0.1$ (two-tailed tests unless a prediction is made). Inferences are based on Eicker-Huber-White-Sandwich heteroskedastic-robust standard errors corrected for within-industry dependence. The Wald test of Independent Equations the treatment effect regressions assesses the existence of self-selection in the model. We solve the treatment effects regressions with Maximum Likelihood to get a more efficient estimation.

Table 7 -Continued.
Panel A. 2SLS and Treatment Effect regressions on CARs

Dependent Variable:	**CAR (-1,+1)**	**Auction**	**CAR (-1,+1)**	**Auction**
Estimation method	2SLS	1st stage	Treatment Effects	
Model	(1)		(2)	
	Coef. / p-value	Coef. / p-value	Coef. / p-value	Coef. / p-value
Auction (Instrumented)	-0.006 (0.800)		0.419*** (0.000)	
Discretionary Accruals – (DA-2 Avg yr t-1 & t-2)	-0.535** (0.018)	1.328** (0.033)	-0.727** (0.020)	1.404* (0.051)
Relative Size	-0.046*** (0.010)	-0.241** (0.022)	-0.043*** (0.009)	
Only Cash Payment	0.147*** (0.006)	0.228* (0.076)	0.143*** (0.003)	
Tender	0.076* (0.057)	-0.465*** (0.002)	0.077* (0.057)	
Regulated Industry		0.143 (0.394)		-0.027 (0.856)
Target ROA		-0.300 (0.407)		-0.109 (0.718)
Target in Delaware		0.031 (0.774)		-0.164** (0.034)
Growth S&P 500 (Prior quarter to Announcement Date)		-0.287 (0.779)		-0.996 (0.231)
Std Dev Target's stock price t-1		0.012 (0.690)		0.031* (0.101)
CAR [-1. +1] (Instrumented in Sim-Eqns)				
Intercept	0.192*** (0.000)	0.131 (0.907)	0.013 (0.830)	0.813 (0.367)
atanh-rho (Used in test for Self-Selection)			-1.073*** (0.001)	
lambda			-0.272***	
Wald test of Indep. Eqns. (rho=0) p-val			(0.001)	
Number of observations	446	446	446	
Centered R2 [2SLS] / N/A for TE	0.132	0.027		

Panel B. 2SLS and Treatment Effect regressions on Premium

Dependent Variable:	**Premium**	**Auction**	**Premium**	**Auction**
Estimation method	2SLS	1st stage	Treatment Effects	
Model	(1)		(2)	
	Coef. / p-value	Coef. / p-value	Coef. / p-value	Coef. / p-value
Auction	0.007		0.628***	
(Instrumented)	(0.889)		(0.000)	
Discretionary Accruals –	-0.808***	1.328**	-1.090***	1.273*
(DA-2 Avg yr t-1 & t-2)	(0.006)	(0.033)	(0.006)	(0.083)
Relative Size	-0.067***	-0.241**	-0.062**	
	(0.002)	(0.022)	(0.014)	
Only Cash Payment	0.077	0.228*	0.074	
	(0.251)	(0.076)	(0.240)	
Tender	0.056	-0.465***	0.068	
	(0.220)	(0.002)	(0.112)	
Regulated Industry		0.143		0.178*
		(0.394)		(0.100)
Target ROA		-0.300		-0.099
		(0.407)		(0.651)
Target in Delaware		0.031		-0.036
		(0.774)		(0.668)
Growth S&P 500 (Prior quarter to		-0.287		-0.351
Announcement Date)		(0.779)		(0.687)
Std Dev Target's stock price t-1		0.012		0.070**
		(0.690)		(0.022)
Premium				
(Instrumented in Sim-Eqns)				
Intercept	0.444***	0.131	0.178***	-0.085
	(0.000)	(0.907)	(0.003)	(0.923)
atanh-rho			-0.967***	
(Used in test for Self-Selection)			(0.000)	
lambda			-0.393***	
Wald test of Indep. Eqns. (rho=0) p-val			(0.000)	
Number of observations	446	446	446	
Centered R2 [2SLS] / N/A for TE	0.036	0.027		

Table 8 - Determinants of Acquisition Termination – Logit and Bi Probit Seemingly Unrelated Regressions
Auction is a categorical variable coded 1 when there are more than one bidder in the pre-announcement acquisition process, 0 otherwise. Premium is defined as the percent difference of the price offered to target shareholders and the target's stock price four weeks prior to the announcement; DA is performance-matched discretionary accruals and is calculated as the residual from the following model: $CA_i + CA_{i,t-1} = \alpha + \beta(\Delta Sales_i - \Delta AR_i + \Delta Sales_{i,t-1} - \Delta AR_{i,t-1}) + \varepsilon_i$ minus the average residual of a portfolio of firms matched on two-digit SIC codes and ROA_{t-1}, where CA is current accrual: data items $[\Delta(4\text{-}1)\text{-}\Delta(5\text{-}34)]/6_{t-1}$; Sales $(data12/data6_{t-1})$; AR is accounts receivable (data $2/data6_{t-1}$); Relative Size is defined as the ratio of the target's market value of assets to the acquirer's market value of assets, where market value of assets (Mkt. Value) is calculated as follows: book value of assets (data6) – book value of equity (data60) + common shares outstanding (data25) *FY closing price (data199); Only Cash Payment is a categorical variable coded 1 if the offered price is made 100% in cash, 0 otherwise; Tender is a categorical variable coded 1 if a takeover bid takes the form of a public invitation to shareholders to sell their stock, with or without prior contact with the target, as classified by the SDC database ; 0 otherwise; MAE Exclusions is the sum of material adverse event exclusions (Macias 2008a). Regulated Industry is a categorical variable coded 1 if the target's main industry is in the following industries (using Fama-French industry classifications): Defense, Petroleum and Natural Gas, Utilities, Communication, Banking, Insurance or Trading, 0 otherwise; ROA is defined as the ration between operating income before depreciation (data13)/total assets (data6); Target in Delaware is a categorical variable coded 1 if the target's state of incorporation is Delaware, 0 otherwise; Growth S&P 500 represents the growth in the prior quarter of the announcement for the S&P 500 index; Std Dev Target's stock price is defined as the standard deviation of the target's stock return in the year prior to year of announcement. We exclude Hostile/Unsolicited acquisitions since the target does not make any decision on the method of sale. The sample period is 1998-2005.

Dependent Variable:	**Terminated**		**Terminated**	**Auction**
	coef/p-value	**Standardized Marginal Effects**	**coef/p-value**	**coef/p-value**
	(1)		(2)	(3)
Auction	-1.116**	[0.576]	-2.180***	
	(0.031)		(0.000)	
Discretionary Accruals (DA-2 Avg yr t-1 & t-2)	-0.433	[0.970]	0.897	1.226*
	(0.864)		(0.277)	(0.058)
Premium	0.512	[1.252]	0.116***	
	(0.208)		(0.004)	
Relative Size	0.572***	[1.483]	0.153***	
	(0.000)		(0.000)	
Only Cash Payment	-0.837	[0.670]	-0.170**	
	(0.142)		(0.027)	
Tender	-0.204	[0.920]	0.001	
	(0.752)		(0.992)	
MAE Exclusions	-0.138***	[0.636]	-0.015**	
	(0.009)		(0.035)	
Regulated Industry				-0.101
				(0.244)
Target ROA				-0.274**
				(0.018)
Target in Delaware				-0.008
				(0.500)
Growth S&P 500 (prior to Announcement Date)				0.051
				(0.889)
Std Dev Target's Stock price t-1				0.020**
				(0.013)
Intercept	-2.199***		-0.086	-0.289
	(0.000)		(0.117)	(0.493)
/athrho			14.224	
			(0.150)	
Number of observations	446			446
Pseudo R2	0.133			

*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests unless a prediction is made). Inferences are based on White (1980) standard errors corrected for within-industry dependence.

Table 9 – Clinical analysis of observed transactions with potential earnings Management

Panel A presents the suspected earnings management detections during the pre-announcement takeover process. Panel B presents the suspected earnings management detections during the post-announcement takeover process. Auction is a categorical variable coded 1 when there is more than one bidder in the pre-announcement acquisition process, 0 otherwise. The Announcement date divides the pre-announcement and the post-announcement takeover processes. Information of transactions is obtained from the SEC filings, Factiva, SDC and LivEdgar M&A database. We classify Acquisitions as Auction, Negotiation or Hostile/Unsolicited based on the total number of bidders (auctions # >1 vs. negotiation # = 1) and if the acquirer makes a Hostile/Unsolicited bid. The sample period is 1998-2005.

Panel A. Suspected Earnings Management Detections during the Pre-Announcement Takeover Process

Year of Ann.	Target	Acquirer	Method of Sale	Major Finding in Pre-Announcement Due Diligence	Change in Price bef. Ann.	Major Finding After the Announcement Date	Termi-nated	Rene-gotiated	# Price Revisions	Change in Price (%) After Ann.
2005	AULT	SL Industries	**Negot**	Significant Accounting discrepancy	-25%		-	-	-	
2004	NORTHEAST PA FINL CORP	KNBT Bancorp.	**Negot**	1- Increase loan loss reserves, 2- Higher than anticipated severance payments, 3- Data processing cost	-4%		-	-	-	
2004	BRAUN CONSULTING	Fair Isaac Corp	**Negot**	Significant lower guidance for revenue	-44%		-	-	-	
2004	N U I CORP NEW	AGL Resources	Auction	1- SEC informal inquiry on target; 2- investigations of transactions with brokers; 3- Internal audit,	-2%		-	-	-	
2001	CHEAP TICKETS	Cendant Corp	**Negot**	Target announced reduction in exp earnings	-14%		-	-	-	
2001	MESSAGEMEDIA	DoubleClick	Auction	Problems with target's potential liabilities		Worsening conditions of target, failure to register statement at effective date, recurrent losses and deteriorating cash position.	-	1	1	-67%
2000	ENHANCE FIN. SRVCS GRP	Radian Group	Auction	DD concern: commitment to fund Credit2B.com Inc.	-7%		-	-	-	
2000	TELXON CORP	Symbol Technologies	**Negot**	Restatement of results by target			-	-	-	
1999	SIRROM CAPITAL CORP	Finova Group	Auction	1- Large losses, and 2- Class action vs target			-	-	-	
1998	HILLS STORES CO	Ames Department Stores	**Negot**	1- Litigation, and 2- Parent's concern over the continuing deterioration of the Company's business			-	-	-	
1998	YOUTH SERVICES INTL	Correctional Services Corp	**Negot**	Target press release: Substantially lower expected earnings for the second quarter			-	-	-	
1998	GAMMA BIOLOGICALS	Immucor	**Negot**	1- Lower revenues of Target's new product, 2- Operating loss and net loss in the last qtr	-17%		-	-	-	
1998	BENEFICIAL CORP	Household International	Auction	Recent losses and 10% decline in earnings in 4th qtr 1997			-	-	-	
1998	CONTINENTAL CIRCUITS COF	Hadco Corp	**Negot**	1- Lower 1st qtrs fin. Results, 2- Below analysts expectations	-6%		-	-	-	
	Total / Average	**14**	**9 Negot**		**-15%**		**0**	**1**	**1**	**-67%**

Panel B. Suspected Earnings Management Detections during the Post-Announcement Takeover Process

Year of Ann.	Target	Acquirer	Method of Sale	Major Finding in Pre-Announcement Due Diligence	Change in Price bef. Ann.	Major Finding After Announcement Date	Termi-nated	Rene-gotiated	# Price Revisions	Change in Price (%) After Ann.
2004	KING PHARM.	Mylan Laboratories	**Negot**			Restatements on Target's earnings.	1	1	1	-100%
2003	R M H TELESERVICES	NCO Group	**Negot**			Concern by Deloitte&Touche on Target's 1st Qtr results;	-	1	1	-14%
2001	COMMUNITY BANKSHARES	SouthTrust Corp.	Auction			Earnings for the Qtr below expectations	-	1	2	-2%
2001	LOWRANCE ELECTRONICS	Cobra Electronics Corp	**Negot**			Negative change in net sales and earnings vs projections.	1	1	1	-9%
2000	B S B BANCORP	NBT Bancorp	**Negot**			Deterioration in Target's loan portfolio	1	-	-	
2000	SEAGATE TECHNOLOGY	Veritas Software Corp	**Negot**			Various amendments: 1- Reported losses, 2- Drastic changes in stock prices, and 3- Shortage of raw materials	-	1	1	-4%
1999	FOCUS ENHANCEMENTS	Faroudja	**Negot**			Potential earnings mgmt (losses later) by target management	1	-	-	
1999	K T I	Casella Waste Systems	**Negot**	Concerns on Value	-10%	1- Earnings Restatements, and 2- Lower Earnings in latest quarter	-	1	1	-44%
1999	ONTRACK DATA INTL	Legato Systems	**Negot**			**Acquiror** (Legato) to restate results (Earnings) 3rd Qtr 1999.	1	-	-	
	Total / Average	**9**	**8 Negot**				**5**	**6**	**7**	**-29%**

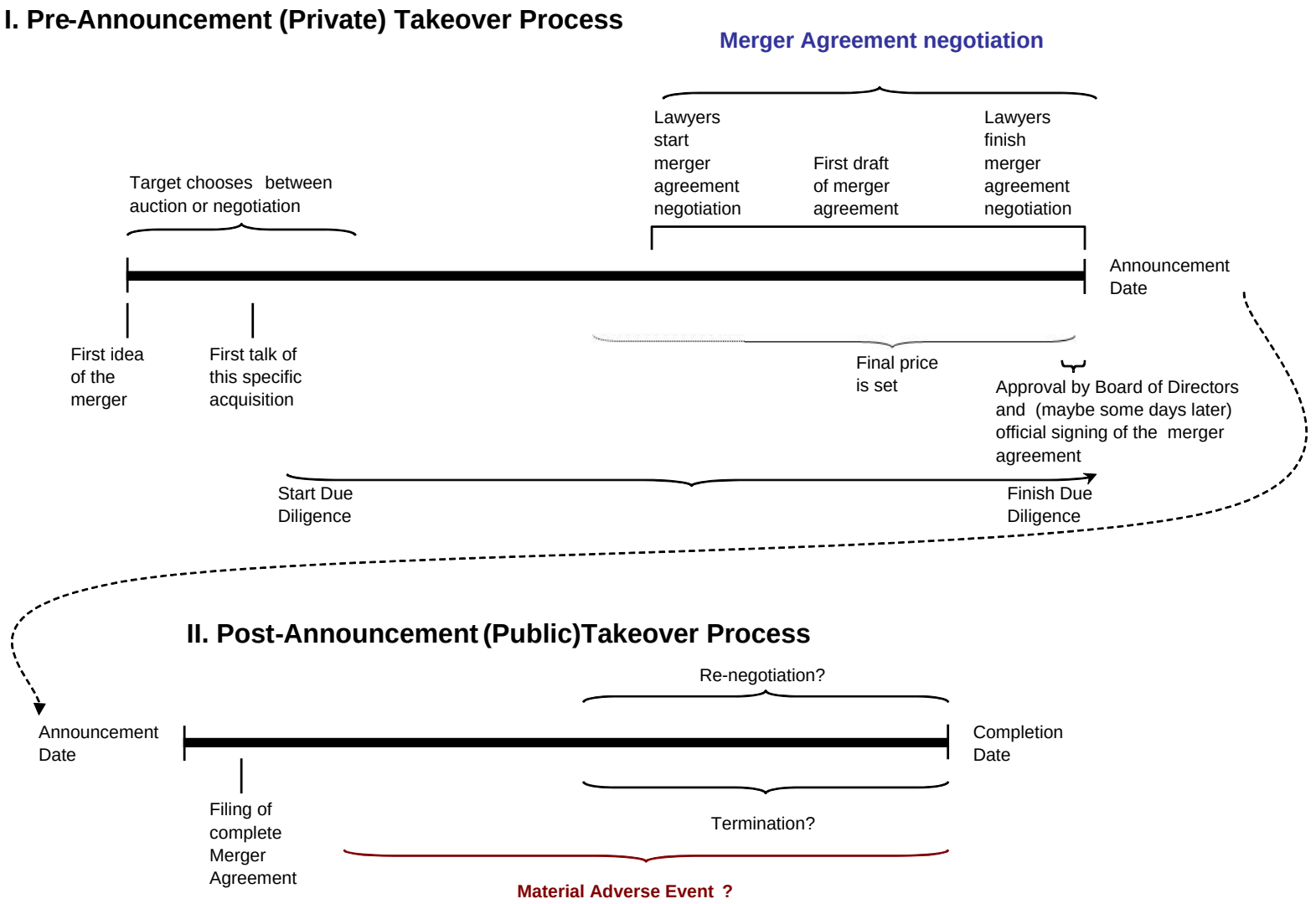


Figure 1. Timeline of the Takeover Process

The announcement date divides the acquisition takeover process in the pre-announcement and the post-announcement takeover processes. Acquirers and targets report specific information on the pre-announcement takeover process in the SEC filings after the announcement date. Brackets, such as the one for the Due-Diligence, represent windows with large variation for each acquisition

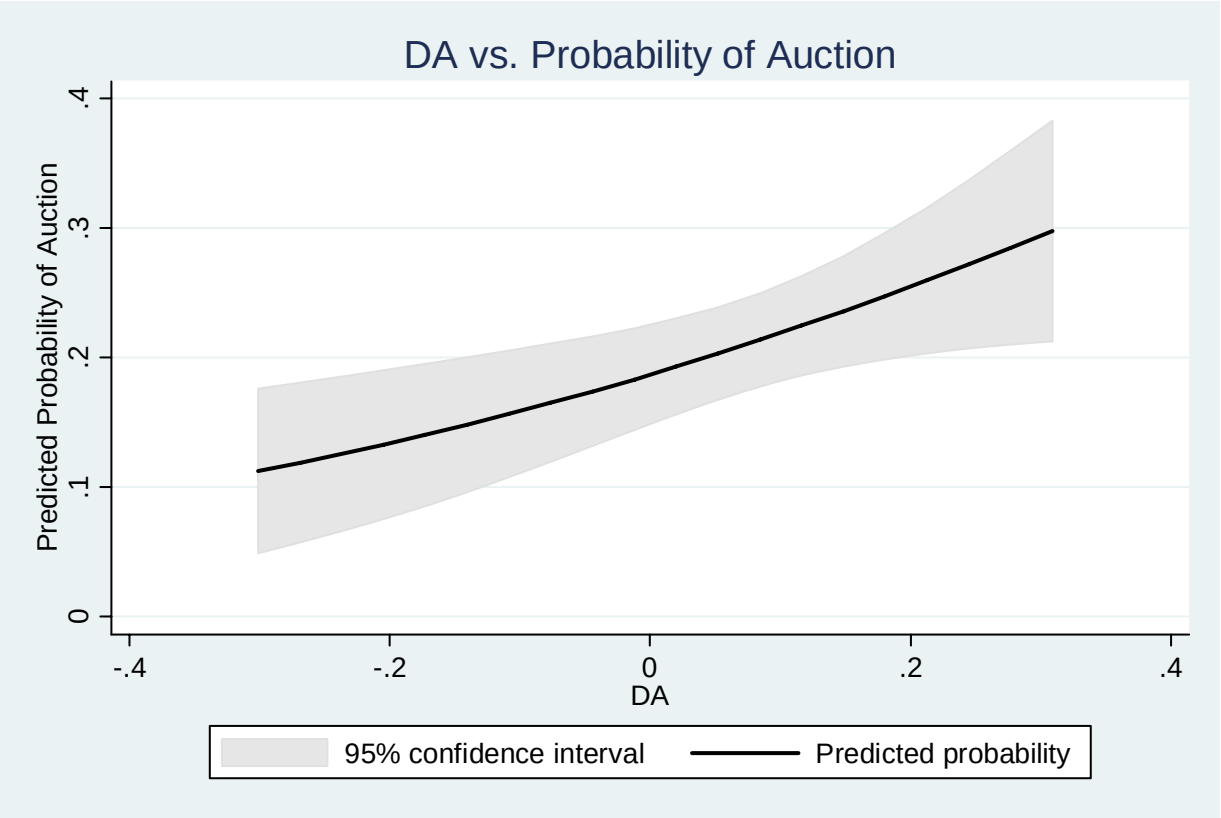


Figure 2 – Predicted change in the Probability of Selling through an auction based on the DA variable
Predicted probabilities are estimated based on Full Logit Model in Table 5.