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EARNINGS MANAGEMENT INCENTIVES OF TARGET FIRMS: AN ANALYSIS OF SOLICITING AND UNSOLICITED TARGETS' ACCRUAL ACCOUNTING CHOICES

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By

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ABSTRACT

EARNINGS MANAGEMENT INCENTIVES OF TARGET FIRMS: AN ANALYSIS OF SOLICITING AND UNSOLICITED TARGETS' ACCRUAL ACCOUNTING CHOICES

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Although prior literature suggests that bidders manage earnings upward to benefit from stock-financed acquisitions, the results for target firms are mixed. Given that targets are typically unaware of impending bids, they are unlikely to engage in opportunistic earnings management. In this study I identify a setting in which targets not only know that they are likely to be taken over, but they have relatively strong incentives to consummate a takeover. Specifically I examine the pre-takeover accrual decisions of 240 target firms that publicly announced their intent to seek acquirers or merger partners (soliciting targets) and compare them to the accrual decisions of 277 target firms that received unsolicited takeover offers (unsolicited targets). In contrast to the suggestion in the prior literature that targets have incentives to report positive discretionary accruals to increase their takeover premium, I find that neither soliciting targets nor unsolicited targets appear to make positive accrual choices in the periods leading to the initial takeover announcement. More importantly, the soliciting targets practice income-decreasing earnings management in the year immediately preceding their solicitation announcement. This finding is consistent with soliciting targets facing substantial costs in the market for corporate control if opportunistic earnings management is detected. Instead of endangering their chance of sale, soliciting targets choose to clean up their balance sheets to credibly signal to the market their willingness to seek acquirers or

merger partners. Moreover, I find that the managers of soliciting targets show declining propensity to smooth earnings when approaching their solicitation decision, reflecting managers' lessened long-term economic and/or career incentives. My results highlight the importance of controlling for target firms' incentives when examining their accrual accounting choices prior to takeover.

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CHAPTER 1: INTRODUCTION

This dissertation examines earnings management by target firms before takeover. Conventional wisdom suggests that target firms have incentives to overstate reported earnings using positive discretionary accruals to influence the short-term stock price prior to takeover. However, attempts to document such evidence have been unsuccessful. Erickson and Wang (1999) find that target firms' discretionary accruals are insignificantly different from zero during periods preceding merger announcements. In addition, Easterwood (1997/1998) shows that only targets of hostile takeovers manage earnings upward prior to a takeover announcement; for targets of friendly tender offers, their discretionary accruals are not different from those of non-targets. These findings suggest that opportunistic earnings management is not a widespread practice among target firms in general. In contrast to the research on targets, prior literature documents that acquiring firms use positive discretionary accruals to influence the exchange ratio prior to stock-financed acquisitions (Erickson and Wang, 1999; Louis, 2004).

This dissertation seeks to explore why some targets choose not to manage earnings upward before takeover even though they could potentially benefit. Prior research argues that because targets are typically unaware of the impending bids, they are unlikely to engage in upward earnings management as many bidders do (Erickson and Wang, 1999). In this dissertation I identify a context in which targets not only know that they are likely to receive bids, but they have incentives to adopt income-decreasing accounting practices prior to any takeover attempts. Specifically, I examine the accrual behavior of a group of target firms that publicly announce their intent to solicit takeover

offers (hereafter, "soliciting targets"). This group of takeover targets merits investigation because they have the opportunity to manage earnings by timing their solicitation announcement.

More importantly, as a subset of targets of friendly takeovers, soliciting targets clearly face relatively higher costs and a stronger disincentive to manage earnings upward than other target firms. Soliciting targets seek acquirers or merger partners to address existing financial problems or to exploit strategic growth opportunities. By explicitly seeking buyers, these firms subject themselves to the close scrutiny of the entire market for corporate control. Any opportunistic accounting ploys used by soliciting targets could potentially endanger their ability to find acquirers or merger partners at terms that maximize their shareholder value. Consequently, companies seeking buyers are more likely to "clean-up" their financial statements to credibly signal their interest in efficiently consummating a deal. Consistent with this line of reasoning, some merger and acquisition experts believe that "honesty is the best policy when selling [a] company." [1] Moreover, they recommend that companies seeking buyers proactively clean up their financial statements before putting themselves up for sale. Anecdotal evidence shows that target firms follow this strategy to encourage or facilitate bids for their companies. Therefore, I hypothesize that soliciting targets make income-decreasing accrual choices prior to their solicitation announcement to credibly signal their interests in finding strategic acquirers or merger partners.[2]

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[1] See "What is your company worth", by George Alexander, Black Enterprise, July 1, 2001 (vol. 31, issue 12).

[2] Any observed income-decreasing accrual choices are subject to two interpretations. Soliciting targets who have used income-increasing accrual choices in the past are using income-decreasing accrual choices prior to solicitation to reverse the effects of past earnings management. Alternatively, in order to convince potential bidders of their financial reporting credibility, soliciting targets might report large negative

I also investigate the income smoothing behavior of mangers of soliciting targets because the desire to seek a buyer may also be reflected in their weakened propensity to smooth earnings. Previous studies find that managers in general make discretionary accounting choices to smooth earnings for compensation (Gaver, et al., 1995) or job security (DeFond and Park, 1997). However, given their time horizon, managers of soliciting targets may be less concerned about such longer-term benefits of income smoothing. Instead, large payouts from golden parachutes and other economic benefits from finding an immediate strategic partner might motivate the managers of soliciting targets to take measures, such as balance sheet cleanup, to welcome takeover attempts.[3] Therefore, I hypothesize that the income smoothing incentives of managers of the soliciting targets diminish as approaching the solicitation announcement.

From *Securities Data Company* (SDC) I identified 240 soliciting targets during the period 1990-2003. On average the soliciting targets earn a significantly positive 8% abnormal stock return surrounding their solicitation announcement, suggesting that the sale decision is perceived to enhance shareholders' wealth. I further selected a group of 277 firms that received unsolicited takeover bids (hereafter, "unsolicited targets") during the same period. In contrast to soliciting targets, unsolicited targets may not foresee the takeover bids, in which case their pre-takeover accrual choices are less likely to be affected by the impending offers. Thus, these targets provide a powerful control for earnings management not motivated by takeover.

My analysis reveals that neither soliciting targets nor unsolicited targets systematically select accounting accruals to *overstate* reported earnings in the periods

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discretionary accruals to present a conservative financial position. This study does not attempt to disentangle these two interpretations.

[3] See "No wonder CEO's love mergers", by Gretchen Morgenson, New York Times, July 18, 2004.

leading to a takeover. This result is consistent with the intuition that the unsolicited targets have insufficient time to respond to the unexpected takeover bids, and that the potential costs associated with opportunistic earnings management are significant enough to hinder the soliciting targets from inflating reported earnings. Consistent with my first hypothesis, I find that soliciting targets report significantly negative discretionary accruals in the year before and in three out of four quarters immediately preceding their initial solicitation announcement. In addition, the level of soliciting targets' discretionary accruals is significantly lower than that of the unsolicited targets. Moreover, the negative discretionary accruals are not performance-driven nor do they reverse in the year (quarter) following the solicitation announcement. These findings suggest that soliciting targets clean up their balance sheets to make them credible and worthy targets. Alternatively stated, soliciting targets' income-decreasing accrual choices before solicitation primarily reflect their desire to consummate a sale. To lend support to the assumption that soliciting targets do not frustrate takeover, I show that none of the soliciting targets have any poison pill defenses in place, whereas 12.6% of unsolicited targets have at least one poison pill defense to resist potential takeover attempts.

Consistent with my second hypothesis, I find that the negative association between discretionary accruals and pre-managed earnings for the soliciting targets declines over the period leading up to the solicitation decision. This result suggests that the managers of soliciting targets have less proclivity to smooth earnings before takeover. In contrast, I find that the earnings smoothing behavior of unsolicited targets is unabated by the impending takeover bids.

To further understand the income-decreasing accounting practices adopted by soliciting targets, I investigate the impact of management ownership and institutional ownership on their accrual choices one year prior to their solicitation. While management ownership better aligns the interests of managers and investors, it could also result in entrenched management when an inefficient manager controls a substantial fraction of stock equity (Morck et al., 1988). I find that soliciting targets with relatively low (high) management ownership report significantly negative (positive) discretionary accruals. Because the interest of soliciting target managers who hold a relatively small portion of their firms' equity converges to that of investors, these managers make income-decreasing accrual choices to facilitate the sale of their companies, while entrenched managers make income-increasing accrual choices to make takeover bids costly. However, this association between discretionary accruals and management ownership is not present in unsolicited targets.

Another aspect of ownership structure, institutional ownership, is assumed to play an important role in monitoring and disciplining managers' opportunistic behavior (Shleifer and Vishny, 1986, 1997; McConnell and Servaes, 1990; Denis et al., 1997). Consistent with this argument, I find a negative association between the level of institutional ownership and discretionary accruals, but this association is not significantly different between soliciting and unsolicited targets. It appears that the governance role of institutional investors compelling managers to make more conservative (less aggressive) accrual choices is not contingent on the firms' solicitation decision.

This dissertation contributes to the existing literature on earnings management in takeover targets. My result that soliciting targets indeed clean up their balance sheet

prior to takeover suggests that, in the population of takeover targets, earnings management through positive discretionary accruals may only account for a fraction of earnings managing attempts by targets to maximize shareholder value. Other target firms with incentives similar to soliciting targets may not manage earnings upward or may even choose to manage earnings downward, especially when they are pressured to solve financing problems or satisfy their growth needs through a merger and acquisition transaction. This study also enhances our understanding of the role of ownership structure in corporate control actions by showing that, when managers' and investors' interests are aligned, managers of soliciting targets make negative accrual choices to facilitate takeover bids. Finally, I find that managers of soliciting targets are less likely to be involved in income smoothing due to the expected sale of their companies. Thus this study adds to the literature on income smoothing by providing a setting in which managers' incentives for income smoothing are weaker.

The remainder of the dissertation is organized as follows. Chapter 2 provides a review of related literature and develops the rationale for my hypotheses. The sample selection criteria of soliciting targets and unsolicited targets are presented in Chapter 3, along with descriptive statistics. Chapter 4 discusses the methodology of estimating discretionary accruals, and Chapter 5 details the empirical tests and results of the managers' accrual choices and income-smoothing behavior in the two groups of target firms. Chapter 6 reports analysis results of associations between ownership structure and discretionary accruals. Concluding remarks are provided in Chapter 7. The appendix includes a discussion of the backing out method used in testing the income smoothing hypothesis.

CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES

2.1. Pre-takeover accrual choices by takeover targets

The importance of accounting earnings in equity valuation creates an incentive for earnings management (Healy and Wahlen, 1999). This incentive also manifests itself when companies are engaged in corporate control and capital structure transactions. For instance, extant literature finds that managers systematically select accounting procedures and/or make accrual choices in an attempt to influence short-term stock performance prior to management buyouts (MBO) (DeAngelo, 1986; Perry and Williams, 1994), equity offerings (Teoh, Welch, and Wong, 1998a, b; Teoh, Wong, and Rao, 1998; Shivakumar, 2000), and in acquiring firms prior to stock-financed acquisitions (Erickson and Wang, 1999; Louis, 2004).

Similarly, the managers of target firms may be motivated to overstate reported earnings prior to takeover to increase their negotiating power, and consequently, the takeover price. However, the evidence on income-increasing earnings management by target firms has not been convincingly documented. Easterwood (1997/1998) finds higher discretionary accruals for targets of hostile tender offers than a control group of non-targets during the quarter immediately preceding the initiation of takeover attempts, but not for targets of friendly tender offers. Easterwood argues that *only* managers faced with hostile takeovers choose income-increasing discretionary accruals as a takeover defense. Erickson and Wang (1999) investigate the accrual choices of 55 target firms involved in stock-for-stock mergers and find that the target firms' discretionary accruals during pre-merger periods are positive but not significantly different from zero.

Furthermore, Eddey and Taylor (1999) show that for 43 Australian Stock Exchange target firms, there is no systematic evidence of income-increasing earnings management during the takeover. The mixed findings of prior research suggest that not all target firms may have incentives to manage earnings upward.[4]

One obstacle to opportunistic earnings management by targets is that they are subject to acquirers' scrutiny during due diligence. Managers of acquiring firms have strong incentives to ensure that the target firms' financial statements are free of material financial reporting management. Acquiring firms' managers and boards of directors are subject to shareholder litigation if they do not perform their fiduciary duties on behalf of acquiring firms' shareholders.[5] In the takeover market, it is typical that acquiring firms hire an investment banker and other advisers to evaluate the potential targets' financial statements before sending letters of intent. The cost of detection of any earnings management or fraud during due diligence could be significant to the target firms because they could lose their credibility in the market for corporate control, resulting in a lower takeover price or even broken merger talks.[6]

In the setting I have chosen, the cost of such detection is likely to be prohibitively high. Soliciting targets deem the sale of the whole company as an effective way to address depressed firm value or financing constraints that they face (more details to

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[4] There is also mixed evidence in studies focusing on a single industry. For example, Chamberlain (1991) finds "no anticipatory earnings management prior to the merger" in 192 bank mergers, whereas Bettinghaus (2001) documents negative unexpected loan loss provision for 641 bank/year observations in a period surrounding the merger.

[5] On April 15, 1998, Cendant Corp., which was created by the merger of CUC International Inc. and HFS Inc. in December 1997, restated its 1997 earnings downward by more than $100 million due to improper and fraudulent accounting in the former CUC business. Investors who purchased Cendant common stocks filed lawsuits against Cendant officers and directors, including former CEOs, Chairmen, CFOs and directors of CUC and HFSI. The defendants reached a settlement of $2.8 billion with the class action plaintiffs on December 7, 1999.

[6] Tyson Foods broke its merger talks with IBP once Tyson Foods learned of the accounting problems at IBP. In addition, Tyson Foods sued IBP for economic damages caused by the termination of the merger agreement. As a result, IBP's stock price fell sharply (Dow Jones Newswires, March 29, 2001).

follow in Chapter 3). To the extent that the takeover market readily sees through the aggressive accounting techniques, and that the detection of opportunistic earnings management will adversely impact the takeover negotiations, soliciting targets have little incentive to overstate earnings even though they have sufficient time to do so. Instead, the soliciting targets are likely to take discretionary earnings charges prior to their solicitation announcements. DeAngelo et al. (1994) find that financially troubled firms exhibit large negative accruals around violation of debt covenants. They argue that managers of these firms make negative accrual choices to signal to the lenders that they are willing to acknowledge and deal with their firms' problems. Likewise, to increase the confidence of interested bidders, the soliciting targets have an incentive to take discretionary write-offs to signal to the takeover market that they are credible and worthy targets.

Anecdotal evidence shows that, just like preparing a house for sale, soliciting targets make efforts to "clean house" to put their financial statements in the best light. A senior vice president of Geostar Corp, for example, announced the intent to "clean themselves up and search for a new corporate partner" (the Washington Post, February 28, 1991). European American Bancorp wrote off hundreds of millions of bad loans and added $110.1 million to its loan loss reserve before it began searching for buyers (Crains New York Business, April 13, 1987). Similarly, Beneficial Corp decided to add reserves for potential liabilities in preparation for selling the company (Wall Street Journal, September 2, 1986). Apparently the managers of these companies believed that adopting conservative accounting practices would make them more favorable acquisition targets. Furthermore, accounting practitioners recommend that soliciting targets proactively clean

up their financial statements before putting them on the block to mitigate unnecessary frictions during takeover negotiations (Alexander, 2001).

In light of the above reasoning and anecdotal evidence, my first hypothesis is as follows:

> HYPOTHESIS 1. Compared to unsolicited targets, soliciting targets report more negative (less positive) discretionary accruals before takeover.

In this study I use unsolicited targets as a benchmark against which to compare soliciting targets' accrual choices. When compared to the soliciting targets, the unsolicited targets are more likely to receive the takeover offers as a surprise. This control group serves to reduce the likelihood that the accrual choices of soliciting targets are attributable to incentives unrelated to the takeover.

2.2. Income smoothing behavior of soliciting targets

This dissertation also investigates the soliciting target managers' income smoothing behavior. Prior literature argues that managers make accounting choices to reduce fluctuations in reported earnings around some target level (Ronen and Sadan, 1981). Specifically, managers manage discretionary accruals or a particular component of earnings to bring the reported earnings closer to the earnings target. Therefore, an inverse relation between the smoothing component of earnings and the pre-managed earnings is interpreted as evidence of income smoothing.

This inverse relation has been found in studies that use discretionary accruals as a proxy for the smoothing component. For example, Gaver et al. (1995), based on a sample of 837 firm-year observations between 1980-1990, show that managers manage

earnings upward when pre-managed earnings fall below the lower bound of the bonus, and vice versa. In addition, DeFond and Park (1997) predict and find consistent results that income-increasing (-decreasing) discretionary accruals are associated with firms that have relatively poor (good) current performance and relatively good (poor) expected future performance. They argue that managers smooth earnings to reduce the risk of job dismissal. Other studies document evidence of earnings smoothing via a particular component of income, including provision for bad debts (McNichols and Wilson, 1988), income from debt equity swaps (Hand, 1989), write-offs (Francis et al., 1996), special items (Kinney and Trezevant, 1997), R&D (Perry and Grinaker, 1994; Bushee, 1998), restructuring charges (Moehrle, 2002), income from LIFO liquidation (Dhaliwal et al., 1994; Kinney and Wempe, 2004), value of employee stock options (Matsunaga, 1995), gain/loss from asset sales (Bartov, 1993; Schrand and Walther, 2000), and realized gain/loss on investment securities (Moyer, 1990; Scholes, et al., 1990; Beatty et al., 1995; Collins et al., 1995; Hunton et al., 2004).

The above studies implicitly assume that the ultimate objective of income smoothing is for the managers to maximize their own welfare in the long run. The current study, however, provides a setting in which target managers' incentives associated with their firms' long-term performance are not as strong as those of managers in general. As an empirical matter, most senior managers of soliciting targets leave around the sale of the company,[7] and usually they receive a lump sum payment when terminating their employment. Thus, long-term compensation and/or job security provide lower incentives, and consequently, maintaining reported earnings around some pre-

[7] I randomly collected management turnover data for 53 soliciting targets and found CEOs of 32 (60%) firms resigned or retired around the solicitation announcement.

determined level are less of a concern to the managers of soliciting targets. In contrast, given that the managers of unsolicited targets are unlikely to foresee the takeover bids, their incentives for income smoothing should not be different from managers of non-target firms. This discussion leads to my second hypothesis:

> HYPOTHESIS 2. Ceteris paribus, soliciting targets become less prone to income smoothing than unsolicited targets as approaching the solicitation announcement.

That is, I predict a significantly negative association between discretionary accruals and pre-managed earnings in unsolicited targets but a weaker negative association in soliciting targets prior to takeover, because the managers of soliciting targets do not expect to reap much benefit from income smoothing.[8] Instead, they could take conservative measures, such as a balance sheet cleanup, to ease the takeover process.

One could argue that the managers of soliciting targets do not act in the best interest of target firms' shareholders (e.g., to encourage and facilitate takeover) if they desire to retain control over their companies. However, "golden parachutes"[9] reduce the likelihood that these managers will take measures to fervently resist takeover offers. A recent news article in the *New York Times* comments that top managers welcome mergers because they benefit from the large payouts at the completion of mergers (Morgenson, 2004). The chief executive of SouthTrust, for example, was expected to receive $59 million termination awards and an additional annual pension of about $3.8 million. Such

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[8] I do not entirely rule out the possibility of income smoothing in soliciting targets. Barnea et al. (1975), for example, suggest that smoothed earnings enhance investors' ability to predict future cash flows. If this argument holds true, the managers of soliciting targets may have incentives to smooth earnings in order to help the acquirer achieve a better estimate of their firm's fair value. However, I believe such incentive only has a second-order effect on managers' income smoothing behavior in soliciting targets, because being honest is more highly valued by the acquirer.

[9] A clause in an executive's employment contract specifying that he/she will receive large benefits in the event that the company is acquired and the executive's employment is terminated. These benefits can take the form of severance pay, a bonus, stock options, or a combination thereof.

pecuniary benefits may outweigh the benefits received by managers of target firms by continuing their careers, and thereby, motivate them to complete the takeover. For now, I hold the assumption that, in general, the managers of soliciting targets do not oppose takeover offers. However, entrenched managers may indulge their preference over non-value-maximizing behavior (via their substantial equity ownership) and deliberately inflate earnings to frustrate takeover attempts. I will discuss the impact of management ownership on managers' incentives to manage earnings in Chapter 6.

CHAPTER 3: SAMPLE AND DESCRIPTIVE STATISTICS

3.1. Sample selection and description

In order to identify a sample of takeover targets who solicit takeover offers, I searched the SDC database for public U.S. targets whose deal status is "Seeking Buyer" or whose initial reception to a deal is "Solicited".[10] The sample selection procedure is summarized in Table 1. The initial sample of soliciting targets is based on 853 announcements made between 1990 and 2003 by target firms seeking buyers. I eliminate announcements made by firms without relevant Compustat financial data (191), without relevant CRSP stock return data (10), and those who are banks and financial institutions (137, SIC code 6000-6700). I delete banks and financial institutions because existing models of discretionary accruals are not applicable for these firms, and financial institutions' ability to manage earnings might differ from that of industrial firms due to greater regulation. To ensure that the soliciting targets were public firms when they sought buyers, I eliminate the announcements made by firms prior to their listing in a stock exchange (3) or after their delisting (188) from a stock exchange. For firms making two or more solicitation announcements during 1990-2003, I focus on the initial announcement and eliminate 16 subsequent announcements.[11] For the remaining 308 soliciting targets, I reviewed news articles on *Factiva News Service* for their initial announcement seeking buyers. A further 32 observations are deleted reflecting cases

[10] A SDC support person confirmed that SDC codes all firms publicly announcing plans to seek out buyers as "seeking buyer". If the firm receives one or more bids following the announcement, SDC re-codes the firm as "solicited" targets and updates its deal status as "Completed", "Withdrawn" or "Pending".
[11] 12 targets made two public announcements and 2 targets made three.

where the deal is a rumor (8), the deal involves only a partial sale of the company (10), or the targets operate under the protection of Chapter 11 (14).[12]

This study focuses on a sample of firms who put themselves on the block. Therefore, for inclusion in the final sample, the solicitation announcements must be made by the board of directors or the firm management. However, the SDC also codes negotiations initiated by other parties as "Seeking Buyer". To remove this noise, I searched *Factiva* and eliminated cases where the sale negotiation was initiated by major stakeholder(s) (25) or where the objective of the sale was to seek a "white knight" (11).[13, 14] After removing these observations, the final sample consists of 240 soliciting targets.

Table 2 lists the reasons disclosed in the news articles for the solicitations. It indicates that the most frequently cited motivation to sell is to enhance firm value; a large portion of the soliciting targets claimed that the purpose of the sale is to maximize stockholders' value (69 firms) or to cash out (8 firms), or believed that they were undervalued by the market (15 firms). Persistent operating or financing difficulties seem to encourage firms to seek buyers. Twenty-two soliciting targets wanted to go out of business because they were disappointed by their performance. In 24 cases firms were selling the whole company because they were experiencing severe financing problems, and an additional 13 firms needed a buyer to provide additional capital input. An additional reason for solicitation was to enhance the targets' business opportunities. Thirteen soliciting targets sought a merger partner in response to the trend of

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[12] I suspect that firms operating under the Chapter 11 have different incentives (due to different monitoring environment) when making accrual accounting choices. Therefore, including these targets would add noise to my analyses.

[13] For example, Plains Petroleum Co. authorized its financial adviser to study strategic alternatives, including a sale of the company, to fend off an unwanted merger proposal initiated by Cross Timbers Oil ("Plains Pete Authorizes Advisers To Seek Alternatives", *Dow Jones New Service*, October 20, 1994).

[14] For 18 firms, I cannot find news articles related to their solicitation announcements. However, deleting these firms does not affect my conclusion.

consolidation in their industries. Apparently these firms believed that forming a larger company through merger would improve their competitiveness. Moreover, 12 firms looked for an acquirer to support strategic growth. Finally, for 29 firms no reason was cited in their news releases, while a further 15 firms claimed that they have identified potentially interested buyers.

Table 2 also reports the average cumulative abnormal returns (CAR) over a 3-day window surrounding the initial solicitation announcement. I obtain stock return data from CRSP. Daily returns for 210 days (covering period from day –255 through day –46) are used to estimate market model parameters for each soliciting target's CAR. I require a minimum of 60 daily returns. On average, soliciting targets earn a significant 8.02% abnormal return (t statistic = 5.68) for the announcement period [-1, +1]. A closer inspection of their CAR by categories reveals that only financially distressed firms suffer from a significantly negative return of 17.44%. Firms in all other categories earn positive abnormal returns, suggesting that the solicitation announcement, like other takeover announcements, conveys good news about targets.

To obtain a sample of unsolicited targets, I searched the SDC for takeover targets, where the takeovers were coded as either "Hostile" or "Unsolicited". The sample selection procedure is similar to that of soliciting targets (see Table 1). I obtain 528 hostile or unsolicited takeover offers received by public U.S. targets between 1990 and 2003. To be included in the control sample, the surprised targets must have relevant Compustat and CRSP data, must not be a financial institution, and must be a public firm

when receiving the bid. I further eliminate multiple bids, bankrupt firms and rumor deals. This screening procedure yields 277 unsolicited targets.[15]

I define the initial takeover announcement day (day 0) as the date when the first public announcement of the acquisition intent is made by either the target or the bidder (for soliciting targets, it is the date when they publicly announce to seek buyers; for unsolicited targets, it is the date when the bidders first publicly announce their takeover intent). This date is obtained from the SDC and verified by reviewing news articles from *Factiva*. The distribution of initial announcements by soliciting and unsolicited targets over calendar years is summarized in Table 3 panel A. I compare the calendar year distributions of the initial announcement in both the initial sample (853 soliciting targets and 528 unsolicited targets) and the final sample (240 soliciting targets and 277 unsolicited targets) to examine if my screening rules result in any calendar time selection bias. However, neither soliciting targets nor unsolicited targets show heavy clustering in a specific year. In addition, a similar pattern emerges in the final sample, indicating that the sample truncation does not materially alter the calendar year distribution of the initial takeover announcement.

I also examine the 2-digit SIC industry classification of soliciting and unsolicited targets and find that both groups of target firms appear to cluster in high tech industries. Table 3 Panel B shows that the most prevalent 2-digit SIC codes in my sample are chemical and allied products (SIC code 28), computer equipment (SIC code 35), electrical equipment (SIC code 36), measuring instruments, photography and watches

[15] I do not apply other screening criteria to unsolicited targets given that the target firms are unaware of the takeover offers until the bidders announce their merger and acquisition plans. It is unlikely that the offers involve a liquidation, spin-off or MBO. Moreover, by definition unsolicited takeover offers are always initiated by the bidder, not by the target firm or any third parties (e.g., shareholders).

(SIC code 38), and business services (SIC code 73). Moreover, I find that soliciting targets show significantly more clustering than unsolicited targets in industries with SIC codes 13, 27, 48, 57 and 78, whereas unsolicited targets are more clustered in industries with SIC codes 20, 33, 37 and 73. To control for potential industry effects, I subtract the 2-digit SIC industry medians from each observation for each variable and focus on the industry-adjusted variables in all my analyses.

3.2. Descriptive statistics

Table 4 presents descriptive statistics on soliciting and unsolicited targets in the year prior to the initial takeover announcement. I compare the two sets of targets on the following dimensions: firm performance, total accruals, size, financial leverage, growth opportunities, age, management ownership and institutional holdings. I focus on these variables because they likely have an impact on a firm's discretionary accrual choices (Warfield et al., 1995; Becker et al., 1998; Rajgopal et al., 1999; Beneish, 1999; Rajgopal et al., 1999; McNichols, 2000). All accounting data are obtained from Compustat and data on stock returns from CRSP. Except for management and institutional ownership, all variables are 2-digit SIC industry adjusted.[16] The number of observations for each variable varies with the data availability.

Table 4 panel A shows that unsolicited targets are substantially larger than soliciting targets in terms of market value of equity (MVE). The mean market value of equity for unsolicited targets is more than six times as large as that of soliciting targets. This result is consistent with soliciting targets' desire to increase their firm size through a

[16] I also carried out an analysis using unadjusted data. The inferences are virtually identical to those based on the industry-adjusted data.

merger to improve their competitiveness. However, LEVERAGE, measured as long-term debt over the sum of market value of equity and long-term debt, is not statistically different across the two groups. This suggests that financial leverage is not a major determinant of target firms' decision to solicit buyers.

I compare soliciting and unsolicited targets using three performance measures: accounting earnings (EARNINGS), measured as net income before extraordinary items, operating cash flows (CASHFLOW), and market-adjusted buy-and-hold abnormal returns (BHAR). Both earnings and operating cash flows are scaled by total assets at the beginning of the year. It appears that soliciting targets are less profitable than unsolicited targets. The mean (median) earnings are –16.6% (-1.8%) of total assets for soliciting targets compared to –2% (0.2%) for unsolicited targets. The t and Wilcoxon signed ranked tests indicate that the differences are statistically significant. The tests on mean and median CASHFLOW indicate that cash flow from operations tends to be lower for soliciting targets than unsolicited targets. Moreover, although the mean buy-and-hold abnormal return earned by soliciting targets during the year prior to the initial takeover announcement is not distinguishable from that earned by unsolicited targets ($p = 0.17$), the median value is significantly lower for soliciting targets ($p = 0.00$). Overall, these results suggest that soliciting targets underperform unsolicited targets preceding their solicitation announcement.[17]

Prior literature predicts that managers of poorly-performing firms have incentives to overstate earnings through their accrual accounting choices. Nevertheless, I find that

[17] I also compare the performance of soliciting targets to that of unsolicited targets over years –4 to –2. The untabulated results indicate that in year –2 soliciting targets significantly underperform unsolicited targets in terms of earnings and market-adjusted abnormal returns. However, for years –4 and –3, none of the performance measures is statistically different across the two groups.

soliciting targets have significantly lower mean (median) total accruals than unsolicited targets at the two-tailed level of 0.05.[18] There are two interpretations of this result. The first is that managers of soliciting targets make economic choices in response to deteriorating performance; that is, the negative total accruals of soliciting targets are a manifestation of poor performance. The second is that the managers of soliciting targets deliberately make income-decreasing accounting choices to signal that their firms are credible targets. I further explore the accrual choices of soliciting targets in Chapter 5.

Soliciting targets have significantly lower book-to-market ratio (BTM) and larger Tobin's Q (TOBIN'S Q), a measure of investment opportunities that is widely accepted in the financial economics literature,[19] indicating that soliciting targets have more growth potential than unsolicited targets. Furthermore, I compare the age of soliciting and unsolicited targets, where age is defined to be the time lag (in months) from the firm's earliest listing date (BEGDAT in the CRSP Daily Header file) to its initial announcement day. The industry-adjusted mean (median) age of soliciting targets is 1.2 (-23.5) months, while it is 42.1 (-13.3) for unsolicited targets.[20] The difference is significant at the two-tailed 0.05 level, indicating that soliciting targets are relatively younger than unsolicited targets. Recall that the soliciting targets indicated that financial distress, capital needs and greater risk of failure were important reasons for seeking acquirers. The high concentration of younger firms that solicit takeover offers is consistent with the argument

[18] Total accrual is defined as the change in working capital plus the change in short-term debt minus sum of the change in cash and depreciation.
[19] Following Song and Walkling's (2000, p. 163) approach, Tobin's Q is calculated as:
Tobin's Q = (Market Value of Common Stock + Book Value of Preferred Stock + Book Value of Value of Long-term Debt + Current Liabilities – Current Assets)/Book value of Total Assets.
[20] The age of 2-digit industry firms equals the time lag (in months) from the earliest listing date to the initial announcement day of corresponding target firms.

made in prior research that the financial positions and capital needs of younger firms create pressure on their managers to maintain earnings growth (Beneish, 1999).

I jointly test the differences across soliciting and unsolicited targets in a multivariate setting. The probit regression results presented in Table 4 Panel B indicate that only coefficients on firm size and book-to-market ratio remain significant and in the same direction as the univariate test results. Contrary to the univariate test, when other variables are controlled, I find a positive coefficient on EARNINGS but it is not significant at conventional levels ($p = 0.16$), implying that the accounting profitability is indistinguishable between soliciting and unsolicited targets. Overall, the evidence suggests that soliciting targets tend to be smaller firms with higher growth potential compared to unsolicited targets.

In Panel C of Table 4 I compare the ownership structure between soliciting and unsolicited targets. Management ownership, MGTOWN is the percentage of shares held by officers and directors as a group.[21] This measure is collected from10-K filings and proxy statements. However, I am unable to identify management ownership information from 10-K or proxy statements for 77 (32%) soliciting targets and 42 (15%) unsolicited targets. I find that the average (median) management of soliciting targets owns 28.1% (21.8%) of their firms' stock, compared to 16.0% (10.4%) management holdings in unsolicited targets. The difference is statistically significant at the 0.01 level, suggesting greater management control in soliciting targets. INSTOWN measures the percentage of shares held by money managers. Institutional holdings data are collected from the Spectrum database, which consists of all 13-f filings between 1990 and 2003 filed by

[21] Although this measure includes holdings by both officers and directors, director holdings account for only a small portion of MGTOWN. Therefore, I expect that this measure largely reflects management's incentives rather than directors'.

institutions with greater than $100 million in equity securities. I lose 25 observations (10%) for soliciting targets and 23 (8%) for unsolicited targets due to missing data on institutional ownership from Spectrum. Panel C of Table 4 shows that the difference in institutional ownership across soliciting and unsolicited targets is not significant at the 0.05 level.

CHAPTER 4: MEASURING DISCRETIONARY ACCRUALS

This dissertation considers two measures of discretionary accruals. The first measure is based on the modified version of the accruals expectation model proposed by Jones (1991). For each year and each two-digit SIC industry, I estimate discretionary accruals from the following model (the corresponding Compustat data items in parentheses):[22]

$$\frac{ACCRUALS_{ijt}}{ASSET_{ijt-1}} = \beta_{0jt} + \beta_{1jt}\frac{1}{ASSET_{ijt-1}} + \beta_{2jt}\frac{PPE_{ijt}}{ASSET_{ijt-1}} + \beta_{3jt}\frac{\Delta ADJREV_{ijt}}{ASSET_{ijt-1}} + \varepsilon_{ijt}$$

where:

i = firm index.

j = two-digit SIC industry index.

t = year (and quarter) index.

$ACCRUALS_{ijt}$ = total accruals calculated as ΔCA (annual #4, quarterly #40) - ΔCL (annual #5, quarterly #49) - ΔCash (annual #1, quarterly #36) + ΔSTD (annual #34, quarterly #45) – Depreciation (annual #14, quarterly #5).

$ASSET_{ijt-1}$ = total assets (annual #6, quarterly #44).

PPE_{ijt} = gross property, plant and equipment (annual #8, quarterly #42).

$\Delta ADJREV_{ijt}$ = change in cash-based revenues equals change in sales (annual #12, quarterly #2) minus change in receivables (annual #2, quarterly #37)

ε_{ijt} = error term.

[22] Consistent with Kothari et al. (2004), I include a constant β_{0jt} in the estimation model. Dropping this constant makes my discretionary accrual estimates even more negative.

Following Jones (1991), the discretionary accruals (DA) are defined as the error term from the above regression.

The second measure of discretionary accruals is the performance-adjusted discretionary accruals proposed by Kothari et al. (2004). Kothari et al. show that the existing accrual expectation models are biased toward detecting earnings management when managerial incentives are associated with performance. This is particularly true for takeover targets because targets generally perform poorly before takeovers (DeAngelo, 1988; Christie and Zimmerman, 1994). To adjust the discretionary accruals for firm performance, I construct ten portfolios for each industry and fiscal year (fiscal quarter) by sorting data into deciles based on lagged return on assets, ROA, which is calculated as earnings before extraordinary items over total assets at the beginning of the year (quarter). The performance-adjusted discretionary accruals for a given firm are the discretionary accruals from the modified Jones model minus the median discretionary accruals of its corresponding performance-matched portfolio (excluding the sample firm).

CHAPTER 5: ANALYSIS RESULTS

5.1. Accrual analysis

I hypothesize that soliciting targets "clean up" their balance sheets before seeking buyers in attempt to encourage and/or facilitate acquirers to bid for their companies. To test this hypothesis, I examine the discretionary accruals of soliciting targets prior to the initial solicitation announcement. An inherent limitation is that it is difficult to precisely pinpoint the time when such earnings management will begin to occur. Defining year 0 as the year when either the soliciting targets make the initial announcement to seek buyers or the bidders of unsolicited targets make the initial announcement of takeover intent, I examine the time-series of discretionary accruals from year 0 back to year –4. I believe this time-series is sufficient to capture the effect of any takeover-motivated attempts to clean up balance sheets.[23]

Table 5 panel A reports mean and median discretionary accruals for soliciting and unsolicited targets along with the significance levels for tests of differences across the two groups.[24] An analysis on the quarterly discretionary accruals over quarters [-4, 0] relative to the initial announcement quarter (Qtr 0) is also provided. I find that neither soliciting targets nor unsolicited targets manage earnings upward via their accrual choices in any year prior to and in the year of the initial takeover announcement. This finding is inconsistent with the argument that target firms inflate reported earnings via accrual choices to increase takeover price. For unsolicited targets, the insignificant result could

[23] DeAngelo et al. (1994) point out that a shortcoming of this approach is that it may fail to detect earnings management because different subsets of firms manage income in different years.

[24] Not all firms have data in each of the five years because of newly entering firms, exiting firms, and firms with missing data from the Compustat. Limiting my sample to firms with complete reporting history of five years would greatly reduce my sample size and result in a survivorship bias.

be due to the fact that these firms do not have sufficient time to manage earnings upward before the initial takeover announcement. For soliciting targets, the result suggests that it is prohibitively costly for these firms to use positive discretionary accruals to opportunistically manage earnings prior to solicitation. Apparently soliciting targets do not want to risk losing takeover offers at a critical time.

Consistent with my first hypothesis, the mean and median discretionary accruals are significantly negative for soliciting targets in year –1. The mean (median) discretionary accruals account for –1.35% (–0.80%) of their total assets. A comparison to unsolicited targets reveals that soliciting targets have significantly more negative discretionary accruals. Given that the discretionary accruals of soliciting targets are not significantly different from zero in year –4 though year –2, the negative discretionary accruals in year –1 is likely to be conditional on their solicitation decision instead of a manifestation of their poor performance.[25] Moreover, the negative discretionary accruals of soliciting targets do not reverse in the following year. Overall, these findings imply that soliciting targets take discretionary accounting charges to credibly signal to potential bidders their desire to consummate a sale.[26]

The analysis of quarterly data shows that soliciting targets have negative discretionary accruals in quarters –4, –2 and –1. Thus, soliciting targets proactively clean up their balance sheets (at least) four quarters prior to their initial announcement to

[25] This pattern of discretionary accruals also suggests that soliciting targets time their solicitation announcement.

[26] I also examine specific accruals including change in sales revenue, account receivables, inventory, payables, short-term debt, net property, plant and equipment, and special items in year –1. However, a comparison between soliciting and unsolicited targets provides no evidence that soliciting targets have used any of these specific accruals to manage earnings downward. It might be the case that different soliciting targets make varying specific accrual choices to achieve balance sheet cleanup.

publicly solicit takeover offers. To simplify my following analyses, I focus on annual discretionary accruals in year –1.

Although I lose a few observations each year due to performance matching, the analysis on performance-matched discretionary accruals reported in Table 5 panel B presents a similar picture. This suggests that the results in Panel A are not due to any performance differences between soliciting and unsolicited targets. Given that the correlation coefficient between the annual discretionary accruals and performance-matched discretionary accruals in my sample is 0.95, I focus on the discretionary accruals estimated from the modified Jones model in the following analyses. However, using performance-matched discretionary accruals in these tests generate similar results.

As a supplemental test, I investigate if soliciting targets are less likely to have anti-takeover devices than unsolicited targets. Malatesta and Walkling (1988) suggest that a poison pill is an important measure employed by managers to fend off takeover attempts. Using data from the SDC, I compare three types of poison pill defense: back-end plans, flip-over plans and voting plans.[27] I find that none of the soliciting targets had any poison pill defenses in place, while 35 (12.6%) unsolicited targets had at least one of the three poison pill defenses. The difference in the proportions is statistically significant (t statistics = 6.32, $p < 0.001$), which lends support to my assumption that soliciting targets do not actively oppose takeover offers. Instead, they take measures (such as balance sheet cleanup) to invite interested buyers.

5.2. Income smoothing analysis

[27] Malatesta and Walkling (1988) discuss four principle types of poison pill defenses. However, data on the fourth type, preferred stock plans, are not available from the SDC. The definitions of the poison pill defenses can be found in Malatesta and Walkling (1988, p. 351-355).

This chapter examines if the managers of soliciting targets have a lower propensity to smooth earnings than the managers of unsolicited targets. To identify managers' income smoothing behavior, I follow the approach of Gaver et al. (1995) and DeFond and Park (1997), which defines current pre-managed earnings as current period earnings minus discretionary accruals. Using a pooled cross-sectional analysis, both studies find that, when the current pre-managed performance is relatively poor (good), the managers have incentive to increase (decrease) earnings through positive (negative) discretionary accruals in order to maintain a bonus or to reduce the risk of job dismissal. Therefore, a negative association between the pre-managed earnings and discretionary accruals is consistent with managers' income smoothing behavior.

To test if income smoothing is less prevalent in soliciting targets, I estimate the following model for each year from year –4 to 0:

$$DA_t = \beta_0 + \beta_1 PREMGT_t + \beta_2 SOLICIT_t + \beta_3 PREMGT_t * SOLICIT_t + \beta_4 HIGHQ_t + \beta_5 HIGHQ_t * PREMGT_t + \beta_6 SIZE_t + \beta_7 LEVERAGE_t + \varepsilon_t$$

where:

PREMGT = Current earnings before extraordinary items divided by lagged total assets (subtracting 2-digit industry median) minus discretionary accruals.

SOLICIT = 1 if soliciting targets and 0 if unsolicited targets.

HIGHQ = 1 if industry-adjusted Tobin's Q is larger than 1, 0 otherwise.

SIZE = Industry-adjusted natural logarithm of total assets.

LEVERAGE = Long-term debt/(Market value of equity + Long-term debt), subtracting 2-digit industry median.

The coefficient on PREMGT is a measure of income smoothing by unsolicited targets.[28] Consistent with prior literature, I predict this coefficient to be negative because the managers of unsolicited targets, by definition, should not behave differently from the managers of non-target firms. The interaction PREMGT*SOLICIT measures the differential income smoothing effects between soliciting and unsolicited targets. A positive coefficient on the interaction would be consistent with less income smoothing by the managers of soliciting targets. Moreover, the coefficient on the interaction, combined with the coefficient on PREMGT, captures the income smoothing behavior by soliciting targets. According to my second hypothesis, I expect this combined coefficient to become less negative as soliciting targets approach their solicitation announcement.

Three control variables are included in the regression. Firm size (SIZE) and financial leverage (LEVERAGE) are included because they have been found to be associated with firms' discretionary accruals (Becker et al., 1997; DeFond and Park, 1997). McNichols (2000) finds that long-term earnings growth is important in explaining earnings management behavior, so I add a variable HIGHQ to proxy for a firm's long-term earnings growth. Specifically, I define a firm to be HIGHQ firm if its (industry-adjusted) Tobin's Q ratio is more than 1. In addition, the managers' incentive to smooth earnings in the current period may be dampened in high growth firms. For example, if the stock market imposes substantial costs on high growth firms when they decelerate, these firms will adopt accounting techniques to maintain the high growth rate rather than

[28] This research design implicitly assumes 2-digit industry median earnings to be the earnings target of sample firms. I also tested if soliciting targets have weaker incentives to smooth earnings when pre-managed earnings deviate from analysts' predictions compared to unsolicited targets. Although I lose more than 50% of the observations due to lack of analyst forecasts on I/B/E/S, the results are qualitatively similar to those reported in Table 6.

smooth earnings.[29] Therefore, to control for the possibility that high growth firms are less likely to smooth earnings, I add an interaction PREMGT*HIGHQ in the regression.[30]

To analyze the differential trend in the income smoothing behavior of soliciting and unsolicited targets over time, I estimate the regression model for each year from year –4 to 0. Strictly speaking, the negative correlation between discretionary accruals and pre-managed earnings in the annual cross-sectional regression does not necessarily demonstrate a smoothed time-series trend in the reported earnings of sample firms. Instead, it indicates that managers select income-increasing (-decreasing) discretionary accruals when pre-managed earnings are exceptionally poor (good) in that year. However, consistent negative correlations between discretionary accruals and pre-managed earnings across years would indicate that managers make accrual choices to achieve income-smoothing objectives. In a similar vein, a less negative correlation over time would be supportive of managers' declining incentives to smooth earnings.

The regression results are reported in Table 6 Panel A. The intercept, which measures the discretionary accruals of unsolicited targets when PREMGT=0, is insignificant across all years except in year 0. Recall that PREMGT equals targets firms' current pre-managed earnings minus 2-digit SIC industry median. The insignificant result suggests that when unsolicited targets have the same level of pre-managed earnings as their industry peers, their discretionary accruals are not different from zero. However, the significantly negative intercept in year 0 suggests that the surviving unsolicited

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[29] Fridson (1991, p. 7-8) states: "almost invariably, companies try to dispel the impression that their growth is decelerating, since that perception can be so costly to them."

[30] DeFond and Park (1997) predict and find that managers consider both current performance and expected future performance when making accrual accounting choices. In addition, the inverse relation between discretionary accruals and current pre-managed earnings is conditional on the expected future performance. Tobin's Q measures a firm's market power from existing assets and future investment opportunities. Due to its forward-looking nature, Tobin's Q could be considered a proxy for future firm performance.

targets may also pursue income-decreasing accounting practices to hasten the takeover process.[31] The coefficient on SOLICIT measures the difference in discretionary accruals between soliciting and unsolicited targets when PREMGT=0. Consistent with the univariate result in Table 5, the coefficient on SOLICIT is significantly negative in year –1, indicating that the soliciting targets report more negative discretionary accruals than the unsolicited targets. Nevertheless, this coefficient is not different from 0 in all other years. The sum of the coefficient on SOLICIT and the intercept reflects the discretionary accrual choices of soliciting targets when other variables are controlled for. It is negative in all years but significant only in year –1 (-0.022, p value=0.002). Thus, the univariate test results reported in Table 5 continue to hold in the multivariate setting.

The coefficient on PREMGT is significantly negative across all years, with its magnitude ranging from –0.40 to –0.26. This result indicates that the managers of unsolicited targets use discretionary accrual choices to smooth reported earnings. However, the significantly positive coefficient on PREMGT*SOLICIT in year –1 and 0 reflects the weaker incentives of the managers of soliciting targets to smooth earnings around their solicitation decision. To help explain the weakening smoothing behavior of soliciting targets from year –4 to year 0, I add the coefficient on PREMGT to the coefficient on PREMGT*SOLICIT to measure the overall income smoothing effect for soliciting targets. I report the sum separately in Panel A. It demonstrates that the magnitude of smoothing by soliciting targets drops sharply from a statistically significant 0.477 in year –4 to an insignificant 0.030 in the year of the solicitation announcement, compared to a slight drop from 0.395 to 0.263 for unsolicited targets. I further test the

[31] The 174 surviving unsolicited targets have insignificant mean (median) discretionary accruals –0.06% (0.05%) in year –1 with a two-tailed p value equaling 0.93 (0.83). Therefore, these firms do not proactively clean up their balance sheets before the unsolicited takeover announcement.

change in the coefficient on PREMGT + PREMGT*SOLICIT across years and present the results in the last row of Panel A. Except in year –2, the increase in the income smoothing effect of soliciting targets is statistically significant in all years. This result supports my second hypothesis that the managers of soliciting targets have lower incentive to smooth earnings due to the desire to find an acquirer.

The significantly positive coefficient on PREMGT*HIGHQ indicates that high growth firms report more positive discretionary accruals to increase earnings given income smoothing is not their priority. Consistent with my conjecture, firms with more growth opportunities opt for higher earnings growth rate rather than a smoother income series. However, during year 0, high growth firms do not behave differently from other firms in terms of both discretionary accrual choices and earnings smoothing. This result should be interpreted with caution because it is based on a group of surviving target firms. SIZE and LEVERAGE do not have explanatory power in all years except year 0, indicating that firm size and debt capacity are not major predictors of the levels of discretionary accruals in my sample.

In this study, I calculate the pre-managed earnings by backing out the discretionary accrual component from the reported earnings and interpret its negative relation to discretionary accruals as evidence of earnings management. Both Gaver et al. (1995) and DeFond and Park (1997) caution that backing out discretionary accruals is likely to create a spuriously negative correlation between pre-managed earnings and discretionary accruals due to the measurement error in estimating discretionary accruals. Elgers et al. (2003) and Lim and Lustgarten (2002) demonstrate that the estimation error in discretionary accruals biases the correlation between pre-managed earnings and

discretionary accruals toward accepting the anticipatory income smoothing hypothesis, even in the absence of any earnings management. Recall that I estimate annual regression models from year –4 through 0. One possibility is that the bias in the correlation between pre-managed earnings and discretionary accruals due to the measurement error in discretionary accruals is of similar magnitude across time and target type. If that is the case, then my finding that soliciting targets have significantly less negative correlation between discretionary accruals and pre-managed earnings than unsolicited targets in year –1 and 0 compared to other years is consistent with the managers of soliciting targets becoming less inclined to smooth earnings. For the bias caused by measurement error to explain my results, it must systematically increase from year –4 to year 0 for soliciting targets, but remain at about the same level for the unsolicited targets. However, I am not aware of any reason why the bias should display such a pattern across time and target type.[32] To further address the concern over the measurement error in discretionary accruals, I use operating cash flows as an alternative measure of pre-managed earnings in the regression model. Specifically, to avoid any mechanical correlation between total accrual measures obtained from the balance sheet approach and operating cash flows measured as earnings minus total accruals, I obtain operating cash flows directly from the statement of cash flows (Compustat data item

[32] Lim and Lustgarten (2002) analytically show that the magnitude of the bias increases with the variance of income smoothing component (discretionary accruals in the current setting) and decreases with the variance of smoothing error (the deviation of reported earnings from earnings target; assuming the median industry ROA to be the smoothing target, smoothing error equals EARNINGS in the current setting). However, I find no trend in the variance of DA and EARNINGS of soliciting and unsolicited targets from year –4 to 0, so the inter-temporal changes in these variances do not seem to spuriously contribute to the less negative correlation between discretionary accruals and pre-managed earnings in my soliciting target sample.

308).[33] The regression results using operating cash flows reported in Table 6 Panel B are qualitatively similar to those reported in Panel A. Overall, I believe that my income smoothing analysis results are not very susceptible to the limitations of the backing-out technique (see Appendix for additional discussions on the backing out method).

[33] I acknowledge that operating cash flows and total accruals are negatively related for various economic reasons (Dechow et al. 1998). To the extent the discretionary accrual model is not well specified, any negative correlation between operating cash flows and discretionary accruals might be a reflection of the economic forces faced by the firms and may not be a reflection of income smoothing. However, my focus is not on the level of negative correlation between operating cash flows and discretionary accruals, but how this negative relation changes over time as well as how the negative relation is different in soliciting targets versus unsolicited targets.

CHAPTER 6: OWNERSHIP STRUCTURE

Differential equity ownership structure can have an important influence on the accounting accrual choices made by managers. In this chapter I examine the possible effects of management ownership and institutional ownership on discretionary accruals in soliciting and unsolicited targets.

The separation of ownership and control that characterizes the corporate form creates potential conflicts between managers and investors (Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983). Increased management ownership aligns the interests of shareholders and managers, thereby encouraging managers to adopt value-maximizing strategies because they bear a higher fraction of the cost of poor decisions (Jensen and Meckling, 1976). This favorable effect of managerial ownership is called convergence-of-interest. On the other hand, increased management ownership insulates managers from internal and external monitoring efforts through their voting power (Denis et al., 1997). Such managers may pursue private benefits (including shirking and perquisite-taking) at the expense of outside shareholders. This unfavorable ownership effect is called managerial entrenchment. As a result, Morck et al. (1988) and McConnell and Servaes (1990) argue that the relation between firm value and management ownership depends on which of the two effects dominates.

To the extent that managers use their discretion in accrual choices to obtain private benefits, the two opposing forces of management ownership implies that the relation between management ownership and managers' accrual choices is nonlinear. Prior research (e.g., Yeo el at., 2002) finds that this relation varies over different ranges

of management ownership. So I assign each soliciting target to one of three portfolios. Portfolio LOW comprises firms with management ownership lower than the 25th percentile (7.0%), while portfolio HIGH comprises firms with management ownership high than the 75th percentile (45.6%). The rest are assigned to the MIDDLE portfolio. I repeat the same procedure for unsolicited targets.

Table 7 panel A reports the mean and median discretionary accruals in year –1 for each of the three portfolios. For soliciting targets, the mean and median discretionary accruals for the LOW portfolio are not different from zero, suggesting that the managers of soliciting targets lack the incentive to expedite a sale given their immaterial equity ownership. The mean (median) discretionary accruals for the MIDDLE portfolio is -3.62% (-3.55%) relative to total assets at the beginning of the year and significant at the level of 0.01. Given that the sale of the company improves shareholder wealth, this result suggests that managers in the MIDDLE portfolio have interests aligned with shareholders so that they use income-decreasing discretionary accruals to encourage and/or facilitate the takeover. Managers in the HIGH portfolio inflate earnings by recording income-increasing discretionary accruals. The significantly positive 4.36% (1.87%) discretionary accruals are higher than those of LOW or MIDDLE portfolios. This result is consistent with managerial entrenchment; managers with substantial fraction of the firm's equity may want to extract private benefits from continuing their control over the firm. As a comparison, unsolicited targets have insignificant discretionary accruals in all three

portfolios, suggesting that the above results are contingent on the firms' solicitation decision.[34]

Institutional ownership is another key component of corporate governance. Previous studies argue that institutional investors have incentives to actively monitor and discipline management because they have greater financial interest and their larger stockholdings allow them to take corrective actions more easily (Shleifer and Vishny, 1986, 1997; Bushee, 1998; Ajinkya et al., 2003; Rajgopal et al., 1999). These studies find that high institutional ownership leads to efficient monitoring of management and less managerial opportunism.

I examine the association between institutional ownership and discretionary accruals by assigning soliciting and unsolicited targets to LOW, MIDDLE, and HIGH portfolios according to their 25th and 75th percentile of money manager holdings. Table 7 panel B shows that, for soliciting targets, discretionary accruals decrease monotonically with institutional ownership: the mean (median) discretionary accruals decrease from an insignificant 0.80% (-0.24%) in the LOW portfolio to a statistically significant –4.06% (–2.14%) in the HIGH portfolio. The difference between the LOW and HIGH portfolios is statistically significant. However, I find a similar association between institutional ownership and discretionary accruals for unsolicited targets, except that unsolicited targets start with significantly positive discretionary accruals in the LOW portfolio.[35] Therefore, my results are consistent with the findings of Rajgopal et al. (1999) suggesting

[34] I repeat this analysis by dividing each group of soliciting targets and unsolicited targets into three equal portfolios based on management ownership. The results on the LOW and MIDDLE portfolios remain the same, but the discretionary accrual in the HIGH portfolio becomes insignificant.

[35] The correlation between institutional ownership and discretionary accruals is –0.143 for soliciting targets and –0.141 for unsolicited targets. Both correlations are statistically significant but not different from each other.

that institutional investors are sophisticated investors who effectively reduce managers' incentives to manage earnings aggressively. However, this result is unlikely to result from soliciting targets' decision to seek acquirers.[36]

I further test the impact of ownership structure on the level of discretionary accruals in a multivariate setting. For management ownership, I create a variable denoted LOWMGTOWN, which equals one if the target firm belongs to the LOW or MIDDLE portfolio of management ownership and zero otherwise. Likewise, for institutional ownership I create a variable, denoted HIGHINSTOWN, which identifies the target firms in the HIGH portfolio of institutional ownership. Table 8 presents the regression results. Consistent with the univariate test results, managers with relatively low equity ownership decrease discretionary accruals in an attempt to facilitate takeover (regressions 1 and 5), and the significantly negative coefficient on SOLIC*LOWMGTOWN indicates that the inverse relation only emerges in soliciting targets (regressions 2 and 6). Institutional investors appear to compel managers to report more negative discretionary accruals (regression 3). However, the differential effect of institutional ownership on discretionary accruals between soliciting and unsolicited targets (SOLIC*HIGHINSTOWN) is not significantly different from zero (regressions 4 and 6). The above results hold after control for pre-managed earnings (PREMGT), firm size (SIZE), financial leverage (LEVERAGE) and growth opportunities (HIGHQ).[37, 38] In addition, I substitute continuous variables (i.e., MGTOWN and INSTOWN respectively) for LOWMGTOWN and HIGHINSTOWN and find that the inferences are unchanged.

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[36] I repeat this analysis by dividing each group of soliciting targets and unsolicited targets into three equal portfolios of institutional ownership. The inferences are unaffected.

[37] Because neither ownership variable is adjusted for industry effects, to be consistent, I use industry-unadjusted control variables in these regressions.

[38] Adding interactions SOLIC*PREMGT and HIGHQ*PREMGT as in Table 6 does not alter the results.

Overall, my findings suggest that management ownership plays an important role in inducing the managers of soliciting targets to clean up their balance sheets via discretionary accrual choices. Although I do not find similar results on institutional ownership, my analysis is somewhat weak in that I treat all institutional investors as a homogeneous group.[39]

[39] Bushee (1998, 2001) classifies institutional holders into three groups based on their expected time horizon: institutions with high portfolio turnover and highly diversified portfolio holdings ("transient" institutions), institutions with extremely low turnover and large average investments ("dedicated" institutions) and institutions with low turnover but diversified holdings ("quasi-indexers"). Dedicated institutions are the most likely to commit to firms' long-term value and actively monitor managers' behavior. Therefore, a more powerful test of the institutional investors' impact on managers' accrual behavior would focus on dedicated institutions.

CHAPTER 7: CONCLUDING REMARKS

Previous studies argue that target firms manage earnings upward prior to takeover in an attempt to increase the takeover price but fail to find convincing results in support of this prediction. In this dissertation I examine the accrual choices of a group of firms that publicly solicit takeover offers (soliciting targets). This research context is unique in that soliciting targets have sufficient time to make a decision on earnings management before takeover and they are likely to face substantial costs if opportunistic earnings management is detected. To control for earnings management incentives unrelated to takeover, I include a group of firms that receive unsolicited takeover bids (unsolicited targets).

My accrual analysis demonstrates that neither soliciting targets nor unsolicited targets manage earnings upward before a takeover. However, the soliciting targets make income-decreasing accrual choices in the year preceding their solicitation announcement. In addition, I find that soliciting targets are less likely to have poison pill defenses in place to hinder takeover attempts than unsolicited targets. These results are consistent with the argument that soliciting targets proactively clean up their balance sheets to credibly signal that they are worthy targets. Further investigation reveals that the pre-takeover downward earnings management is concentrated in the soliciting targets with relatively lower management ownership, suggesting that those managers have interests aligned with outside investors to enhance firm value. Thus, my findings partially explain the mixed evidence documented in prior literature on accrual behavior of target firms: while some target managers may be motivated to inflate earnings to influence the

takeover premium, target managers willing to sell their companies may make conservative accrual choices to invite takeover offers.

This dissertation also contributes to existing income smoothing literature by showing that, when approaching the solicitation decision, the managers of soliciting targets are less inclined to smooth earnings than the managers of unsolicited targets. This complements the findings of Gaver et al. (1995) and DeFond and Park (1997) that managers smooth reported earnings to maximize their bonus or to reduce the threat of job dismissal. As the long-term benefits derived from future compensation or job security become less important to the managers of soliciting targets, they do not smooth earnings as much as other managers do. Instead they make income-decreasing accounting choices to facilitate the takeover process.

Although my income smoothing analysis results appear to be robust to alternative measures of pre-managed earnings, I cannot entirely rule out the bias arising from the backing-out method as an alternative explanation for my income smoothing findings. The most convincing result I document is the differential inter-temporal smoothing behavior between soliciting and unsolicited targets. To the extent that the backing-out bias influences the measured smoothing effect similarly for soliciting and unsolicited targets, it cannot explain the declining smoothing behavior of soliciting targets as they approach their solicitation decision.

Another limitation of this study is that I am unable to identify the specific accruals managed by soliciting targets prior to their solicitation announcement. Examining specific accruals should provide more insight into how the negative earnings management is achieved. For example, Marquardt and Wiedman (2004) find that

management buyout firms manage earnings downward by reporting significantly lower unexpected account receivables prior to a buyout. However, the preliminary results suggest that there is no significant difference between soliciting and unsolicited targets along a dimension of specific accruals. It might be the case that soliciting targets in various industries employ different income-decreasing accounting techniques to clean up their balance sheets. For example, anecdotal evidence suggests that banks generally write off bad loans (e.g., European American Bancorp), whereas insurance companies increase reserves for potential claim losses (e.g., Beneficial Corp). I leave this issue to future research.

My results have implications for research on the cost-benefit trade-off involved in firms' accrual decisions. Schipper (1989) identifies two conditions giving rise to earnings management: (1) there are two distinct groups of stakeholders, one group benefits from earnings management at the expense of the other; and (2) information asymmetry exists so that the group which bears the cost cannot undo the effects of earnings management. Existing literature, however, rarely considers this trade-off, focusing on the benefits as the main factor driving the firm's accrual decision. This study provides a setting in which soliciting targets face both the benefits arising from inflated earnings and the cost of losing its credibility as a target. My results suggest that the cost plays an important role in the firms' accrual decision and may outweigh the benefits if soliciting targets' priority is to consummate the sale of their companies. Future studies can explore this issue by investigating the accrual decision in settings with various levels of costs and benefits.

APPENDIX

INCOME SMOOTHING USING THE BACKING OUT APPROACH

This Appendix provides a further analysis of the backing out approach that potentially creates a spurious correlation in testing the income smoothing hypothesis. I first analyze how the measurement error resulting from estimating discretionary accruals imparts a negative bias in the smoothing coefficient. Second, based on a randomization approach, I generate an empirical distribution for the smoothing coefficients under the null hypothesis and find that the negative bias from randomization does not alter the tenor of the results reported in Table 6. Finally, I argue that substituting operating cash flows for pre-managed earnings mitigates the bias caused by the backing out approach.

Spurious correlation created by measurement error

I adopt the model in Elgers et al. (2003) and Lim and Lustgarten (2002) that analyzes the spurious correlation between discretionary accruals and pre-managed earnings created by backing out. Let X_i be the earnings of firm i, and DA_i^* be the discretionary accruals added to the true pre-managed earnings PX_i^*. Then $PX_i^* = X_i - DA_i^*$. Let T be an earnings target, the test of income smoothing is based on the following regression:

$$DA_i^* = \beta_0 + \beta_1 (PX_i^* - T) + Control_i + \mu, \qquad \text{(A1)}$$

where $Control_i$ includes variables that might affect DA_i^*. If PX_i^* and DA_i^* were both directly observable, then equation (A1) would provide a valid test in which $\beta_1 < 0$ implies income smoothing. However, neither PX_i^* nor DA_i^* is directly observable, so a proxy for DA_i^* is estimated from the modified Jones model (call it DA_i). Denoting the estimation error from the discretionary accruals model as ε, $DA_i = DA_i^* + \varepsilon$. Then the test of income smoothing becomes

$$DA_i = \beta_0 + \beta_1 (X_i - DA_i - T) + Control_i + \mu. \qquad \text{(A2)}$$

Because $X_i - DA_i - T = X_i - DA_i^* - \varepsilon - T = PX_i^* - T - \varepsilon$, equation (A2) is equivalent to

$$DA_i^* + \varepsilon = \beta_0 + \beta_1(PX_i^* - T - \varepsilon) + Control_i + \mu. \quad \text{(A3)}$$

If there is income smoothing, one could expect a negative correlation between DA_i^* and $(PX_i^* - T)$. However, even without income smoothing, the estimate of β_1 is likely to be negative given that the measurement error ε is on both sides of equation (A3) with opposite signs. In other words, the backing out approach cannot distinguish between this spurious correlation and any real relationship between discretionary accruals and the deviation of pre-managed earnings from the target.

The randomization approach

To assess the effects of the negative bias arising from the backing out approach on the results reported in Table 6 Panel A, I randomly select reported earnings of firm j (scaled by total assets of firm j) from all Compustat firm/years and assign it to each of my target firms (target firm i) between year –4 and year 0. This random assignment is done to isolate the spurious correlation due to the backing out approach given that the correlation between reported earnings of the randomly chosen firm j and the discretionary accrual measure of firm i is expected to be zero. I calculate pre-managed earnings by backing out discretionary accruals DA_i from the randomly assigned reported earnings X_j and using this measure in the income smoothing test:[40]

$$DA_i = \beta_0 + \beta_1(X_j - T - DA_i) + Control_i + \mu \quad \text{(A4)}$$

The spurious negative correlation under the randomization approach is due to DA_i appearing on both sides of equation (A4). I repeat the random assignment and estimate

[40] An alternative approach would be to randomly assign the discretionary accruals of firm j to the sample firm i. I choose to randomly assign the earnings instead of discretionary accruals in order to preserve the association between DA_i and the control variables in the multivariate model.

my regression model 5000 times. I use the resulting parameter estimates from the 5000 iterations to generate their empirical distributions under the null hypothesis of no income smoothing for the backing out approach.

Based on the empirical distributions, I adjust the smoothing coefficients for unsolicited targets (PREMGT) and soliciting targets (PREMGT+PREMGT*SOLICT) by subtracting the mean of the empirical distributions from the coefficient estimates as reported in Table 6 Panel A. The adjusted smoothing coefficients are presented in Table A1. The p values reported in Table A1 are obtained from the empirical distributions of the estimated smoothing coefficients for the soliciting and unsolicited targets. Table A1 indicates that the adjusted coefficient on PREMGT remains negative across time, but its magnitude is slightly smaller than that reported in Panel A of Table 6. This finding suggests that although the backing-out approach induces a negative bias in the smoothing coefficient, this bias cannot fully explain the negative coefficient on PREMGT for my sample of unsolicited targets. In addition, the smoothing coefficient for soliciting targets (PREMGT+ PREMGT*SOLIC) increases sharply from a significantly negative –0.424 in year –4 to an insignificant 0.031 in year 0.[41] Therefore, even with the adjustment for the potential bias from randomization, the differential income smoothing trend between the two groups of targets still holds.

Operating cash flows substitute

Another approach I take is to use operating cash flows obtained from the statement of cash flows (OCF_i) as a substitute for pre-managed earnings. The rationale

[41] Table 6 Panel A shows that the income smoothing effect (before adjusting for backing out bias) of soliciting targets diminishes significantly as approaching solicitation announcement. Given that the mean bias is relatively constant across years (ranging from -0.061 to -0.050), a test of change in the adjusted smoothing coefficient for soliciting targets would not be necessary.

behind the substitution is that operating cash flows are free of measurement errors resulting from the estimation of discretionary accruals. Using operating cash flows, the regression model of testing income smoothing is

$$DA_t = \beta_0 + \beta_1(OCF_t - T) + Control_t + \mu. \quad \text{(A5)}$$

Let NDA_i^* be the true nondiscretionary accruals, then

$$X_t = OCF_t + NDA_t^* + DA_t^* = PX_t^* + DA_t^*, \quad \text{(A6)}$$

and equation (A5) is equivalent to

$$DA_t^* + \varepsilon = \beta_0 + \beta_1(PX_t^* - T - NDA_t^*) + Control_t + \mu. \quad \text{(A7)}$$

Whether the substitution of operating cash flows leads to an improved test of income smoothing depends on the correlation between NDA_i^* and DA_i^*. The test would be unbiased if the two are uncorrelated, but would be conservative if the two are negatively correlated. Only when NDA_i^* and DA_i^* are positively correlated the test is likely to over reject the null hypothesis of no income smoothing. Moreover, this positive correlation must decrease over time in my sample of soliciting targets to explain my findings. When I use OCF_i as a proxy for pre-managed earnings, the results reported in Table 6 Panel B are qualitatively similar to those under the backing out approach. Overall, my analysis suggests that the test results of income smoothing are not entirely caused by the spurious correlation due to the backing out approach.

Table A1
Randomization-adjusted income smoothing coefficients of soliciting and unsolicited targets from year –4 to year 0 (one-tailed p values in parentheses)

	Year –4	Year –3	Year –2	Year –1	Year 0
PREMGT	-0.361	-0.285	-0.250	-0.292	-0.201
	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)	(0.027**)
PREMGT+	-0.424	-0.258	-0.190	-0.096	0.031
PREMGT*SOLICIT	(<0.001***)	(0.015**)	(0.021**)	(0.034**)	(0.514)

Table 1

Sample Selection of 240 Soliciting Targets and 277 Unsolicited Targets between 1990 and 2003

	Soliciting targets	Unsolicited targets	Total
All public firms announcing to seek buyers or receiving unsolicited bids during 1990-2003	853	528	1,381
Less: Firms w/o compustat data	(191)	(98)	(289)
Less: Firms w/o CRSP data	(10)	(4)	(14)
Less: Financial institutions	(137)	(98)	(235)
Less: Firms announcing intent of sale before listing	(3)	(7)	(10)
Less: Firms announcing intent of sale after being delisted	(188)	(13)	(201)
Less: Multiple announcements	(16)	(24)	(40)
Further screening by reviewing news articles on *Factiva*:			
Less: Firms operating under Chapter 11 protection before takeover	(14)	(4)	(18)
Less: Rumor	(8)	(3)	(11)
Less: Other deals [a]	(10)		(10)
Less: To be sold by parties other than the board/management [b]	(25)		(25)
Less: Firms seeking white knights	(11)		(11)
Final sample	240	277	517

[a] For soliciting targets, this category includes 1 MBO, 4 voluntary liquidations, 4 spin offs and 1 acquisition in which the sample firm acted as the bidder.
[b] The category includes 8 cases of divesture by majority investor(s) and 15 sales proposed by investor(s) or a group of investors. Moreover, in 2 cases the acquirers announced plans to sell the companies after the acquisitions were completed.

Table 2
Cited Reasons of Solicitation in News Releases and the Initial Announcement Effects for Soliciting Targets

Cited reasons	Number of firms	CAR over days [-1, +1] (%)	t statistics
Maximizing shareholder value [a]	69	11.22	6.20***
Cash out at the right time	8	13.51	1.65
Under-valued stock	15	13.44	4.09***
Disappointing performance	22	5.40	0.83
Requiring capital infusion for continued development	13	2.89	0.42
Financially troubled	24	-17.44	-2.54**
Competitive pressure	13	18.77	3.38***
Enhancing business development	12	10.71	2.17*
Other	2	10.91	0.42
No reason cited	29	12.87	5.22***
Identified potentially interested buyers	15	13.10	3.46***
Announcement not found	18	7.91	2.32**
Total	240	8.02	5.68***

[a] One firm in this category has missing stock return data on day 0.

Table 3

Panel A: Calendar Year of Initial Takeover Announcement for 240 Soliciting and 277 Unsolicited Targets

	Initial Sample				Final Sample			
	Soliciting targets		*Unsolicited targets*		*Soliciting targets*		*Unsolicited targets*	
	Number of firms	%	Number of firms	%	Number of firms	%	Number of firms	%
1990	92	10.77	45	8.52	33	13.75	19	6.86
1991	64	7.49	28	5.3	22	9.17	11	3.97
1992	48	5.62	28	5.3	7	2.92	6	2.17
1993	45	5.27	34	6.44	5	2.08	14	5.05
1994	57	6.67	35	6.63	34	14.17	18	6.5
1995	80	9.37	60	11.36	25	10.42	30	10.83
1996	70	8.2	42	7.95	32	13.33	20	7.22
1997	72	8.43	40	7.58	21	8.75	23	8.3
1998	62	7.26	38	7.2	19	7.92	22	7.94
1999	30	3.51	55	10.42	9	3.75	36	13
2000	42	4.92	37	7.01	14	5.83	24	8.66
2001	67	7.85	21	3.98	7	2.92	13	4.69
2002	74	8.67	30	5.68	9	3.75	17	6.14
2003	51	5.97	35	6.63	3	1.25	24	8.66
Total	854	100	528	100	240	100	277	100

Table 3
Panel B: Two-Digit SIC Industry Classification for 240 Solicited and 277 Unsolicited Targets [a]

SIC	Name	Sol.	Unsol.	SIC	Name	Sol.	Unsol.	SIC	Name	Sol.	Unsol.
01	Agriculture Production Crops	0.42	0.72	*33*	Primary Metal Industries	0	2.89	*53*	General Merchandise Stores	1.67	1.08
10	Metal mining	0	0.72	*34*	Fabric metal ex machinery	2.92	2.17	*54*	Food Stores	1.25	0.72
13	Oil and Gas Extraction	9.17	3.61	*35*	Computer equip Indl machy	4.58	4.33	*55*	Auto Dealers, Gas Stations	0.42	0
15	Bldg Construction	0.42	0.36	*36*	Electrical equip ex computer	7.08	6.50	*56*	Apparel and Accessory Stores	0.42	0.36
16	Heavy Construction	0.42	0	*37*	Transportation Equipment	0	3.61	*57*	Home Furniture & Equip Store	2.08	0.36
17	Construction-Special Trade	0	0.72	*38*	Meas Instr; Photo Gds; Watches	6.25	10.11	*58*	Eating and Drinking Places	2.92	2.17
20	Food and Kindred Products	0.83	3.97	*39*	Misc Manufact Industries	1.25	2.17	*59*	Miscellaneous Retail	2.92	2.17
22	Textile Mill Products	1.25	1.08	*40*	Railroad Transportation	0.42	0.72	*70*	Hotels, Other Lodging Places	0.42	0.72
23	Apparel & Other Finished Pds	1.25	0.36	*42*	Motor Freight Trans, Warehouse	0.42	0.36	*73*	Business Services	5.83	13.72
24	Lumber and Wood Pds, Ex Furn	0.42	0.36	*44*	Water Transportation	0	0.36	*75*	Auto Repair, Services, Parking	0	0.36
25	Furniture and Fixtures	0	0.36	*45*	Transportation By Air	0.42	1.08	*78*	Motion Pictures	3.33	0.72
26	Paper and Allied Products	2.08	1.08	*47*	Transportation Services	0.42	0.36	*79*	Amusements, Recreation	1.67	1.08
27	Printing, Publishing & Allied	2.92	0.72	*48*	Communications	6.67	3.61	*80*	Health Services	3.75	2.89
28	Chemicals & Allied Products	10.42	6.50	*49*	Electric, Gas, Sanitary Service	3.75	3.25	*82*	Educational Services	0.83	0.36
29	Pete Refining & Related Inds	0.42	0	*50*	Durable Goods-Wholesale	2.08	2.89	*83*	Social Services	0.42	0.72
30	Rubber & Misc Plastics Prods	2.50	2.17	*51*	Nondurable Goods-Wholesale	0.83	0.36	*87*	Engr, Acc, Resh, Mgmt, Rel Svcs	0.83	1.44
32	Stone, Clay, Glass Concrete Pd	1.25	2.53	*52*	Bldg Matl, Hardware	0.42	0.72	*99*	Nonclassifiable Establishmnt	0	0.36

[a] The cells are shaded if the differential industry concentration between solicited and unsolicited targets is significant at 10% level.

Table 4

Panel A: Descriptive Statistics on Selected Financial Characteristics (2-Digit SIC Industry-Adjusted) of Soliciting and Unsolicited Targets One Year Prior to the Initial Takeover Announcement [a]

	N	*Mean*	*Median*	*Std*	*Q1*	*Q3*	*t test (two-sided p value)*	*Wilcoxon (two-sided p value)*
MVE								
Soliciting targets	238	143.635	-4.594	803.853	-49.131	117.041	-2.71	-3.75
Unsolicited targets	267	880.277	35.417	4352.400	-23.697	330.700	(0.01)	(0.00)
LEVERAGE								
Soliciting targets	238	0.088	0.045	0.216	-0.056	0.197	-0.89	-1.34
Unsolicited targets	266	0.105	0.049	0.208	-0.015	0.202	(0.37)	(0.18)
EARNINGS								
Soliciting targets	236	-0.166	-0.018	0.643	-0.135	0.038	-3.35	-3.03
Unsolicited targets	269	-0.020	0.002	0.194	-0.047	0.054	(0.00)	(0.00)
CASHFLOW								
Soliciting targets	236	-0.104	-0.002	0.554	-0.086	0.072	-2.89	-2.18
Unsolicited targets	269	0.003	0.011	0.150	-0.043	0.072	(0.00)	(0.03)
BHAR								
Soliciting targets	239	-0.141	-0.285	0.712	-0.552	0.094	-1.37	-2.90
Unsolicited targets	274	-0.065	-0.166	0.523	-0.393	0.147	(0.17)	(0.00)
ACCRUALS								
Soliciting targets	223	-0.020	-0.015	0.115	-0.067	0.035	-2.14	-2.05
Unsolicited targets	261	0.001	-0.004	0.095	-0.040	0.042	(0.03)	(0.04)

[a] In this analysis I dropped an observation with extreme loss larger than 100 times of the total assets at the beginning of the year.

Table 4 Panel A (cont'd)

	N	*Mean*	*Median*	*Std*	*Q1*	*Q3*	*t test (two-sided p value)*	*Wilcoxon (two-sided p value)*
TOBIN'S Q								
Soliciting targets	227	1.370	-0.200	6.839	-0.606	0.456	2.99	2.65
Unsolicited targets	259	-0.026	-0.292	1.717	-0.715	0.077	(0.00)	(0.00)
BTM								
Soliciting targets	238	0.090	0.080	0.937	-0.223	0.450	-4.25	-4.30
Unsolicited targets	267	0.455	0.231	0.988	-0.007	0.606	(0.00)	(0.00)
AGE								
Soliciting targets	240	1.194	-23.500	147.620	-82.000	45.500	-2.84	-2.15
Unsolicited targets	276	42.078	-13.250	179.806	-67.500	123.500	(0.00)	(0.03)

Table 4

Panel B: Probit Regressions of Soliciting versus Unsolicited Targets on Selected Financial Characteristics (2-Digit SIC Industry-Adjusted) One Year Prior to the Initial Takeover Announcement

Dependent Variable = 1 if soliciting targets = 1 if unsolicited targets				
Variable	*Coefficient*	*Two-sided p-value*	*Coefficient*	*Two-sided p-value*
INTERCEPT	0.055	0.421	0.049	0.476
SIZE	-0.175	<0.001	-0.175	<0.001
LEVERAGE	0.468	0.148	0.471	0.145
EARNINGS	0.127	0.160		
CASHFLOW			0.149	0.123
BHAR	-0.114	0.226	-0.114	0.226
TOBIN'S Q	0.021	0.194	0.023	0.153
BTM	-0.380	<0.001	-0.374	<0.001
AGE	-0.001	0.227	-0.001	0.231

Table 4
Panel C: Comparison of Management Ownership and Institutional Ownership (Industry-Unadjusted) One Year Prior to the Initial Takeover Announcement

	N	*Mean*	*Median*	*Std*	*Q1*	*Q3*	*t test (two-sided p value)*	*Wilcoxon (two-sided p value)*
MGTOWN								
Soliciting targets	163	28.09	21.78	23.98	7.02	45.60	5.58	5.45
Unsolicited targets	235	15.96	10.43	16.80	3.30	21.90	(0.00)	(0.00)
INSTOWN								
Soliciting targets	215	16.42	11.56	15.58	3.88	25.93	-1.92	-1.04
Unsolicited targets	254	19.44	13.19	18.50	3.52	34.25	(0.06)	(0.30)

Table 4 (cont'd)

Variable definitions:

MVE = Market value of equity (Compustat #25 × Compustat #199).
LEVERAGE = Long-term debt (Compustat #9)/(Market value of equity + Long-term debt).
EARNINGS = Income before Extraordinary Items (Compustat #18) over total assets (Compustat #6) at the beginning of the year.
CASHFLOW = Operating Cash Flow over total assets at the beginning of the year. Operating Cash Flow equals Cash Flow from Operations (Compustat #308) after (including) 1987; before 1987, it equals Funds from Operations (Compustat #110) minus Current Accruals (see below).
BHAR = Cumulated firm stock returns minus cumulated returns of value-weighted market index.
ACCRUALS = Current Accruals – Depreciation
= ΔCurrent Assets (Compustat #4) – ΔCurrent Liabilities (Compustat #5) – ΔCash (Compustate #1) + ΔDebt included in Current Liabilities (Compustat #34) – Depreciation (Compustat #14), divided by total assets at the beginning of the year.
TOBINQ =(Market Value of Common Stock + Book Value of Preferred Stock (Compustat #10) + Book Value of Long-term Debt + Current Liabilities – Current Assets)/Book value of Total Assets.
BTM = Book value of common equity (Compustat #60) over market value of equity.
AGE = Duration (in months) from the earliest listing date in the CRSP Header file to the initial announcement day, subtracting the median duration of corresponding 2-digit industry firms from the earliest listing date to the initial announcement day.
SIZE = Industry-adjusted natural logarithm of total assets.
MGTOWN = percentage of shares held by officers and directors as a group.
INSTOWN = percentage of shares held by all investment companies and independent investment advisors (i.e., money managers).

Table 5
Annual and Quarterly Discretionary Accruals of Soliciting and Unsolicited Targets

Panel A: Discretionary accruals estimated from modified Jones model		Year -4	Year -3	Year -2	Year -1	Year 0
Soliciting targets	N	168	191	208	220	157
	Mean	1.02	0.25	0.84	-1.35**	-1.43
	Median	0.09	-0.83	0.91	-0.80**	-0.41
Unsolicited targets	N	224	240	256	261	174
	Mean	0.89	0.02	0.21	0.26	-1.03
	Median	0.18	0.08	0.20	-0.03	-0.27
Two-sided p values of diff. in soliciting vs. unsolicited targets	T test	0.92	0.86	0.60	0.08*	0.79
	Wilcoxon	0.62	0.27	0.46	0.03**	0.95

Panel B: Performance-matched discretionary accruals		Year -4	Year -3	Year -2	Year -1	Year 0
Soliciting targets	N	168	188	207	219	156
	Mean	1.00	0.16	0.98	-1.24*	-0.77
	Median	0.54	-1.12	0.77	-1.38***	0.01
Unsolicited targets	N	221	237	255	259	174
	Mean	0.59	0.14	0.31	0.32	-0.40
	Median	0.02	0.05	-0.25	0.29	-0.54
Two-sided p values of diff. in soliciting vs. unsolicited targets	T test	0.74	0.99	0.58	0.10*	0.82
	Wilcoxon	0.88	0.20	0.48	0.01***	0.77

Table 5 (cont'd)
Annual and Quarterly Discretionary Accruals of Soliciting and Unsolicited Targets

Panel A: Discretionary accruals estimated from modified Jones model		Qtr -4	Qtr -3	Qtr -2	Qtr -1	Qtr 0
Soliciting targets	N	185	194	193	199	185
	Mean	-1.28**	0.08	-0.87**	-1.60***	-0.66
	Median	-0.17*	0.27	-0.40**	-0.47**	-0.27
Unsolicited targets	N	232	235	231	220	188
	Mean	0.48	-0.24	0.13	-0.05	0.17
	Median	0.13	-0.27	0.25	-0.14	0.05
Two-sided p values of diff. in soliciting vs. unsolicited targets	T test	0.01***	0.45	0.05**	0.01***	0.23
	Wilcoxon	0.05**	0.27	0.04**	0.10*	0.43

Panel B: Performance-matched discretionary accruals		Qtr -4	Qtr -3	Qtr -2	Qtr -1	Qtr 0
Soliciting targets	N	185	194	193	199	185
	Mean	-1.24**	0.12	-0.85**	-1.51***	-0.61
	Median	-0.05*	0.05	-0.62**	-0.42**	-0.20
Unsolicited targets	N	232	235	231	220	188
	Mean	0.23	-0.46	0.05	-0.12	0.02
	Median	0.15	-0.10	-0.00	-0.28	-0.08
Two-sided p values of diff. in soliciting vs. unsolicited targets	T test	0.02**	0.29	0.07*	0.03**	0.36
	Wilcoxon	0.16	0.22	0.07*	0.19	0.58

*, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% level.

DA = discretionary accruals were estimated from the following model:

$$\frac{ACCRUAL_{ijt}}{A_{ijt-1}} = \alpha_{jt}\frac{1}{A_{ijt-1}} + \beta_{1jt}\frac{PPE_{ijt}}{A_{ijt-1}} + \beta_{2jt}\frac{\Delta ADJREV_{ijt}}{A_{ijt-1}} + DA_{ijt}$$

where

i = firm index for firms whose financial data is available on Compustat
j = two-digit SIC industry
t = year (and quarter) index
A_{ijt-1} = total assets
PPE_{ijt} = gross property, plant and equipment
$\Delta ADJREV_{ijt}$ = Δcash-based revenues equals Δsales minus Δreceivables
DA_{ijt} = error term

Table 6

Panel A: Annual OLS Regressions Of Discretionary Accruals on Pre-Managed Earnings And Control Variables From Year –4 To Year 0, Where Year 0 Is The Year Of Initial Announcement (Two-Tailed P Values In Parentheses)

	Year –4	Year –3	Year –2 [a]	Year –1	Year 0
INTERCEPT	-0.001	-0.002	0.004	-0.006	-0.020
	(0.875)	(0.803)	(0.604)	(0.362)	(0.055*)
PREMGT	-0.395	-0.294	-0.270	-0.312	-0.263
	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)
SOLICIT	0.001	-0.003	-0.011	-0.016	0.007
	(0.955)	(0.780)	(0.280)	(0.069*)	(0.633)
PREMGT*SOLICIT	-0.082	-0.014	0.030	0.187	0.233
	(0.031**)	(0.410)	(0.464)	(<0.001***)	(<0.001***)
HIGHQ	0.035	0.045	0.006	0.014	0.026
	(0.010***)	(0.005***)	(0.682)	(0.300)	(0.280)
PREMGT*HIGHQ	0.440	0.301	0.099	0.116	-0.061
	(<0.001***)	(<0.001***)	(0.004***)	(<0.001***)	(0.285)
SIZE	0.004	0.002	0.003	0.002	0.013
	(0.225)	(0.543)	(0.273)	(0.398)	(0.003***)
LEVERAGE	-0.038	-0.029	-0.025	0.010	-0.096
	(0.164)	(0.359)	(0.326)	(0.643)	(0.005***)
OBS	371	420	450	479	325
Adj. R^2	0.29	0.09	0.22	0.15	0.11
PREMGT+	-0.477	-0.308	-0.240	-0.125	-0.030
PREMGT*SOLICIT	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)	(0.500)
Change in					
PREMGT+	0.169	0.068	0.115	0.095	
PREMGT*SOLICIT	0.012**	0.235	0.005***	0.059*	

[a] I drop 4 extreme observations in this regression. Including these observations weakens the coefficient on PREMGT but does not change the overall inferences.

Table 6

Panel B: Annual OLS Regressions Of Discretionary Accruals On Operating Cash Flows And Control Variables From Year –4 To Year 0, Where Year 0 Is The Year Of Initial Announcement (Two-Tailed P Values In Parentheses)

	Year –4	Year –3	Year –2	Year –1	Year 0
INTERCEPT	0.007	-0.000	0.005	0.001	-0.017
	(0.378)	(1.000)	(0.498)	(0.892)	(0.103)
CASHFLOW	-0.431	-0.193	-0.198	-0.289	-0.368
	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)
SOLICIT	-0.003	-0.004	-0.007	-0.020	0.006
	(0.803)	(0.730)	(0.489)	(0.024**)	(0.673)
CASHFLOW	-0.068	-0.060	-0.048	0.151	0.340
*SOLICIT	(0.101)	(0.005***)	(0.346)	(<0.001***)	(<0.001***)
	0.030	0.036	0.008	0.010	0.033
HIGHQ	(0.029**)	(0.022**)	(0.586)	(0.489)	(0.152)
	0.506	0.197	0.108	0.124	-0.060
PREMGT*HIGHQ	(<0.001***)	(<0.001***)	(0.010***)	(<0.001***)	(0.387)
	0.002	0.001	0.002	0.002	0.014
SIZE	(0.655)	(0.714)	(0.506)	(0.479)	(0.002***)
	-0.021	-0.012	-0.019	0.013	-0.104
LEVERAGE	(0.458)	(0.711)	(0.498)	(0.586)	(0.002***)
	371	420	450	479	325
OBS	0.24	0.07	0.14	0.08	0.13
Adj. R^2					
PREMGT+	-0.499	-0.253	-0.246	-0.138	-0.028
PREMGT*SOLICIT	(<0.001***)	(<0.001***)	(<0.001***)	(<0.001***)	(0.606)
Change in					
PREMGT+		0.246	0.007	0.108	0.110
PREMGT*SOLICIT		0.001***	0.917	0.031**	0.069*

*, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% level.

Table 6 (cont'd)

Variable definitions:

PREMGT = Current earnings before extraordinary items over lagged total assets (subtracting two-digit industry median) minus discretionary accruals.
SOLICIT = 1 if soliciting targets and 0 if unsolicited targets.
HIGHQ = 1 if industry-adjusted Tobin's Q is larger than 1, 0 otherwise.
LEVERAGE = Long-term debt/(Market value of equity + Long-term debt), subtracting two-digit industry median.

Table 7
Panel A: The Association between Management Ownership and Discretionary Accruals in Year -1

	Soliciting targets				
	N	Mean (%) (two-sided p value)	Median (%) (two-sided p value)	*t test for diff. in mean*	*Wilcon. Rank Z test for diff. in median*
LOW	37	-1.378	-0.819	Low to Median	Low to Median
		(0.319)	(0.176)	-1.15	-1.54
MIDDLE	79	-3.616	-3.545	Med to High	Med to High
		(0.003***)	(0.000***)	3.78***	4.07***
HIGH	37	4.358	1.870	Low to High	Low to High
		(0.022**)	(0.010***)	2.52**	2.82***
	Unsolicited targets				
	N	Mean (%) (two-sided p value)	Median (%) (two-sided p value)	*t test for diff. in mean*	*Wilcon. Rank Z test for diff. in median*
LOW	50	-0.191	-0.458	Low to Median	Low to Median
		(0.849)	(0.426)	0.93	1.11
MIDDLE	120	0.938	0.625	Med to High	Med to High
		(0.184)	(0.231)	-1.12	-1.53
HIGH	54	-0.011	-0.154	Low to High	Low to High
		(0.511)	(0.355)	0.48	0.46

Table 7
Panel B: The Association between Institutional Ownership and Discretionary Accruals in Year –1

	Soliciting targets				
	N	Mean (%) (two-sided p value)	Median (%) (two-sided p value)	*t test for diff. in mean*	*Wilcon. Rank Z test for diff. in median*
LOW	50	0.802	-0.236	Low to Med	Low to Med
		(0.663)	(0.750)	-1.06	-1.15
MIDDLE	100	-1.360	-0.875	Med to High	Med to High
		(0.138)	(0.088*)	-1.69*	-1.31
HIGH	50	-4.059	-2.140	Low to High	Low to High
		(0.004***)	(0.005***)	-2.14**	-1.98**
	Unsolicited targets				
	N	Mean (%) (two-sided p value)	Median (%) (two-sided p value)	*t test for diff. in mean*	*Wilcon. Rank Z test for diff. in median*
LOW	58	2.738	1.603	Low to Med	Low to Med
		(0.027**)	(0.040**)	-1.75*	-1.75*
MIDDLE	125	0.360	-0.359	Med to High	Med to High
		(0.627)	(0.993)	-1.16	-1.01
HIGH	62	-1.085	-1.263	Low to High	Low to High
		(0.265)	(0.189)	-2.49**	-2.37**

*, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% level.

Table 8
OLS regressions of discretionary accruals on industry-unadjusted ownership variables and control variables in year –1 (two-tailed p values in parentheses)

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5	Regression 6
INTERCEPT	-0.007	-0.012	-0.008	0.009	-0.001	0.004
	(0.698)	(0.514)	(0.547)	(0.545)	(0.955)	(0.834)
SOLIC		0.049		-0.022		0.025
		(0.011**)		(0.034**)		(0.192)
LOWMGTOWN	-0.018	0.024			-0.017	0.016
	(0.117)	(0.101)			(0.124)	(0.263)
SOLIC* LOWMGTOWN		-0.094				-0.079
		(<0.001***)				(<0.001***)
HIGHINSTOWN			-0.024	-0.016	-0.016	-0.021
			(0.020**)	(0.234)	(0.130)	(0.127)
SOLIC* HIGHINSTOWN				-0.013		0.021
				(0.507)		(0.313)
PREMGT	-0.082	-0.084	-0.031	-0.033	-0.064	-0.068
	(<0.001***)	(<0.001***)	(0.004***)	(0.002***)	(<0.001***)	(<0.001***)
SIZE	0.002	-0.003	0.001	-0.001	0.002	-0.002
	(0.630)	(0.429)	(0.649)	(0.758)	(0.429)	(0.578)
LEVERAGE	0.002	0.018	0.007	0.013	-0.005	0.010
	(0.944)	(0.420)	(0.758)	(0.546)	(0.826)	(0.635)
HIGHQ	0.010	0.012	0.004	0.008	0.007	0.010
	(0.296)	(0.232)	(0.668)	(0.391)	(0.452)	(0.292)
OBS	376	376	443	443	359	359
Adj. R^2	0.12	0.16	0.02	0.04	0.09	0.13

*, **, and *** indicate significance at the two-tailed 10%, 5%, and 1% level.

Variable definitions:

LOWMGTOWN = 1 if the firm's management ownership is below 75th percentile, and 0 otherwise.
HIGHMONEYOWN = 1 if the firm's institutional ownership is above 75th percentile, and 0 otherwise.

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