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Managers' Incentives to Manipulate Earnings in Management Buyout Contests: An Examination of how Corporate Governance and Market Mechanisms Mitigate Earnings Management

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In an MBO contest, managers offer to buy the firm from public shareholders at a premium to the current market price and thus have incentives to buy the firm "cheap." Prior studies have found evidence that managers, on average, manipulate earnings downward prior to an MBO offer in an attempt to convince shareholders that their offer is fair. We extend this finding by attempting to explain the substantial cross sectional variation in the degree of manipulation across firms reported in these earlier studies. We find that boards with more independent directors and higher levels of incentive based compensation for the CEO act to discourage such manipulation. Additionally, our results show that some shareholders, minority and pre-existing large outside blockholders, appear to be misled by the manipulation. However, new blockholders that acquire large shareholdings in the year before the offer are not. We also discover that managers are more likely to revise their bid upwards when the manipulation is most severe and that these new blockholders put pressure on managers to make these revisions. Finally, we investigate whether the manipulation has an impact on the final buyout contest outcome. We find that downward manipulation does not prevent managers from retaining control of the firm; however, they pay a higher premium.

INTRODUCTION

While issues surrounding the quality of earnings have long been of concern to various stakeholders of the firm, recently significant attention has been garnered by the Security and Exchange Commission's (SEC) heightened attention to earnings management (Byrnes and Melcher, 1998; Brown, 1999; Barr, 1998). In 1998, then SEC chairman Arthur Levitt declared an all out war on earnings management (CPA Journal, 1998; Loomis, 1999). In 2001, Lynn Turner, Chief Accountant of the SEC, proclaimed an Investor's Bill of Rights

stating that "investors have a right to timely and consistent transparent disclosures that reflect the true economics of the business, including complete and unbiased financial disclosures of all matters management or the auditors would want to know if they were investing in the company (p.3, 2001)." The basis of the entire accrual accounting system on which earnings numbers are based is that revenues represent amounts earned during the given time period and that expenses are incurred during the period and are matched with the revenues they help create. Any distortion of the amounts or timing of these numbers can greatly affect the firm's stock price. These distortions can also undermine contracts, either explicit or implicit, that managers have with various stakeholders in the firm.

One area where managers have incentives to manipulate earnings is during management buyout (MBO) contests. In an MBO contest, managers offer to buy the firm from public shareholders at a premium to the current market price. Managers, as insiders, have better knowledge of the firm's prospects and its true value than public shareholders. Thus they have incentives to buy the firm "cheap" from public shareholders when they have information that the true value of the firm is higher than the current market value plus the buyout premium. One way managers attempt to convince shareholders that the offer is fair is to choose accounting practices that manipulate earnings downward prior to making an MBO offer. Because managers have a fiduciary duty to shareholders, an attempt to buy the firm cheaply violates this duty. Furthermore, because the size of the premium is substantial in an MBO offer (Kaplan, 1989; Smith,1990), the magnitude of the potential loss to shareholders from managerial underpricing is economically substantial.[1] In fact, minority shareholders routinely sue managers over the terms of the buyout offer (DeAngelo, 1985; Peck, 1996; Lowenstein, 1985; Perry and Williams, 1994).[2]

This study investigates manager's tendencies to manipulate earnings prior to making an MBO offer. Investigating earnings management in MBOs is a good event to study because the conflict of interest between managers and shareholders is centered around a very discrete event in time where there is an obvious conflict. Also, an MBO is different from other events that are expected to impact earnings management in at least two ways. First, managers are likely to be aware of a possible MBO well in advance of non-management shareholders. Anticipation of the MBO is likely to impact managers' reporting strategy during the period leading up to the offer, even before investors become aware of the MBO incentives managers face. Second, the MBO is different from most of the reporting incentives we

[1] The average premium is 30% above the current market price (Kaplan, 1989; Smith,1990).

[2] However, Perry and Williams (1994) note that the lower earnings themselves can provide a successful defense in the event of litigation.

normally examine because anticipation of the MBO motivates managers to understate, rather than overstate the company's financial position and corporate performance.

This study attempts to answer two main research questions: (1) what types of firms engage in manipulation; and (2) what are the consequences of such manipulation for the ultimate outcome of the MBO contest. In particular, investigating pre-existing characteristics of firm's that engage in manipulation allows us to identify what corporate governance mechanisms (or lack thereof) minimize managers' incentives to manipulate earnings downward and violate their fiduciary duty to shareholders thereby engaging in unethical behavior. Finally, by investigating the consequences of manipulation, we document how manipulation affects the final terms of the buyout offer and whether market forces, i.e., competitive bidders or minority shareholder litigation, nullify the opportunistic actions of managers after the fact.

This study has two main contributions. First, the results of this study add to the existing literature on managers' manipulation of earnings during control contests. Prior studies investigate whether such manipulation occurs (see DeAngelo, 1986, 1988; Perry and Williams, 1994; Wu, 1997; Christie and Zimmerman, 1994) by measuring the mean level of discretionary accounting choice for a sample of control contests. This paper investigates the role corporate governance, market, and litigation mechanisms play in the incentives for such manipulation as well as its consequences. Second, the results of this study have public policy implications, suggesting which corporate governance mechanisms discourage managers from manipulating earnings. These issues are currently under consideration by the SEC. Recent events surrounding the failures of Enron, World Com, and the accounting scandals at these and many other companies have bought into question the reliability of the corporate governance structures of U.S. companies. During 2002 Congress, the SEC and the NYSE all developed new regulations regarding the operation of corporate governance mechanisms. These changes have resulted in a new federal oversight board for the accounting profession, mandatory rotation of the external auditor, a requirement that the board of directors must contain a majority of independent directors, and new rules governing the function of the internal audit committee.[3]

The remainder of this paper proceeds as follows. Section 2 examines the prior literature. Section 3 discusses the sample and data. Section 4 presents results on how the severity of earnings manipulation varies with both corporate governance mechanisms and market responses. Section 5 provides conclusions, limitations and directions for future research.

[3] Many of these regulations are contained in the Sarbanes-Oxley Act of 2002.

PRIOR LITERATURE

Earnings management has been investigated in many contexts including compensation contracts (Healy, 1985), debt contracts (Sweeney, 1994), equity financing (Teoh, Welch, and Wong, 1998), union negotiations (Libery and Zimmerman, 1986) and International Trade Commission import relief investigations (Jones, 1991). However, the extant literature investigating manipulation in control contests is limited. The focus of this stream of research has been two-fold: 1) whether, on average, manipulation occurs, and 2) alternative methods used to detect earnings manipulation. Unfortunately, the cumulative results of these studies have been inconsistent.

Christie and Zimmerman (1994) investigate the depreciation, inventory and investment tax credit accounting methods utilized by the management of firms that are takeover targets. They find that takeover targets make more income increasing choices than non-takeover target firms. DeAngelo (1986) examined management manipulation of earnings prior to a management buyout. Using an accrual methodology on a sample of 64 NYSE and AMEX firms for the period 1973-82, she finds no evidence supporting a systematic bias to lower earnings in the period preceding the buyout. While several explanations are proposed for this result, DeAngelo states the most plausible is that the increased scrutiny of these buyouts deterred earnings management behavior. However, Perry and Williams (1994) propose an alternative explanation. They highlight several concerns with DeAngelo's sample including a high level of troubled firms (which would be subjected to higher scrutiny by auditors), high management ownership compared to the general population, and 14 out of the 64 firms in her sample were already subject to hostile takeovers. Using a larger sample that controls for these factors, Perry and Williams find evidence of earnings management in MBO contests. Wu (1997) also expresses concerns with the DeAngelo sample. He eliminates all MBO firms subject to prior hostile takeover bids and uses an industry adjusted change in earnings to measure earnings management. Applying the DeAngelo methodology, he does not find evidence of earnings management, however, using his own measure of earnings management he finds evidence managers manipulate earnings downward prior to making an offer to buy the firm.

While these papers report differences in the average amount of earnings manipulation, all report substantial cross sectional variation in the degree of manipulation across firms in their samples, but leave this cross-sectional variation unexamined.[4] Nor do they explore the

[4] The standard deviation of accrual changes tends to be at least twice that of the mean accrual change in these studies.

impact manipulation has on the contest characteristics and its ultimate outcome. This study will augment the existing literature in three ways. First, this study identifies what combination of firm ownership structure and corporate governance mechanisms (or lack thereof) act to create incentives for managers to engage in opportunistic behavior and manipulate earnings downward in order to buy the firm cheaply from public shareholders. Secondly, this study examines what impact earnings manipulation has on the ultimate outcome of the MBO control contest. Thirdly, the study explores whether market forces or minority shareholder litigation nullify opportunistic managerial behavior after the fact. Finally, our study provides a useful benchmark for future research in the area, in light of new regulations that are likely to change the reporting environment surrounding an MBO offer and the ability of management to under state earnings in order to achieve a lower price. The sample used in this study is based in an earlier time period when the new rules did not apply, it will be some time before we have sufficient data to examine the full impact of these changes in corporate governance structure on earnings management surrounding MBOs. In the mean time, our study examines the ability of traditional corporate governance structures to control managers' incentives to manage earnings. This provides a useful benchmark against which the new corporate governance structures can be compared when more data becomes available.

RESEARCH METHODOLOGY

We examine unexpected accruals as a proxy for earnings management. Accounting accruals are the difference between net income and cash flows from operations. Following Dechow, Sloan and Sweeney (1994) we focus on accruals related to depreciation and amortization, the change in operating current assets and the change in operating current liabilities:

$$TA_t = \Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta STD_t - Dep_t$$

Where:

TA	=	total accruals;
ΔCA	=	change in current assets;
ΔCash	=	change in cash and cash equivalents;
ΔCL	=	change in current liabilities;
ΔSTD	=	change in debt included in current liabilities;
Dep	=	Depreciation and amortization expense.

We use a time-series version of the Modified Jones Model to estimate the expected accruals and measure unexpected accruals as the difference between TA and expected accruals.[5] If managers are anticipating undertaking an MBO then earnings management is likely to occur in the period leading up to the offer. We examine the two-year period leading up to the offer for evidence of earnings manipulation. The expected accruals model is therefore estimated using accounting information three years prior to the MBO offer and earlier. We use the two-year period to make our results comparable to other studies (see Perry and Williams, 1994; DeAngelo, 1986; and Wu, 1997) and because these prior studies indicate that the downward manipulation in earnings occurs in the year prior to the MBO offer. The parameters of the model are estimated by performing the following regression:

$$TA_{i,t}/A_{i,t-1} = \alpha_1 (1/A_{i,t-1}) + \alpha_2 (\Delta REV_{i,t}/A_{i,t-1}) + \alpha_3 (PPE_{i,t}/A_{i,t-1}) + \varepsilon_{i,t}$$

Where:

$A_{i,t-1}$	=	total assets of firm i at the end of year t-1;
$\Delta REV_{i,t}$	=	change in revenues for firm i from t-1 to t;
$PPE_{i,t}$	=	gross property plant and equipment of firm i at the end of year t;
$\alpha_1, \alpha_2, \alpha_3$	=	firm specific parameters;
$\varepsilon_{i,t}$	=	error term for firm i in year t.

Unexpected accruals for the two years prior to the MBO offer date are estimated using the Modified Jones Model as follows:

$$UA_{i,p} = TA_{i,p}/A_{i,p-1} - a_1 (1/A_{i,p-1}) - a_2 ((\Delta REV_{i,p} - \Delta REC_{i,p})/A_{i,p-1}) - a_3 (PPE_{i,p}/A_{i,p-1})$$

Where:

[5] McNichols (2000) discusses the relative merits of the Jones Model versus the Modified Jones Model and the time-series (firm specific) versus the cross-sectional (industry) versions of these models. We estimate a firm specific, time-series model. Limitations of this model are that it is subject to a survivorship bias because it requires at least ten years of accounting data on each firm and it assumes the model parameters are stationary over time. The cross-sectional Jones model is not subject to these limitations as model parameters are estimated by industry in the same year as the discretionary accruals are estimated. However, the cross-sectional model is subject to other limitations. Firstly, some observations are lost if the firm is in a small industry with insufficient observations to generate reliable parameter estimates. Secondly, the cross-sectional model requires that parameter estimates are stationary across firms in the industry. However, even in the same industry firms are likely to have different operating policies regarding many things such as inventory levels and customer credit. This will lead to measurement error in the discretionary accrual estimates. For these reasons, we decided to use the time-series approach.

$UA_{i,p}$	= unexpected accruals for firm i, in hypothesized manipulation year p;
$\Delta REC_{i,p}$	= change in accounts receivable of firm i, in year p;
a_1, a_2, a_3	= estimated firm specific parameters from the expected accruals model;
p	= -1, -2, the two hypothesized earnings manipulation years.

The unexpected accruals are standardized by $\sigma(\varepsilon_{i,t})$ an estimate of the standard deviation of the residual from the expected accrual model.

$$V_{i,p} = UA_{i,p} / \sigma(\varepsilon_{i,t})$$

The significance of the standardized unexpected accruals is computed by calculating a Z-statistic as follows:

$$Z_p = \Sigma V_{i,p} / [\Sigma(T_i - k) / (T_i - (k+2))]^{1/2}$$

Where:

T_i	is the total number of time-series observations used to estimate the expected accruals model of firm i;
k	is the number of parameter estimates in the model. K equals 3 for the Modified Jones Model.
Z_p	is assumed to be asymptotically distributed unit normal.

Sample and Data

The time frame of the sample is management buyouts occurring between 1984 and 1987 which is similar to that used in the previous literature on managers manipulation of earnings during control contests (DeAngelo, 1986; Perry and Williams, 1994; Wu, 1997; DeAngelo, 1986; Christie and Zimmerman, 1994).

Data Collection

The *Wall Street Journal* and the *Dow Jones News Wire* serve as primary data sources. For each firm in the sample we read all articles and news releases for the year prior to the initial buyout announcement to two years after or when the firm becomes private and ceased to have its activities reported in the financial press. Additionally, we also obtain data for each

event in several categories. First, we include actions by minority shareholders since the fairness of the management buyout offer is often litigated by such shareholders (DeAngelo, 1985; Peck, 1996; Lowenstein, 1985; Perry and Williams, 1994). Next, we include actions by independent directors. Often a committee of independent directors is formed to evaluate an MBO offer and to consider competing bids, usually with the help of an independent investment banker and/or lawyers retained by the committee. We also collect data on block acquisitions because professional investors and corporations often acquire a block around the time of the MBO offer and subsequently contest the offer (Peck, 1996).

Additional data is collected on the level of inside ownership concentration the year prior to the MBO offer from the firm's proxy statement in the year prior to the MBO offer. We adjust these data using The *Insider's Chronicle* because proxy statements do not always occur one year prior to the offer. Proxy statements are used for obtaining data on the top executives' compensation contracts: the percentage of common shares owned by the CEO; the percentage of options granted; and total cash compensation. Finally, we use the proxy statements to collect data on board composition in the year prior to the MBO offer. CRSP, CRSP/NASDAQ tapes, and Standard & Poor's *Monthly Security Owner's Stock Guide* are used to collect data on total equity value the month prior to the initial buyout offer using share price and shares outstanding data.

Sample Selection

A sample of 138 management buyouts is identified from two different sources. We form an initial sample of 90 management buyout attempts from 1984 to 1987 by searching the Dow Jones News/Retrieval Service for articles containing the following words or phrases: "management buyout," "leveraged buyout," "LBO," "MBO," "going private," and "taken private." For purposes of this study an MBO attempt is defined as an announcement in which top management, either alone or with a group of equity investors, makes an offer to buy the firm. A sample provided by Steven Kaplan provided forty-eight additional management buyout attempts.[6]

This sample was reduced for several reasons. First, seventeen firms are eliminated because of insufficient return data on either the Center for Research in Security Prices (CRSP) or

[6] We are grateful for Steven Kaplan's generosity in supplying his sample. This sample consists of both successful and unsuccessful management buyouts. The successful buyouts include all buyouts of at least $100 million that are announced or completed between 1984 and 1987. He also includes an incomplete sample of buyouts that are worth less than $100 million. The failed buyouts include all failed buyouts announced between 1984 and 1985 of at least $50 million..

CRSP/NASDAQ tapes to estimate market model returns. Eight additional firms are eliminated because data on institutional shareholdings are unavailable because they are not reported by Standard & Poor's. Five firms are eliminated because The *Insider's Chronicle* did not report data on inside holdings (The *Insider's Chronicle* began publishing after the relevant dates). Twenty-three firms are eliminated because they did not have sufficient data on Compustat to estimate standardized abnormal accruals using the Modified Jones Model. Finally, consistent with Klein (2002), five firms were eliminated as abnormal accrual outliers.[7] The final sample consists of 79 firms and includes buyouts initiated by both management and outside parties. Table 1 reports the parameter estimates from the estimated Modified Jones Model. The mean adjusted r-square is 38% which is similar to that found in other studies that use the modified Jones model.

Table 1

Description statistics for expected accruals model for the modified Jones model for a sample of 79 buyout attempts

Variable	Average parameter estimate	t-statistic
Standardized intercept	0.271104	-0.19429
Standardized change in revenues	0.987013	0.110006
Standardized gross property, plant, and equipment	-0.95492	-0.06827
Average number of years = 13.55696		
Range of years = 7 to 15		
Adjusted R^2 = 0.383487		

Sample Characteristics

Table 2 reports the sample characteristics. The first group of variables reported reflects earnings management. Following Perry and Williams (1994) we calculate a Z- statistic to

[7] We exclude all firms that with extreme Vips. Extreme is defined as all cases where the absolute Vip is greater than four. Five firms are excluded on this basis. Four of these firms engaged in a merger or acquisition during the year the discretionary accruals are estimated for and three of these had greater than a 50% increase in total assets in that year. Hribar and Collins (2002) report that when accruals are measured as the change in successive balance sheet accounts, as they are in this paper, then firms that engaged in mergers and acquisitions are subject to large measurement error. This error is due to the impact of the acquisition on current asset and current liability accounts.

test the significance of the standardized abnormal accrual. Consistent with Perry and Williams (1994) we find evidence of significant downward manipulation of earnings in the year prior to the MBO announcement, but not two years prior.

Prior research has shown that independent directors monitor managers to ensure that managers act in shareholders interests during control contests (Cotter, Shivdasani, and Zenner, 1997). Thus, we also examine board composition. We define independent directors as non-management directors with no obvious ties to management. Table 2 shows that the typical board consists of less than 50% independent directors. Looking at all firms, Cotter, Shivdasani, and Zenner (1997) report an average of 69.6% outside directors on the board. Thus, it is possible that outside directors in MBO contest firms are not able to exert as much influence over management as would be possible in a typical control contest.

Healy (1985) has shown that managers have incentives to manipulate earnings because of compensation contracts, i.e., earnings based bonuses . In particular, as managers cash compensation (salary and bonus) increases there are greater incentives to manipulate earnings upwards. To the extent that earnings manipulation is not transparent to market participants (Teoh, Welch, and Wong, 1998), managers also have incentives to manage earnings upwards to increase the value of their stock holdings. Thus, existing compensation contracts are likely to discourage managers from manipulating earnings downward to acquire the firm more cheaply from public shareholders. Table 2 report managers' shareholdings, options, and total cash compensation scaled by total assets. The total cash compensation consists of both salary and bonus. Ideally, we would like to have data on salary and bonus separately. Because most bonus plans are based on accounting earnings, the bonus component of this number is likely to be directly impacted by manipulation (Healy 1985). However, firms are not required to report bonus and salary separately and most of the firms in our sample do not. We scale total cash compensation by total assets since larger firms tend to pay larger levels of total compensation. The results show that CEO's typically own between 2% and 10% of shares outstanding, their new option grant are a very small percentage of the total shares outstanding, and have cash compensation that is about 0.5% of total assets.

We also report variables that reflect the ownership structure of firms in our sample. Inside ownership is included because as inside holdings increase, managers have a natural defense against a takeover attempt since they control a larger amount of shares outstanding (Stulz, 1988; Song and Walking, 1993). Thus managers' pre-offer ownership stake is likely to be related to their incentive to manipulate earnings downward. Similarly, outside blockholdings are included because outside blockholders can influence the dynamics of the buyout

contest. Prior researchers have shown that outside blockholders can facilitate takeovers by either aligning with or voting against management in a takeover contest (Walking, 1985; Edminster and Walking, 1985; Shleifer and Vishny, 1986; Peck, 1996). Table 2 shows that, on average, managers own 15% of shares outstanding, outside blockholders own 6%, and institutional investors own 32%.

Sweeney (1994) has shown that managers have incentives to manipulate earnings to avoid default on accounting based covenants in debt contracts. Press and Wintrop (1990) and Duke and Hunt (1990) find a positive relation between leverage and the restrictiveness of accounting based debt covenants in the 1980's. Thus, we use the level of existing debt to proxy for managers' incentives to manipulate earnings upwards to avoid debt covenant default. Table 2 reports that in a typical MBO firm long term debt constitutes about 22% of pre-buyout total assets.

Table 2
Selected sample characteristics for a sample of 79 management buyout attempts

Variable	Mean	Median
Earnings manipulation:		
Standardized abnormal accrual in Year –1	-0.35527	-0.36712
Z- statistic in Year –1 (p-value)	-2.80508 (.0025152)	n.a.
Standardized abnormal accrual in Year –2	-0.03594	-0.1102
Z- statistic in Year –2	-0.28380 (0.38828)	n.a.
Corporate governance mechanisms:		
Board composition: Percentage of independent directors	42.52039	45.45455
CEO compensation: Percentage of common stock held	9.559274	2.064307
Options granted as a % of total shares outstanding	0.157814	0
Total cash compensation as a % of total assets	0.492307	0.157938
Ownership structure: Percentage of stock held by insiders	14.62426	5.107803
Percentage of stock held by 5% outside blockholders	6.36517	0
Percentage of stock held by institutional investors	31.50347	30.62368

table 2 cont.

Variable	Mean	Median
Debt constraints:		
Long term debt as percentage of total assets	22.2729	22.37396
Contest characteristics:		
Percentage of firms that have management initiated buyouts	82.3	n.a.
Percentage of firms where higher offer is made after management's initial offer by an outside bidder	12.7	n.a.
Percentage of firms where management revised its initial offer	27.8	n.a.
Percentage of firms where committee of independent directors reject management's bid	2.5	n.a.
Percentage of firms with minority shareholder litigation	25.3	n.a.
Percentage of firms where a block is acquired in the year before the MBO offer	36.7	n.a.
Percentage of firms where a block is acquired in the year after the MBO offer	34.2	n.a.
Percentage of firms where a blockholder takes actions after the MBO offer	27.8	n.a.
Percentage of firms where managers take actions to deter a takeover	24.1	n.a.
Percentage of firms taken over by an outside third-party	8.9	n.a.
Percentage buyout premium	21.5842	20.7765
Firm size:		
Total assets ($ millions)	534.1506	241.28

n.a. = not applicable

Table 2 also reports the contest characteristics. The results show that 82.3% of management buyout contests are initiated by management. On average, 12.7% of the firms in the sample receive a higher offer from an outsider and 27.8% of the time management revises its initial offer. The committee of independent directors formally rejects managements' offer about 2.5% of the time. A block is acquired in the year before the offer in 36.7% of the cases and during the year after the offer in 34.2% of the cases. Minority shareholders litigate 25.3% of the management buyout offers. Given that management's offer is often contested, it is

not surprising to find that management takes actions to deter a takeover. Managerial deterrence is defined as taking any one of the following actions: (1) adopting an anti-takeover amendment; (2) litigating an outside bidder; (3) increasing management's effective stake by buying back shares, debt for equity swap, repurchase of convertible preferred or convertible debt for cash, private placement of equity, or repurchase of shares from an investor. We find that managers take at least one of these actions 24.1% of the time.

Finally, Table 2 reports the final buyout contest outcome; the premium and the identity of the successful bidder. Since not all buyout offers are all cash, we estimate the buyout premium as the cumulative abnormal return around the announcement of the initial buyout offer. The final buyout premium is defined as the summation of abnormal returns on trading days – 20 to when the transaction is completed or 250 days in the case of failed buyouts. Day 0 is the day the initial buyout offer is announced in the Wall Street Journal or came over the *Dow Jones News Wire*. Abnormal returns are calculated as the difference between realized returns and market-model expected returns. The CRSP (NASDAQ) value-weighted index is used as the market index for CRSP (NASDAQ) firms. The market model is estimated using 200 daily returns up until 120 days prior to the initial buyout announcement. Table 2 shows that the premium is on average 21.6% above the stock price one month prior to the initial offer. Table 2 also shows that on average 8.9% of all firms are eventually taken over by an outside third-party.

The next section examines how the degree of managerial manipulation of earnings varies with corporate governance mechanisms, contest characteristics, and the ultimate buyout outcome.

RESULTS

Perry and Williams (1994) calculate a standardized abnormal accrual from the Jones (1991) model and the associated Z-statistic. They then compare the Z-statistic from the MBO sample to a control sample to determine whether there is evidence of more manipulation in the MBO sample. We take the same approach with the Modified Jones Model to test whether the degree to which managers manipulate earnings downward varies across sub-samples within our MBO sample. We define the sub-samples based on characteristics of corporate governance mechanisms (or lack thereof) within the firms and the characteristics of the buyout contest.

Corporate Governance Mechanisms

We predict that effective corporate governance mechanisms should effectively dampen managers' incentives to manipulate earnings downward. Table 3 reports the results for the corporate governance variables. We hypothesize that in firms with a relatively weak corporate governance structure managers will have greater latitude to manipulate earnings. When contemplating an MBO, managers of firms with weak corporate governance structures are likely to use more negative discretionary accruals than firms with stronger corporate governance structures. To test for differences in the discretionary accruals between firms with weak and firms with strong corporate governance structures we estimate the following statistic:

$$Z_{diff.p} = (\bar{V}_a - \bar{V}_b) / (\sigma_a^2/N_a + \sigma_b^2/N_b)^{1/2}$$

Where, $\bar{V}_a$ and $\bar{V}_b$ are the means of the $V_{i,p}$s in sub-samples a and b respectively; σ_a^2 and σ_b^2 are the variances of the $V_{i,p}$s in sub-samples a and b respectively and N_a and N_b are the number of observations in sub-samples a and b respectively.

$\sigma_a^2 = 1/N_a^2 \quad \Sigma(T_i - k) / (T_i - (k + 2))$ for the i firms in sub-sample a; and

$\sigma_b^2 = 1/N_b^2 \quad \Sigma(T_i - k) / (T_i - (k + 2))$ for the i firms in sub-sample b.

Board of Directors

The board of directors has specific oversight over the firm's accounting practices; most exchanges recommend an audit committee that consists solely of independent directors. The results reported in Table 3 shows statistically significant less manipulation when the percentage of independent directors on the board is greater than the sample median value.

Compensation Contracts

Managers' compensation contracts can also affect incentives to manipulate earnings. If these contracts provide incentives for managers to manipulate earnings upwards, managers will be less likely to manipulate earnings downward in an attempt to acquire the firm cheaply from public shareholders. To the extent that the market does not perceive upward manipulation of earnings, managers with greater stock based compensation are more likely to manipulate earnings upwards. Similarly, to the extent that managers have higher levels of total cash compensation due to earnings based bonus awards, they will also have disincentives to manipulate earnings downward. Table 3 shows statistically significant less manipulation in firms where their CEO has greater than the median level of stock holdings and options grant-

ed. This finding supports the hypothesis that compensation contracts create dis-incentives for managers to manipulate earnings downward prior to an MBO offer. There is no significant difference in discretionary accruals of firms that pay high versus low cash compensation to their CEOs.

Ownership Structure

We also examine ownership structure as an important corporate governance mechanism. In addition to CEO stock holdings we also look at the size of all inside holdings, which includes shares beneficially held by all mangers. The expected relation between inside holdings and the extent of earnings manipulation is ambiguous. On the one hand, if managers anticipate selling some of their shares in the buyout, as the size of their holdings increase, managers have less incentive to manipulate earnings downward as this would decrease the market value of their holdings. Alternatively, inside ownership also acts as defense against a higher bidder (Stulz, 1988; Song and Walking, 1993). If managers hold sufficient shares that they perceive a higher bidder is unlikely to emerge, they will be more likely to manipulate earnings downward to convince public shareholders that a low offer is fair. Yet, it is also possible that managers manipulate earnings downward to discourage an outside bidder if they believe that the manipulation will not be transparent to these bidders.

Table 3

Differences in the statistical significance of standardized abnormal accruals using the modified Jones model across various sub-samples defined by corporate governance variables for a sample of 79 management buyout attempts

Variable	Average standardized abnormal accrual for Year –1	Z- statistic for Difference between Two Sub-samples For Year-1	P-value (one-tail)
Board composition: Firms with percentage of independent directors above the median	-0.2841047		
Firms with percentage of independent directors at or below the median	-0.4148472	2.02053	0.021664
CEO compensation: Percentage of common stock held greater than median value	-0.2882158		
Percentage of common stock held less than or equal to median value	-0.4174146	2.01297	0.022059

table 3 cont.

Variable	Average standardized abnormal accrual for Year –1	Z- statistic for Difference between Two Sub-samples For Year-1	P-value (one-tail)
CEO Composition			
Options granted as a % of total shares greater than the median value	-0.2789395		
Options granted as a % of total shares less than or equal to the median value	-0.4225105	2.22764	0.012952
Total cash compensation/ total assets greater than the median value	-0.3634236		
Total cash compensation/ total assets less than or equal to the median value	-0.3473170	-0.25084	0.40097
Ownership structure:			
Percentage of stock held by insiders greater than the median value	-0.4756151		
Percentage of stock held by insiders less than or equal to the median value	-0.2379303	-3.70290	.00010658
Percentage of stock held by 5% outside blockholders greater than the median value	-0.4512529		
Percentage of stock held by 5% outside blockholders less than or equal to the median value	.00010658	-2.36255	.0090749
Percentage of stock held by institutional investors greater than the median value	-0.4053803		
Percentage of stock held by institutional investors less than or equal to the median value	-0.3064093	-1.54225	0.061506
Debt constraints:			
Long term debt/ total assets greater than the median value	-0.4602293		
Long term debt/ total assets less than or equal to the median value	-0.2476162	-3.31402	.00045983

Table 3 shows that downward manipulation of earnings is greater in firms that with greater than the medial level of inside holdings. This suggests that managers with higher inside ownership may manipulate earnings downward to justify a lower offer to shareholders without fear that downward manipulation will attract a competitive bid.

Prior researchers have shown that outside blockholders monitor managers (Walking, 1985; Edminster and Walking, 1985; and Shleifer and Vishny, 1986). Thus, we also include measures of outside shareholdings in the year prior to the MBO. Table 3 reports that the downward manipulation is more severe in firms with greater than the median value of percentage of 5% outside blockholders and percentage of institutional holdings. This finding suggests that managers may manipulate earnings downward to justify a lower offer to blockholders and institutional investors.

Finally, we look at the level of debt and the constraints it places on manipulation. As the level of debt increases, managers have less incentive to manipulate earnings downward and violate accounting based covenants (Sweeney, 1995). However, Table 3 shows that the downward manipulation is not greater for firms with less than the median value of debt.

In summary, the results reported in Table 3 suggests that some corporate governance mechanisms act to discourage managers from manipulating earnings prior to making an offer. The severity of the observed downward earnings manipulation is less when the firm has a board with more independent directors and higher levels of stock-based incentive compensation. The next section examines how the market for corporate control and events during the buyout contest are related to the severity of the manipulation.

Market Mechanisms

In this section we investigate whether managements' attempt to manipulate earnings downward to acquire the firm cheaply is transparent to other participants in the buyout contest. We examine the actions of outside third-party bidders, the committee of independent directors, and minority shareholders. We also examine whether managers act in ways that are consistent with manipulating earnings downward to acquire the firm cheaply. The response of market participants are all measured after management makes their initial offer.

Table 4 reports the average standardized abnormal accrual and the Z-statistic for year –1 for buyout offers that were initiated by management and those that were not. Outside initiated buyouts have more severe manipulation. This is surprising since Perry and Williams (1994)

argue that MBO offers that follow an outside or takeover offer are likely to have less manipulation because management will not have time to manipulate earnings in response to the takeover. Our results suggest that managers manipulate earnings downward prior to an MBO offer initiated by outsiders, but that the degree of downward manipulation may provide a signal to an outside bidder that management is preparing to buyout the company cheap and causes a pre-emptive bid by an outside third-party.

Prior researchers have shown that a lower offer is more likely to be subject to scrutiny by competitive bidders (Peck, 1996, Hirshleifer and Png, 1990). Thus, we also look at the relation between manipulation and additional bidding that occurs after the initial MBO offer. If downward manipulation is used to make a low offer and the manipulation is transparent to outside bidders, then we would expect to see more manipulation in firms that attract a higher offer by an outside bidder following management's initial offer. Alternatively, if downward manipulation is not transparent, then potential bidders may conclude that the downward change in earnings does not warrant a higher offer. Table 4 shows that a higher bid by an outside party occurs when there has been less manipulation. Even so, we do find evidence that management is more likely to revise their bid if there has been more manipulation. This finding suggests that outside parties do not always use the extent of downward manipulation to determine whether a higher offer is warranted. In contrast, managers appear to have better information about the degree of downward manipulation reflected in a greater likelihood of revising their offer when the downward manipulation has been more severe.

We also examine how shareholders respond to the degree of earnings manipulation. We look at both large blockholders and minority shareholders. If minority shareholders can detect opportunistic manipulation, minority shareholder litigation of the buyout offer is likely to be related to the size of the downward manipulation. Alternatively, if shareholders cannot detect the manipulation, then downward manipulation and the subsequent decline in earnings is likely to justify a lower offer. The results in Table 4 support the latter explanation. We find more manipulation is associated with less litigation by minority shareholders.

Prior researchers have shown that 5% outside blockholders acquire blocks during the year before and after the MBO offer and that these blockholders are either corporations acquiring a toe-hold prior to making a bid or control specialists that contest the fairness of the offer (Peck, 1996). Table 4 shows that new block acquisitions after the offer and blockholder actions (such as litigating the fairness of the offer) are not associated with the level of manipulation. While not reported in the table, we also examine the relation between manipulation and block acquisitions prior to the MBO announcement. We find that the average

standardized abnormal accrual is -.6236 when a block is acquired in the year before the MBO compared to -.1996 when there is no block acquisition. The Z statistic for this difference is –6.098 with a p-value of .0000. This suggests that these blockholders respond to the manipulation by acquiring a block. Peck (1996) shows that blockholders are less likely to acquire a block after the offer when a block acquisition has been made before the offer. Thus, if firms with the most severe manipulation have already attracted a blockholder prior to the offer, the firms remaining that are attractive to a blockholder after the offer are likely to be firms with less severe manipulation. We also find evidence that blockholders put pressure on management to revise their bid upwards. We find that the spearman correlations between whether managers revise their bid upwards and whether a blockholder has acquired a block in the year before the MBO offer is positive (.21290) and statistically significant (p= .0596). In contrast, we find that whether management revises its bid upwards is not significantly correlated with any of the other variables we investigate.

Finally, we investigate the relation between actions managers take to deter a takeover and degree of downward manipulation. If managers use downward manipulation to acquire the firm more cheaply, we would expect that such managers will also be more likely to take anti-takeover actions. However, we do not find statistically significant results to support this assertion.

Table 4

Differences in the statistical significance of standardized abnormal accruals using the modified Jones model across various sub-samples defined by the buyout contest characteristics for a sample of 79 management buyout attempts

Variable	Average standardized abnormal accrual for Year –1	Z- statistic For Year-1	P-value (one-tail)
Firms that have management initiated buyouts	-0.3168914		
Firms that have outside party initiated buyouts	-0.5334471	1.99345	0.023106
Firms where higher offer is made after management's initial offer by an outside bidder	-0.0566870		
Firms where there is no higher offer is made after management's initial offer by an outside bidder	-0.3985410	2.37041	.0088842

table 4 cont.

Variable	Average standardized abnormal accrual for Year –1	Z- statistic For Year-1	P-value (one-tail)
Firms where management revised its initial offer	-0.5902500		
Firms where management does not revised its initial offer	-0.2645737	-4.06396	.000024124
Firms with minority shareholder litigation	-0.2504880		
Firms without minority shareholder litigation	-0.3907871	1.65026	0.049445
Firms where a block is acquired in the year after the MBO offer	-0.3286452		
Firms where no block is acquired in the year after the MBO offer	-0.3690919	0.56139	0.28727
Firms where a blockholder takes actions during the year after the MBO offer	-0.3405409		
Firms where a blockholder does not take actions tthe year after the MBO offer	-0.3609526	0.24987	0.40135
Firms where managers take actions to deter a takeover	-0.3695322		
Firms where managers do not take actions to deter a takeover	-0.3102247	0.67594	0.24954

In summary, we find that prior to managers making a buyout offer, it is more likely an outside block will be acquired and that an outside bidder will initiate a buyout offer when earnings manipulation has been more severe. However, once management has placed their buyout offer, we find no evidence that outside bidders, independent directors or minority shareholders respond to the downward manipulation. However, we find mixed evidence related to the opportunistic nature of the downward manipulation. Managers are more likely to revise their initial bid when manipulation is more severe and new pre-offer blockholders appear to be the contest participants that act to put pressure on management to do so.

Buyout Outcome

Both our findings and Perry and Williams (1994) show that managers manipulate earnings downward in the year prior to making a buyout offer to public shareholders. However, the findings discussed in the prior section show that various market participants act in different ways to the downward manipulation. Thus, we also investigate whether the manipulation has an impact on the final buyout contest outcome; both the price paid and the identity of the winning bidder.

Table 5 shows that firms taken over by a outsider third party have much less downward manipulation than those which are not. However, Table 5 shows that a buyout premium larger than the median value occurs when the downward manipulation is more severe. These findings show that while management seem to use to maintain control of their firm they are willing to pay shareholders a larger premium to acquire this control cheaply from shareholders. Therefore, we cannot say whether shareholders are made better or worse off as a result of this manipulation.

Table 5

Differences in the statistical significance of standardized abnormal accruals using the modified Jones model across various sub-samples defined by the ultimate buyout outcome for a sample of 79 management buyout attempts

Variable	Average standardized abnormal accrual for Year –1	Z- statistic For Year-1	P-value (one-tail)
Firms taken over by an outside third-party	0.1579571		
Firms not taken over by an outside third-party	-0.4051653	2.80912	.0024839
Buyout premium is above the median value	-0.4948280		
Buyout premium is less than or equal to the median value	-0.2121303	-4.40712	.0000052378

CONCLUSIONS, LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Recently the SEC has escalated their attack on earnings management. It is unethical for managers to use such practices to enrich themselves at the expense of their shareholders. When managers offer to buy the firm from their public shareholders they have a fiduciary

duty to offer a fair price. However, consistent with previous findings we find that managers manipulate earnings downward apparently to justify a lower offer to shareholders. We investigate whether corporate governance mechanisms discourage such behavior before the offer and whether participants in the buyout contest nullify this behavior after the initial offer has been made.

We find evidence that some corporate governance mechanisms act to discourage such manipulation. The severity of the observed downward earnings manipulation is less when the firm has a board with more independent directors and higher levels of stock-based incentive compensation. We find mixed evidence on the role that market participants play in nullifying the impact of downward manipulation on an initial low offer. Outside bidders are more likely to initiate the buyout but are less likely to make an offer higher than managements' when manipulation is most severe. We find that minority shareholders and pre-existing outside blockholders appear to be misled by the manipulation. But blockholders that acquire a block in the year before the MBO offer are not. Yet, we also find that managers are more likely to revise their bid upwards when the manipulation is most severe and the new pre-offer blockholders appear to be the ones that pressure management into these revisions.

Both corporate governance and market mechanisms do not appear to be adequate in eliminating the impact of manipulation on the final outcome. We find that in the presence of manipulation managers are more likely to successfully acquire the firm. However, this is partially mitigated in the final buyout premium paid. The premium is likely to be higher for firms with the most severe manipulation. Additionally, our findings suggest that corporate governance mechanisms are more effective than market mechanisms for discouraging manipulation. Both increasing the number of independent directors on the board and providing more incentive compensation for the CEO are important steps that managers can take to discourage downward manipulation.

We should note some limitations of the current research and how they provide opportunities for additional future research in the area. The sample period used is older and may be less relevant to current conditions. However, the time period of the sample is used to be comparable and augmented with the vast body of previous literature in this area (e.g., Perry and Williams,1994; Wu, 1997; Peck, 1996; Kaplan, 1989, Kaplan and Stein, 1990). Of course, conditions change over time. Recent events surrounding the failures of Enron, World Com, and the accounting scandals at these and many other companies have bought into question the reliability of the corporate governance structures of U.S. companies. During 2002

Congress, the SEC and the NYSE all developed new regulations regarding the operation of corporate governance mechanisms. These changes have resulted in a new federal oversight board for the accounting profession, mandatory rotation of the external auditor, a requirement that the board of directors must contain a majority of independent directors, and new rules governing the function of the internal audit committee.[8] Also since the early 1990's the SEC has taken a harder line, than in the past, when companies are found to be overstating earnings. These new regulations are likely to change the reporting environment surrounding an MBO offer and ability of management to understate earnings in order to achieve a lower price. While the sample used in this study is based in an earlier time period when the new rules did not apply, it will be some time before we have sufficient data to examine the full impact of these changes in corporate governance structure on earnings management surrounding MBOs. In the mean time, our study examines the ability of traditional corporate governance structures to control managers' incentives to manage earnings. This provides a useful benchmark against which the new corporate governance structures can be compared when more data becomes available.

Additionally, this paper does not perform multivariate analysis. The extent of earnings manipulation could be affected by the interaction of numerous mechanisms and incentives. This type of analysis would use different models and would provide different results than the simple measure of manipulation. Some market participants may use more naïve models to measure changes in accrual than others. These more naïve models may in fact capture misclassified manipulation but may provide more powerful tests of how market participants react to perceived opportunistic earnings management. Thus, this measure may depend on both the model of accruals that they use (for example, DeAngelo, Jones, modified-Jones, time series versus cross-sectional Jones) as well as whether they adjust their perception of opportunistic manipulation depending on the corporate governance mechanisms in place. We believe that the above issues provide fertile ground for future research.

[8] Many of these regulations are contained in the Sarbanes-Oxley Act of 2002.

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