# Audit Committees and Earnings Expectations Management

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## ABSTRACT

This study examines the association between audit committee oversight and earnings expectations management. We find that audit committees that are independent, include at least one accounting expert, and meet frequently are associated with lower likelihoods of downward expectations management and optimistic bias in analyst forecasts. Consistent with the expectations management results, we also find that analyst forecast revisions and management guidance are less likely to be downward when audit committees are active and have financial or accounting expertise. Further, we find evidence that supports Brown and Pinello's (2007) conjecture that corporate governance influences the substitution effect between upward earnings management and downward expectations management. Finally, our findings suggest that appointing an accounting expert rather than a non-accounting financial expert to the audit committee is likely to be more effective in curbing the earnings games and protecting investors' long-term interest.

## 1. Introduction

This study examines the interactions between audit committee oversight and earnings expectations management. Within this context, earnings expectations management occurs when managers attempt to avoid negative earnings surprises by manipulating analysts' earnings expectations downward to a meetable or beatable level. Earnings expectations management is part of the more general earnings surprise games where managers manage earnings (upward) and/or expectations (downward) to meet or beat earnings targets (Matsumoto 2002; Brown and Pinello 2007). Prior research documents that effective audit committee oversight is associated with less earnings management (Klein 2002a; Yang and Krishnan 2005), suggesting that managers have fewer opportunities to manage earnings upward when audit committees are functioning well. The possible association between audit committees and downward expectations management, however, has yet to be examined. The objective of this study is to fill this void by providing evidence on the ability of well-functioned audit committees to constrain downward expectations management.

Arthur Levitt, former Chair of the Security and Exchange Commission (SEC), along with the financial press have voiced concerns that the earnings games between firms and analysts compromise the integrity of the financial reporting process (Levitt 1998; Schonfeld 1998; Eccles et al. 2001; and Barsky 2002), and have urged that the earnings games be abolished to restore the integrity of the capital markets. One reason expectations management may negatively impact the integrity of the capital markets is because manipulated analysts' forecasts would likely impair the investors' ability to value a firm (Tian 2007). Another reason Graham et al. (2005) suggest is that the prevalence of managers whose goal is to meet or beat short-term earnings targets may result in managers sacrificing long-term value for shareholders.[1] To address this widespread concern, we examine whether audit committees can effectively constrain this tactic that managers employ to avoid negative earnings surprises.

While the SEC specifies that the primary responsibility of the audit committee is to monitor the financial reporting process, the extant literature and popular press suggest that the influence of audit committees extends to voluntary disclosures such as management forecasts, through its monitoring function. For instance, Gigler and Hemmer (1998) and Stocken (2000) argue that the role of mandatory financial reporting on confirming managers' past disclosures can enhance the quality of voluntary disclosure. As such, effective audit committees that enhance the confirmatory role of financial reporting would likely influence voluntary disclosures. Further, the New York Stock Exchange (NYSE) explicitly requires that audit committees discuss the disclosures found in a company's Management Discussion and Analysis (MD&A), earnings press releases, as well as earnings guidance provided to financial analysts and rating agencies [NYSE Listed Company Manual, Section 303A.07(B) and (C)]. Recently, Karamanou and Vafeas (2005) find that audit committees positively relate to the managers' decision to issue an earnings forecast, lending further evidence of the influence of audit committees on voluntary disclosures, particularly management earnings guidance.

The earnings expectations game typically starts with optimistic forecasts that analysts issue early in the forecasting period, primarily driven by analysts' incentives to access information along with a manager's preference to have analysts project favorable impressions to the market about the future performance of the firm (Lim 2001; Ke and Yu 2006). The passage of Regulation Fair Disclosure (Regulation FD) in 2000, however, likely mitigated to some extent

[1] Studies show that firms' propensity to avoid negative earnings surprises has been more pervasive than their propensity to avoid negative earnings and earnings decreases (Dechow et al. 2003; Brown and Caylor 2005)

the information access incentive on the part of the analysts (Libby et al. 2008). For the earnings expectations management games to be effective, managers must then convince analysts to revise their forecasts downward to a meetable or beatable level as the earnings announcement approaches. This optimistic-pessimistic forecast path (referred to as a walk-down), often accompanied with downward management guidance, is driven by a manager's desire to deliver earnings, as missing earnings targets is typically severely punished by the market (Skinner and Sloan 2002).

Effectively, the expectations management game can be constructed as an example of managers abusing their discretion over voluntary disclosures. Audit committees, however, can constrain this abuse through its influence over management's voluntary disclosures in the following respects. First, by inducing more transparent disclosures, it is less likely for analysts to produce over-optimistic forecasts early in the forecasting period. In turn, analysts who follow firms with more transparent disclosure are less likely to exhibit a walk-down forecasting path. Second, by effectively monitoring manager's voluntary disclosures, managers are less likely to routinely issue downward management guidance in an attempt to bring earnings expectations downward to a meetable or beatable level.

To test whether effective audit committees can mitigate the earnings expectation game, we focus on four attributes that the Blue Ribbon Committee (BRC, 1999) recommended for effective audit committees: sufficient size, independence, financial expertise, and meeting frequency. Amongst these attributes, independence and financial expertise are specifically identified in the Sarbanes-Oxley Act of 2002 as the attributes of the audit committee required for firms who file with the SEC. Our measures of expectations management follow Bartov et al. (2002), Brown and Pinello (2007), and Matsumoto (2002) by considering both the optimistic-pessimistic walk-down path of analysts' forecasts, and the news about a firm reflected in stock returns. We first investigate the influence of audit committees on analyst forecast bias, analyst downward revision, and management downward guidance, as these behaviors are consistent with expectations management. We extend the analysis by developing three comprehensive measures of expectations management, which incorporate the three aforementioned behaviors and the downward expectations model developed by Matsumoto (2002) in order to improve the validity of the expectations management measures.

We find that the analysts' initial forecasts are less likely to be optimistically biased for firms employing independent audit committees who meet four times a year and has at least one accounting expert serving on the committee. Further, we find that analyst forecast revisions and management guidance are not overwhelmingly downward for firms whose audit committees have financial or accounting expertise and meet at least four times a year. More importantly, when at least one accounting expert serves on the audit committee comprised entirely of independent directors and meeting at least four times a year, we find that managers are less likely to engage in expectations management. Further, we find that audit committees influence the substitution effect between upward earnings management and downward expectation management, in line with the expectations of Brown and Pinello (2007). Finally, we find that with an accounting expert, rather than a non-accounting financial expert, audit committees are more effective in mitigating the earnings expectations game and hence safeguarding the reporting integrity, a finding consistent with the evidence in DeFond et al. (2005).

Our findings contribute to the academic literature and have practical implications for regulators and capital market participants. First, we contribute to the corporate governance and expectations management literature by documenting that audit committees not only mitigate upward earnings management (e.g., Klein 2002a), but also constrain downward expectations management by inducing more transparency and reducing the level of bias in management's voluntary disclosures, thus contributing to restoring the integrity of capital markets and protecting the long-term interest of shareholders. Second, we contribute to the literature on analyst forecast bias in that we find that audit committees, by maintaining the integrity of financial disclosures, helps safeguard the independence of the analyst forecasting process, as reflected in the reduced bias in analyst forecasts. Finally, we link two lines of accounting literature by providing evidence that audit committees influence the trade-off between accrual management and expectations management.

The rest of the paper proceeds as follows. Section 2 reviews related literature and develop our hypotheses. Section 3 discusses our sample and research design. Section 4 presents our results. Section 5 provides some additional tests and robustness checks, and Section 6 concludes the paper.

## 2. Prior Literature and Hypothesis Development

Dechow et al. (2003) and Brown and Caylor (2005) find that in recent years, meeting analysts' forecasts has become the most important hurdle for managers, as missing the earnings targets adversely impacts a firm's stock price (Bartov et al. 2002; Skinner and Sloan 2002). The growing number of firms that meet or beat analysts' earnings forecasts, however, has raised concerns over the integrity of financial reports (Eccles et al. 2001; Barsky 2002) and the integrity of the capital market (Schonfeld 1998). As a result, Levitt (1998, 1999) and Jensen and Fuller (2002) have called on companies to provide high quality information to the markets and stop the earnings expectations game, as this game "sets in motion a variety of organizational behaviors that often end up damaging the firm" (Jensen and Fuller 2002).

Several studies examine the tactics that firms employ to meet or beat analysts' consensus forecasts. Matsumoto (2002) documents that managers use both upward earnings management and downward earnings guidance to avoid negative earnings surprises. Dechow et al. (2003) find that firms that slightly beat analysts' forecasts have high discretionary accruals relative to other firms, suggesting that these small profit firms engaged in earnings management. Cotter et al. (2006) find that firms issuing management guidance are more likely to meet or beat analyst earnings forecasts, suggesting that managers attempt to avoid negative earnings surprises by walking down analysts' earnings expectations. More recently, Brown and Pinello (2007) examine the circumstances wherein managers use these two tactics as substitutes to avoid negative earnings surprises. They document that annual reporting, compared to quarterly reporting, increases the magnitude, though not the incidence, of downward expectations management, as managers' ability to manage earnings upward is constrained with more scrutiny on annual reporting.

Brown and Pinello (2007) further point out that whether the interactions among upward earnings management, downward expectations management, and earnings surprises games depend on a firm's corporate governance is still an open question.[2] Klein (2002a) and Yang and Krishnan (2005) demonstrate that audit committee oversight is related to earnings management, suggesting that the strength of the audit committee is likely to constrain upward earnings management. In this paper, therefore, we focus on whether audit committee oversight mitigates downward expectations management.

According to the SEC and the Sarbanes-Oxley Act of 2002 (SOX), audit committees represent the most reliable guardian of public interest as audit committees serve as the

[2] Brown and Pinello (2007) suggest that there may be a tradeoff between upward accrual management and downward expectations management. We specifically test for such a tradeoff and report our findings in the additional tests section.

gatekeeper of financial disclosure and the ultimate monitor of the financial reporting process. The prior literature documents that analysts have information access incentives and thus are more likely to issue optimistically biased initial forecasts (e.g. Ke and Yu 2006; Libby et al. 2008), an early sign of the occurrence of expectations management.[3] From an information environment perspective, prior studies have provided evidence on the influence of audit committees on financial disclosure, particularly management forecasts that analysts consider an important input in their earnings forecasting model. Karamanou and Vafeas (2005) show that with a more effective audit committee structure, managers are more likely to issue an earnings forecast. Liu and Zhuang (2008) further show that analysts' forecasts are more accurate and less dispersed when management forecasts are issued by firms with effective audit committees. Likewise, we speculate that an improved information environment in firms with effective audit committees may reduce the analysts' incentives to issue optimistic earnings forecasts early in the forecasting period in order to please managers and obtain information, which should in turn leave less room for managers to manage analysts' earnings expectations downward later in the forecasting period. Thus, our first hypothesis (stated in alternative form) is:

**H1: Analyst forecasts are less likely to be optimistically biased for firms with effective audit committees.**

A necessary component of downward expectations management is the walk-down of analyst forecasts (i.e., the analysts' initial forecast is higher than last forecast before earnings announcements). Firms often use management earnings forecasts to guide analysts downward (Cotter et al. 2006). While downward revisions in analyst forecasts and downward management guidance could suggest preemptive disclosure of bad news to which analysts respond by revising

[3] In addition to information access incentives, analysts may also have underwriting-relationship incentives to issue biased forecasts (Lin and McNichols 1998). As a result, we may still observe optimistic analyst forecasts in firms providing a good information environment.

their forecasts, these forecast patterns are also suggestive of expectations management, particularly when firms eventually report actual earnings that meet or exceed the consensus analyst forecasts. As the watchdog of firms' financial disclosure practices, audit committees are likely to also be able to constrain downward management guidance that attempts merely to walk down earnings expectations to avoid negative earnings surprises. We, therefore, expect that effective audit committee oversight will be negatively related to analyst walk-downs and downward management guidance. We formally state this in our second hypothesis below (in alternative form):

**H2a: Analysts forecasts are less likely to exhibit a walk-down pattern for firms with effective audit committees.**

**H2b: Firms with effective audit committees are less likely to issue downward management guidance to meet or beat consensus analyst forecasts.**

As discussed above, we predict that firms with effective audit committee oversight are more likely to disclose useful information to analysts for valuing the firm and less likely to interfere with the forecasting process through downward guidance of the earnings expectations. Combining these two elements, therefore, we expect that well-functioning audit committees will likely mitigate the expectations management designed to avoid negative earnings surprises.

While our first two hypotheses predict that well-functioning audit committees will mitigate the effects of expectations management along the forecast path (high initial upward bias followed by downward revisions), these effects may also be attributable to downward revisions resulting from management guidance resulting from bad news, rather than a systematic attempt to manage earnings expectations. To alleviate this concern, we also test our premise by developing three alternative measures of expectations management, similar to those found in

Matsumoto (2002), that take into account the news about a firm that is reflected in stock returns. Our expectations relating to these three alternative measures are formally stated in our third hypothesis below (in alternative form):

**H3: Firms with effective audit committees are less likely to engage in expectations management to meet or beat consensus analyst forecasts.**

## 3. Sample and Research Design

### *3.1 Sample Selection*

Graham et al.'s (2005) survey of Chief Financial Officers (CFOs) indicate that CFOs perceive earnings per share of the same quarter last year and consensus analyst forecasts as the top two performance benchmarks, suggesting the earnings expectations games are a quarterly phenomenon. As such, we test our hypotheses using quarterly data. We obtain quarterly analyst forecasts, actual quarterly earnings, and management guidance data from First Call, quarterly financial information from Compustat, and board and audit committee data from Investor Responsibility Research Center, Inc. (IRRC). The IRRC data includes the size of board of directors and audit committees, and fraction of independent directors. The availability of IRRC data restricts our sample to years 1997 through 2005.[4] We gather information on work experience and educational background of directors and the meeting frequency of the audit committee from annual proxy statements. We identify financial expertise of audit committee members using the guidance consistent with the Blue Ribbon Committee (BRC) and the Sarbanes-Oxley Act of 2002. Lastly, we collect institutional ownership data as of March 1st of each year from

[4] The IRRC data includes observations from financial institutions, utilities and foreign registrants, thus we include these firms in our tests of hypotheses. Our results, however, are qualitatively identical when we delete these firms from our tests.

CDA/Spectrum. Depending on the data availability and the particular test performed, the final sample used in our tests ranges from 5,623 firm-quarters to 24,291 firm-quarters.

### *3.2 Measures of Forecast Bias, Forecast Walk-Downs, and Downward Guidance*[5]

To examine the influence of audit committees on the expectations management game, we consider analysts' initial forecast bias, walk-downs of analyst forecasts, downward management guidance, and three alternative metrics of expectations management. We focus on the incidence, rather than magnitude, of these measures in relation to the expectations management game.[6] Accordingly, we create a dummy (0,1) indicator variable to capture analysts' initial forecast bias (*OPTI*), which is set to one if analysts' first consensus earnings forecast exceeds actual earnings for the quarter, and zero otherwise.

Our second hypothesis tests two types of behavior on analysts and management that are consistent with expectations management: walk-downs of analyst forecasts and downward management guidance. We use the first and the last consensus analyst forecasts for the quarter issued between two quarterly earnings announcements to identify the walk-down pattern of forecasts. Specifically, if the last consensus analyst forecasts exhibit downward revision from the first consensus forecast, we classify this forecast path as being consistent with forecast walk-downs (WLKDN=1). Next, to identify downward management guidance, we employ the *CIG* database maintained by First Call, in which the "CIGCODED" field indicates whether the earnings guidance issued by management is coded as a negative surprise, positive surprise, or neutral, as compared with current analysts' consensus forecasts. A negative surprise indicates that management earnings guidance is below the current consensus forecast, consistent with downward guidance (*DNGD=1*). Further, to better capture downward guidance, we require that

[5] To avoid misclassification, we use split-unadjusted data.

[6] The results remain qualitatively similar when using the magnitude of these measures.

management earnings guidance be issued between analysts' first and the last consensus forecasts for the quarter.

### *3.3 Measures of Expectations Management*

Our third hypothesis specifically tests expectations management in relation to audit committee attributes. To measure expectations management, we combine two different approaches used in the literature, as either approach has its strengths and weaknesses.

The first approach follows Bartov et al. (2002), and Brown and Pinello (2007), where expectations management is suspected when analysts issue optimistic forecasts at the beginning of the quarter, followed by downward revision in forecasts and the resulting non-negative earnings surprises reported by firms when actual earnings are announced. As such, our measures of analyst forecast bias (*OPTI*), forecast walk-downs (*WLKDN*) and management downward guidance (*DNGD*) are in line with this approach. While this approach is consistent with expectations management in an attempt to meet/beat analysts' forecasts, it has several drawbacks. First, the pattern of initial optimistic forecasts followed by pessimistic forecasts that result in non-negative earnings surprises may be caused by the analyst response to bad news that could have arisen during the quarter, and not be related to managers' expectations management. Second, this approach identifies only firms who meet or beat analysts' forecasts as those who manage analysts' expectations, and ignores firms who attempt but fail to manage expectations. The inability of this approach to distinguish these two scenarios can result in over-classification of firms that engage in expectations management.

The second approach employs the downward expectations model developed by Matsumoto (2002), where the expected portion of analyst forecasts is estimated by regressing the seasonal changes in earnings changes on prior quarter's seasonal changes in earnings and returns, cumulated over the current year. The expected forecast subtracted from the last consensus analyst forecast provides the "unexpected" portion of the forecast, where a negative unexpected forecast is suggestive of downward expectations management (*DOWN*=1). As Tian (2007) points out, Matsumoto's (2002) approach complements Bartov et al. (2002) and Brown and Pinello (2007) in that it controls for the effect of market wide or firm-specific bad news on analyst forecasts. Also, this approach identifies the incidence of expectations management regardless of whether firms successfully meet or beat analysts' forecasts. This approach does not consider, however, downward revisions in analyst forecasts that lead to meeting or beating expectations at earnings announcements. As a consequence, firm-quarters with upward forecast revisions may also be classified as having expectations management.

We incorporate both approaches and develop three alternative metrics of expectations management by considering analysts' initial optimism (*OPTI*), downward revisions in forecasts (*WLKDN*), and downward management guidance (*DNGD*), respectively, in combination of Matsumoto's (2002) measure estimated in the downward expectations model.[7] To be specific, we classify firm-quarters as being suggestive of expectations management (*EXM1*=1) if analysts initially issue optimistic consensus forecast (*OPTI*=1) combined with the presence of a negative unexpected forecast from the Matsumoto's (2002) model (*DOWN*=1). Likewise, our second expectations management measure (*EXM2*=1) indicates that consensus analyst forecast exhibits a walk-down path (*WLKDN*=1) along with a negative unexpected forecast (*DOWN*=1), and the third measure (*EXM3*=1) combines management downward guidance (*DNGD*=1) and negative

[7] Tian (2007) also develops an alternative measure of expectations management by incorporating both approaches with a variation of Matsumoto's (2002) downward expectation model. Our measures differ from Tian (2007) in the sense that we directly combine Bartov et al. (2002), Brown and Pinello (2007), and Matsumoto (2002) and consider three alternative measures since each of these measures contain measurement noise.

unexpected forecasts (*DOWN*=1). The procedure of estimating the unexpected forecast is described in Appendix A.

*3.4 Measures of Audit Committee Attributes*

We examine four attributes of the audit committee that prior studies uncover to be associated with its effectiveness: committee size, independence, financial expertise, and meeting frequency. Audit committee size is measured by the number of directors serving on the committee relative to the entire board size (*ACSZ*). We create a dummy (0,1) indictor variable (*MACSZ*) , which equals one if the size of the audit committee as a percentage of the entire board size is greater than the sample median, and zero otherwise. With respect to audit committee independence, we follow the recommendations of the BRC (1999) and the requirements of the SOX by requiring each director serving on the audit committee to be completely independent of the firm.[8] Accordingly, a dummy (0,1) indicator variable (*ACIND*) is coded as one if each member of the audit committee is identified as being independent, and zero otherwise.

To measure financial expertise of the audit committee, we follow the BRC's recommendations and the SEC's Final Rule the implements the SOX (SEC 2003).[9] Specifically, a director is classified as a financial expert if that director has experience as a public accountant or auditor, a principal financial officer, comptroller, principal accounting officer, or experience in a position involving the performance of similar functions, or experience in supervising finance or

[8] The BRC (1999) and SOX specify that in order to be considered independent, a director may not, other than in his or her capacity as a director, (i) accept any consulting, advisory, or other compensatory fee from the firm; or (ii) be an affiliated person of the firm or its subsidiary. Following this requirement, we classify a director as *not independent* if he or she: (1) was a former employee of the firm; (2) is a relative of the firm's executives; (3) is an interlocking director; (4) has significant transactions or business relationships with the firm; or (5) provides legal, consulting and underwriting services to the firm.

[9] According to SOX, an individual identified as a "financial expert" should have, through education and work experience, (i) an understanding of GAAP and financial statements; (ii) experience in preparing or auditing financial statements and in applying GAAP in connection with the accounting for estimates, accruals, and reserves; (iii) experience with internal accounting controls; and (iv) an understanding of audit committee functions.

accounting personnel. However, due to the controversy that the SEC sparked in terms of a broader or narrower definition of financial expertise and the market perception in favor of accounting experts in overseeing firms' disclosure practices over non-accounting financial experts (DeFond et al. 2005), we examine the influence of both non-accounting financial experts and accounting experts on expectations management.[10] Therefore, we create two dummy (0,1) indicator variables to capture financial expertise of the audit committee. *FEXP* (*AEXP*) equals one if at least one non-accounting financial expert (accounting expert) serves on the audit committee, and zero otherwise.

Finally, to measure if the audit committee actively exercises the monitoring function, we use meeting frequency of the committee. Following the BRC's recommendations, if the audit committee meets at least four times a year, we consider the committee to be active in carrying out its monitoring duties.[11] Therefore, a dummy (0,1) indicator variable is coded as one if the audit committee meets at least four times a year, and zero otherwise.

### *3.5 Model Specifications*

To test the first hypothesis, we use the following logistic model:

$$\begin{aligned}\Pr(OPTI=1) = F(&\alpha_0 + \alpha_1 MACSZ + \alpha_2 ACIND + \alpha_3 EXP + \alpha_4 MEET \\ &+ \alpha_5 MACSZ \times SOX + \alpha_6 ACIND \times SOX + \alpha_7 EXP \times SOX + \alpha_8 MEET \times SOX \\ &+ \alpha_9 BDSZ + \alpha_{10} BDIND + \alpha_{11} INST + \alpha_{12} GINDX + \alpha_{13} LNMVE + \alpha_{14} FLLW \\ &+ \alpha_{15} MTB + \alpha_{16} LAGFE + \alpha_{17} LAGLOSS + \alpha_{18} FD + \alpha_{19} SOX + \varepsilon)\end{aligned} \tag{1}$$

All variables are defined as follows:

[10] DeFond et al. (2005) find that the market reacts more favorably to the appointment of *accounting* financial experts to the audit committee than to the appointment of *non-accounting* financial experts, where accounting experts refer to individuals with work experience in preparing and auditing financial reports while non-accounting experts also include individuals with work experience in supervising financial reporting.

[11] We exclude telephonic meetings and written consent by the committee members.

| | | |
|---|---|---|
| *OPTI* | = | one if the first consensus analyst forecast for the current quarter after previous quarter's earnings announcement is greater than actual earnings for the current quarter, and zero otherwise; |
| *MACSZ* | = | one if number of directors serving on the audit committee relative to number of directors on the entire board in the current year is greater than the sample median, and zero otherwise; |
| *ACIND* | = | one if the audit committee was completely comprised of independent directors in the current year, and zero otherwise; |
| *EXP* | = | one if the audit committee employed at least one non-accounting financial expert (FEXP) or accounting expert (AEXP) in the current year, and zero otherwise; |
| *MEET* | = | one if the audit committee met at least four times in the current year, and zero otherwise; |
| *BDSZ* | = | natural logarithm of number of directors on the board in the current year; |
| *BDIND* | = | percentage of independent directors on the board in the current year; |
| *INST* | = | percentage of the firm's aggregate common stock held by institutional investors in the current year; |
| *GINDX* | = | 24 minus current year's G-index, developed by Gompers et al. (2003);[12] |
| *LNMVE* | = | natural logarithm of market value of equity at the beginning of the quarter; |
| *FLLW* | = | number of analysts providing forecasts at the beginning of the quarter; |
| *MTB* | = | market-to-book ratio of equity at the beginning of the quarter; |
| *LAGFE* | = | the absolute value of the forecast error for the previous quarter, deflated by the stock price at the beginning of the quarter; |
| *LAGLOSS* | = | one actual earnings per share for the previous quarter is less than zero, and zero otherwise; |
| *FD* | = | one if firm's fiscal quarter ends after October 23, 2000 (the date Regulation FD took effect), and zero otherwise; and, |
| *SOX* | = | one if firm's fiscal quarter ends after July 30, 2002 (the date the SOX was signed into law), and zero otherwise. |

[12] Gompers et al. (2003) consider 24 different governance provisions in a firm's charter to measure the level of shareholder rights. The G-index is formed by adding one point if the firm has a specific takeover defensive provision in place that reduces shareholder rights and zero otherwise, leading to values between zero and 24. We use a linear transformation of this index by subtracting this index from 24. As a result, a larger value of GINDEX signifies stronger shareholder rights. This index is updated every other year, and thus it has the same for every two consecutive years. We wish to thank Andrew Metrick for providing G-index data through his website.

We use the full sample for this test and winsorize all continuous variables at the 1st and the 99th percentiles to mitigate the undue influence of extreme observations. We estimate Equation (1) separately for non-accounting financial expert (*FEXP*) and accounting expert (*AEXP*). We predict $\alpha_1$ through $\alpha_4$ to be negative, suggesting that effective audit committees reduce the likelihood of initial analyst optimistic forecast bias.

We include in our model specification other governance variables that may be correlated with audit committee characteristics and would likely affect firms' disclosure behavior: board size (*BDSZ*, Karamonou and Vafeas 2005), board independence (*BDIND*, Ajinkya et al. 2005; Karamonou and Vafeas 2005), and institutional ownership (*INST*, Ajinkya et al. 2005). We also include G-index (*GINDX*) as an additional control variable. In addition, we include firm size (*LNMVE*) and analyst following (*FLLW*) to control for the information environment facing analysts, market-to-book ratio of equity (*MTB*, Bamber and Cheon 1998) to control for proprietary costs, and forecast error (*LAGFE*) and net loss (*LAGLOSS*) for the previous quarter to control for uncertainty and difficulty in forecasting earnings (Ajinkya et al. 2005). Finally, we include two dummy variables to control for the effects of Regulation FD and SOX, as these major regulatory changes occurred during our sample period and would likely influence a firm's disclosure practices and corporate governance structure.

Our second hypothesis examines whether the existence of well-functioning audit committees are associated with a lower incidence of analyst walk-downs and downward management guidance, two types of behavior consistent with downward expectations management. Accordingly, we test these predictions for those firm-quarters where actual earnings meet or beat the last consensus analyst forecasts (*MBE*=1). The model specifications for both sets of tests are presented below:

$$\Pr(WLKDN=1 \mid MBE=1) = F(\beta_0 + \beta_1 MACSZ + \beta_2 ACIND + \beta_3 EXP + \beta_4 MEET \\ + \beta_5 MACSZ \times SOX + \beta_6 ACIND \times SOX + \beta_7 EXP \times SOX + \beta_8 MEET \times SOX \\ + \beta_9 BDSZ + \beta_{10} BDIND + \beta_{11} INST + \beta_{12} GINDX + \beta_{13} LNMVE + \beta_{14} MTB \\ + \beta_{15} FE + \beta_{16} LOSS + \beta_{17} NERNCHG + \beta_{18} FD + \beta_{19} SOX + \varepsilon) \tag{2}$$

$$\Pr(DNGD=1 \mid MBE=1) = F(\gamma_0 + \gamma_1 MACSZ + \gamma_2 ACIND + \gamma_3 EXP + \gamma_4 MEET \\ + \gamma_5 MACSZ \times SOX + \gamma_6 ACIND \times SOX + \gamma_7 EXP \times SOX + \gamma_8 MEET \times SOX \\ + \gamma_9 BDSZ + \gamma_{10} BDIND + \gamma_{11} INST + \gamma_{12} GINDX + \gamma_{13} LNMVE + \gamma_{14} MTB \\ + \gamma_{15} FE + \gamma_{16} LOSS + \gamma_{17} NERNCHG + \gamma_{18} FD + \gamma_{19} SOX + \varepsilon) \tag{3}$$

where:

| | | |
|---|---|---|
| *WLKDN* | = | one if the last consensus analyst forecast is less than the first consensus forecast for the quarter, and zero otherwise; |
| *DNGD* | = | one if management issues downward earnings guidance as coded by *First Call*, and zero otherwise; |
| *MBE* | = | one if actual earnings per share for the quarter are equal to or greater than the last published consensus analyst forecast, and zero otherwise; |
| *FE* | = | absolute value of forecast error, measured by the first consensus analyst forecast minus actual earnings per share for the quarter, deflated by the stock price at the beginning of the quarter; |
| *LOSS* | = | one is actual earnings per share for the quarter is negative, and zero otherwise; and, |
| *NERNCHG* | = | one if the firm reports a decrease in earnings from the same quarter last year; and zero otherwise. |

As above, we winsorize all continuous variables at the 1$^{st}$ and the 99$^{th}$ percentiles to mitigate the undue influence of extreme observations. Other variables are defined as before.

As with our first hypothesis, we estimate Equations (2) and (3) separately for non-accounting financial experts (*FEXP*) and accounting experts (*AEXP*). We predict $\beta_1(\gamma_1)$ through $\beta_4(\gamma_4)$ to be negative. As in Brown and Pinello (2007), we control for size (*LNMVE*), market-to-book ratio (*MTB*), the absolute value of forecast error (*FE*), and loss firms (*LOSS*) that may be related to the incentives to meet/beat analyst forecasts.  In addition, we control for the negative change in earnings per share from the same quarter last year (*NERNCHG*), which Graham et al. (2005) document as the one of the most important performance benchmarks.

The model specifications for testing our third hypothesis are as follows:

$$\begin{aligned} Pr(EXMi=1 \mid MBE=1) = F(&\lambda_0 + \lambda_1 MACSZ + \lambda_2 ACIND + \lambda_3 EXP + \lambda_4 MEET \\ &+ \lambda_5 MACSZ \times SOX + \lambda_6 ACIND \times SOX + \lambda_7 EXP \times SOX + \lambda_8 MEET \times SOX \\ &+ \lambda_9 BDSZ + \lambda_{10} BDIND + \lambda_{11} INST + \lambda_{12} GINDX + \lambda_{13} LNMVE + \lambda_{14} MTB \\ &+ \lambda_{15} FE + \lambda_{16} LOSS + \lambda_{17} NERNCHG + \lambda_{18} FD + \lambda_{19} SOX + \varepsilon) \end{aligned} \tag{4}$$

where:

*EXMi* = one if analyst initial consensus forecast is optimally biased, consensus analyst forecast exhibits a walk-down path, and management issues downward guidance combined with negative unexpected forecasts for the quarter, respectively, for *i* = 1, 2 and 3.

Other variables are defined as above. As with our tests of H2, we again test our predictions for those firm-quarters where actual earnings meet or beat the last consensus analyst forecasts (*MBE*=1).

## 4. Results

### *4.1 Descriptive Statistics and Univariate Tests*

Table 1 presents the descriptive statistics for the full sample used to test H1 (Panel A) and the restricted sample conditioned on firms who meet/beat analyst forecasts used to test H2 and H3 (Panel B). In the full sample, more than 77 percent of firm-quarters report earnings per share that is equal to or greater than consensus analyst forecasts, consistent with the pervasiveness of expectations management games. Of our three primary metrics of expectations management (*EXM1*, *EXM2*, and *EXM3*), we consistently find less expectations management (21%, 23% ,and

13% for the full sample, and 14%, 21%, and 11.6% for the restricted sample, respectively), while Matsumoto's (2002) *DOWN* measure identifies the most occurrences of expectations management (52% for the full and restricted samples). By incorporating two approaches to identifying expectations management, our measures yield more conservative results.

---

**Insert Table 1 Here**

---

In Table 2, we report our univariate test results for the full sample (Panel A) and the restricted sample (Panel B). We partition the sample by the four audit committee attributes, respectively, and compare the differences in means for *OPTI, WLKDN, DNGD, EXM1, EXM2*, and *EXM3* across the two subsamples. Overall, the differences in means are consistent with our expectations from our three hypotheses. We find that for audit committees comprised entirely of independent directors, that appoint at least one financial expert (a non-accounting or an accounting expert), and meet at least four times a year, analyst forecasts exhibit significantly less optimistic bias and downward revisions. Additionally, we find significantly less expectations management when the audit committees are well-functioning, as indicated by the significant differences we find across our subsamples for *EXM1*, *EXM2* and *EXM3*.

---

**Insert Table 2 Here**

---

*4.2 Regression Results*

Table 3 presents the results for testing the first hypothesis. Model 1 reports the results for when financial expertise is measured as at least one non-accounting financial expert (*FEXP*) serving on the audit committee and Model 2 reports results for when the expert is an accounting expert (*AEXP*). Overall, we find that audit committee independence (*ACIND*) and meeting frequency (*MEET*) are statistically significant in the predicted direction (coefficients of -0.059 and -0.0596 on *ACIND*; p-values <0.10; coefficients of -0.0909 and -0.0833 on *MEET*; p-values <0.05). We find, however, that only an accounting expert (*AEXP*) and not a non-accounting financial expert (*FEXP*) is significantly associated with optimistic forecast bias (coefficient on *AEXP* of -0.1016; p-value <0.01). Together, our findings support our first hypothesis by providing evidence that audit committee independence, the presence of an accounting expert, and meeting frequency are all negatively related to the optimistic bias in analysts' initial forecasts. The evidence suggests that to the extent that audit committees improve the analyst's information environment, effective audit committees may reduce the incentives for analysts to issue optimistic forecasts early in the forecasting period in order to please management.

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**Insert Table 3 Here**

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When we interact the indicator variable for SOX (*SOX*) with the audit committee attributes, to test whether the passage of the SOX concerning the composition and efficacy of the audit committee influences the optimistic bias, we find only the influence of audit committee on analyst forecast bias differs across the pre- and post-SOX eras. For other control variables, we find that institutional ownership (*INST*), analyst following (*FLLW*), forecast error for the previous quarter (*LAGFE*), and firms reporting negative earnings per share in the previous quarter (*LAGLOSS*) relate to the incidence of optimistic forecast bias, consistent with the notion that information environment and uncertainty in forecasting earnings affect analysts' incentives to seek more information from management by issuing a more optimistic initial forecast.

Our second hypothesis proposes that the walk-down path of analyst forecasts and downward management guidance are less likely to exist with well-functioning audit committees. Tables 4 and 5 present the results from testing H2. We find that non-accounting financial expert (*FEXP*), accounting expert (*AEXP*), and meeting frequency (*MEET*) are negatively associated with the likelihood of analyst walk-downs (coefficients of -0.0728 and -0.0877, respectively, for *FEXP* and *AEXP* and coefficients of -0.1135 and -0.1100 for *MEET*, all with significance levels of 10% or lower). Table 5 further shows that meeting frequency (*MEET*) is related to a lower likelihood of downward management guidance (coefficient of -0.2513 and -0.2522; p-values <0.01). The coefficients on *FEXP* and *AEXP* in the test of downward management guidance, however, are not significant, and only *AEXP* is significant in the post-SOX period (the coefficient on *AEXP*×*SOX* is -0.2966; p-value <0.10). Collectively, our findings support our second hypothesis and suggest that a firm with financial experts serving on an audit committee which meets at least four times a year is less likely to engage in behavior in line with expectations management.

**Insert Table 4 Here**

**Insert Table 5 Here**

Table 6 presents the logit regression results of testing our third hypothesis on expectations management, where we test three measures of expectations management. Across our three measures, the coefficients on *ACIND* (coefficients of -0.0928 and -0.0957 for *EXM1*, -0.0828 and -0.0845 for *EXM2*, -0.2575 and -0.2702 for *EXM3*, respectively), *AEXP* (coefficients of -1470 for *EXM1*, -0.1436 for *EXM2*, -0.2023 for *EXM3*, respectively), and *MEET* (coefficients of -0.2700 and -0.2647 for *EXM1*, -0.2220 and -0.2168 for *EXM2*, -0.2760 and -0.2726 for *EXM3*, respectively) are all negative and statistically significant, thus lending support for our third hypothesis. We find that when audit committees are completely independent, with the presence of an accounting expert on board and meets at least four times a year, managers are less likely to manage expectations downward in order to meet/beat consensus analyst forecasts. With the one exception of *AEXP* for our *EXM2* measure, the influence of independence, expertise and meeting frequency are consistent across the pre- and post-SOX periods.

As discussed above, the three measures of expectations management we develop for this test not only consider the forecasting path consistent with the earnings expectation game, but also incorporate two approaches to measuring expectations management. We believe, therefore, our results provide compelling evidence that well-functioning audit committees do mitigate this kind of manipulations by managers.

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**Insert Table 6 Here**

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In summary, we find that audit committee independence, financial expertise (particularly accounting expertise), and meeting frequency are significantly related to the reduction of expectations management games in different aspects, including analyst forecast bias, downward revision in analyst forecasts, and downward management guidance. The results support the notion that firms with effective audit committees may be less likely to sway analysts' forecasts and are more likely to pursue the long-term interest of shareholders. This evidence also suggests that expectations management and analyst forecast bias are attenuated in the post-SOX era.

## 5. Additional Tests and Robustness Checks

*5.1 Trade-off Between Upward Accrual Management and Downward Expectations Management*

As indicated above, we focus on the influence of audit committees on expectations management, since the extant literature suggests an inverse relation between audit committees and upward earnings management. Brown and Pinello (2007) point out, however, that upward accrual management and downward expectations management can be substitute mechanisms for meeting or beating earnings expectations, and that the interaction between these two gaming tactics may depend on the strength of a firm's governance structure.

To explore the trade-off between these two tactics, we obtain from Compustat data to compute discretionary accruals for firm *i* in two-digit SIC code *j* in quarter *q* of year *t* using the residual from the following modified Jones model (Dechow et al. 1995), adapted for quarterly data, as in Brown and Pinello (2007):[13]

$$\begin{aligned} TACC_{ijtq}/TA_{ijtq-1} &= \alpha_{jt}\left(1/TA_{ijtq-1}\right) + \beta_{1jt}\left[(\Delta REV_{ijtq} - \Delta REC_{ijtq})/TA_{ijtq-1}\right] \\ &\quad + \beta_{2jt}\left(PPE_{ijtq}/TA_{ijtq-1}\right) + \varepsilon_{ijtq} \end{aligned} \tag{5}$$

where:

*TACC* = total accruals, defined as earnings before extraordinary items and discontinued operations (#8) less operating cash flows (# 108);

[13] As an additional sensitivity test, we also include an indicator variable for the fourth fiscal quarter, as in Matsumoto (2002), in Equation (5), to control for the inherent difference in accruals in the fourth quarters from accruals in the first three quarters. The results are similar.

| | | |
|---|---|---|
| *TA* | = | total assets (#44); |
| *ΔREV* | = | Change in revenues (#2) for quarter *q*; |
| *ΔREC* | = | change in accounts receivables (# 37) for quarter *q*; and |
| *PPE* | = | gross property, plant, and equipment (#118). |

We estimate the model for each firm-year using all firm quarters in that year from the same two-digit SIC code. The sample includes only firm-years with eight or more firm-quarters of data in the same industry. As before, we winsorize all variables entering the estimation model at the 1st and 99th percentiles. After obtaining discretionary accruals, we estimate the following model specification:

$$
\begin{aligned}
Pr(EXMi=1 \mid MBE=1) = F(&\eta_0 + \eta_1 PSDA + \eta_2 MACSZ + \eta_3 ACIND + \eta_4 AEXP \\
&+ \eta_5 MEET + \eta_6 SOX + \eta_7 PSDA \times MACSZ + \eta_8 PSDA \times ACIND \\
&+ \eta_9 PSDA \times AEXP + \eta_{10} PSDA \times MEET + \eta_{11} PSDA \times SOX \\
&+ \sum_{k=12}^{15} \eta_k AC\ Attributes \times SOX + \sum_{k=16}^{19} \eta_k PSDA \times AC\ Attributes \times SOX \\
&+ \eta_{20} BDSZ + \eta_{21} BDIND + \eta_{22} INST + \eta_{23} GINDX + \eta_{24} LNMVE + \eta_{25} MTB \\
&+ \eta_{26} FE + \eta_{27} LOSS + \eta_{28} NERNCHG + \eta_{29} FD + \xi\ )
\end{aligned}
\tag{6}
$$

where:

| | | |
|---|---|---|
| *PSDA* | = | positive discretionary accruals, estimated in Equation (5). |

Other variables are defined as above. Since we are mainly interested in the trade-off between upward earnings management and downward expectations management, we include only firm-quarters with positive discretionary accruals in Equation (6). A negative coefficient on *PSDA* ($\eta_1$<0) is consistent with the trade-off that exists between upward earnings management and downward expectations management in avoiding negative earnings surprises. Next, we expect that the ability of audit committees to constrain upward accrual management is likely stronger than to constrain downward expectations management, as the former reflects the quality of financial reporting for which audit committees bear the primary monitoring responsibility.

Constrained accrual management under effective audit committees will, therefore, result in a smaller trade-off between upward accrual management and downward expectations management, as indicated by positive coefficients on the interaction terms of audit committee attributes with positive discretionary accruals ($\eta_7$ through $\eta_{10}$ >0).

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**Insert Table 7 Here**

---

Our results reported on Table 7 indicate that discretionary accruals are negatively related to our three measures of expectations management (coefficients of -1.12, -0.93, -2.16; p-values <0.05), suggesting the presence of a trade-off between these two tactics, as Brown and Pinello (2007) predicted. On the other hand, we find evidence that the trade-off is weaker when audit committees are effective, particularly when audit committees are relatively large and meet at least four times a year. Note that the coefficients on *ACIND, AEXP,* and *MEET* remain negative, suggesting that even considering the trade-off with upward accrual management, audit committees still constrain expectations management.[14] In all, our findings provide evidence supporting Brown and Pinello's (2007) conjecture that managers trade-off between upward accruals management and downward expectations management, and our results indicate that well-functioning audit committees limit these earnings surprise games.

*5.2 Small Non-Negative Earnings Surprises*

The MBE literature suggests that firms reporting earnings that beat consensus analyst forecasts by large amounts are less likely to engage in expectations management games than firms reporting earnings that just barely beat analyst forecasts. To see if our results are robust to

[14] Using the similar model specification to Equation (4), we confirm that audit committees are negatively related to positive discretionary accruals, consistent with the extant evidence (Klein 2002; Yang and Krishnan 2002).

firm-quarters with small non-negative earnings surprises, we repeat our analysts on expectations management measures, limiting our sample to firm-quarters with earnings surprises that do not exceed analyst forecasts by one cent.[15] The resulting sample has 5,943 firm-quarters for *EXM1* and *EXM2*, and 2,204 firm-quarters for *EXM3*. Given the results in Table 6, we concentrate our additional tests on accounting experts serving on the audit committee in relation to expectations management.

We present this additional set of test in Table 8. Similar to the results in Table 6, we find that independence (coefficients of -0.1348, -0.1468, and -0.0632), the appointment of an accounting expert to the committee (coefficients of -0.1594, -0.1771, and -0.2630), and meeting frequency (coefficients of -0.1496, -0.1383, and -0.2655) are significantly associated with to less expectations management. Our results, therefore, are robust to the magnitude of earnings surprises.

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**Insert Table 8 Here**

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*5.3 Endogeneity of Audit Committee Attributes*

*5.3.1 Fixed Effects*

One possible concern in our analyses is that the audit committee variables and control variables do not adequately capture certain unobserved firm-specific factors that affect the analyst forecast bias and expectations management measures, but may be correlated with our independent variables, especially the audit committee attributes. Without adequately accounting for this endogeneity, we are likely to obtain biased and inconsistent estimates for coefficients of

[15] We also examine firm-quarters with earnings surprises within two cents above analysts' consensus forecasts, and the results are similar.

audit committees (and other variables). One approach to address our concern for endogeneity is through a fixed effect logistic regression. If there are firm-level time-invariant effects that are correlated with our independent variables, fixed effects logistic regressions will produce consistent estimates.

Upon retesting our hypotheses, we find that the coefficients on *AEXP* and *MEET* remain significantly negative, while the coefficient on *ACIND* becomes insignificant (untabulated). These results suggest that using fixed effects, we still find that accounting expert serving on the audit committee which meets at least four times a year is associated with less expectations management, even the concern over endogeneity affects audit committee independence.

### *5.3.2 Two-Stage Estimation*

An alternative approach to control for endogeneity of audit committees is to use two-stage estimation, where we estimate the likelihood of selecting each audit committee attribute and use the resulting residuals in the second-stage estimation on expectations management.

To proceed with the two-stage process, we first indentify the underlying firm characteristics that may influence the composition of the audit committee. These underlying firm characteristics that the prior literature suggests include: board size (*BDSZ*, Yermack 1996; Vafeas 2000), board independence (*BDIND*, Beasley 1996; Klein 2002b), CEO serving as the chairman of the board (*DUAL*, Dechow et al. 1996; Shivdasani and Yermack 1999), and CEO's shareholdings (*CEOOWN*, Warfield et al. 1995; Klein 2002a). In addition, we include also other governance structures that are highly related to the composition of audit committees, such as board meeting frequency (*BDMEET*), institutional ownership (*INST*), and G-index (*GINDX*).

For simplicity, we estimate separate logistic models for audit committee size (*ACSZ*), audit committee independence (*ACIND*), accounting expertise (*AEXP*), and meeting frequency

(*MEET*), as functions of those underlying firm characteristics identified above. We then replace the audit committee attributes in Equation (4) with the residual from each logistic model to examine the association of audit committees with expectations management. In untabulated results, we find that controlling for the endogeneity of our variables does not alter our main findings in any significant way.

### *5.4 The Impact of Regulation FD*

Regulation FD implemented on October 23, 2000 prohibits firms from disclosing private information to selective market professionals without simultaneously disclosing the same information to the public. While widely studied, the impact of Regulation FD on the behavior of management and analysts is inconclusive. Since Regulation FD does influence disclosures, we perform an additional test to ensure that our results are robust to the change in overall information environment as a result of Regulation FD.

For parsimony, we focus on our three measures of expectations management. We replace all the interaction terms with *FD* for those with *SOX* in Equation (4). All the other control variables remain unchanged. From untabulated results, we find that the coefficients on *ACIND*, *AEXP*, and *MEET* remain significantly negative, and the coefficients on the interactions with *FD* are all insignificant. Our main findings, therefore, do not appear sensitive to the implementation of Regulation FD.

### *5.5 Fourth Quarter vs. Interim Quarters*

Brown and Pinello (2007) find that relative to the interim quarters, managers are more likely to manage expectations more in the fourth quarter than interim quarters, as upward accrual management is constrained due to auditor’s scrutiny in the fourth quarter. To examine whether our results differ between the fourth quarter and the interim quarters, we repeat the tests for the fourth quarter and interim quarters separately. We find from our untabulated results that our test metrics are still significantly negative, but we find that the level of significance is lower for the fourth quarter than for interim quarters.

### *5.6 Firm-Quarters with Earnings Falling Short of Analyst Forecasts*

Our earlier analyses on expectations management (H2 and H3) focus on firm-quarters with actual earnings meeting or beating analyst forecasts. Some firms may attempt to manage earnings expectations but do not successfully "walk down" analysts' consensus forecasts to a meetable or beatable level. We, therefore, expand our sample to include all firm-quarters in testing expectations management.

Untabulated results indicate that our results from testing H2 and H3 hold for this sample of firms that fall short of expectations, particularly when the audit committee has at least one accounting expert and meets at least four times a year.

## 6. Conclusion

In this study, we test whether effective audit committees mitigate the expectations management games between management and analysts. We find that analysts who follow firms with effective audit committee oversight are less likely to issue early forecasts that are optimistically biased. Specifically, we provide evidence that audit committees comprised entirely of independent directors with at least one accounting expert and meeting frequently are associated with less analysts' optimistic forecast bias. Further, a walk-down path on analyst forecast and downward management guidance are less likely to exist when the audit committee has a financial expert and meets at least four times a year. As a result, we observe less expectations management in firms employing audit committees with the above attributes. Further, we find evidence suggesting that audit committees weakens the trade-off between upward accrual management and downward expectations management. Our results are robust to firm-quarters with small non-negative earnings surprises, controlling for endogeneity of the audit committee composition, the effect of Regulation FD, controlling for greater monitoring environment in the fourth quarter, and inclusion of observations with “unsuccessful” expectations management.

Our findings suggest that the audit committee may further improve its effectiveness if it employs an accounting expert, rather than merely a non-accounting financial expert, to the committee in an attempt to reduce expectations management. Together with DeFond et al. (2005), our study raises additional concerns with the broad definition of financial expertise adopted by the SEC. Our study also suggests that effective corporate governance, in particular, the audit committee, may curb perverse incentives influencing firms’ disclosure practices and analyst forecasting process by improving firms’ financial information environment and inducing analysts to produce more truthful and objective forecasts. Finally, our study lends support to Brown and Pinello’s (2007) conjectures and sheds additional light on effectiveness of audit committees in influencing the interaction between upward earnings management and downward expectations management.

## Appendix A

### Estimation of Unexpected Portion of Analyst Forecasts

To estimate the unexpected portion of the forecast, we first estimate the expected portion of analysts' forecasts by modeling the seasonal change in earnings as a function of the prior quarter's seasonal change in earnings and returns cumulated over the current year, as in Matsumoto (2002):

$$\Delta EPS_{ijtq} / P_{ijtq-4} = \alpha_{0\,jt} + \alpha_{1\,jt}(\Delta EPS_{ijtq-1} / P_{ijtq-5}) + \alpha_{2\,jt} CRET_{ijtq} + \varepsilon_{ijtq}$$

where:

| | | |
|---|---|---|
| $\Delta EPS_{ijtq}$ | = | earnings per share for firm *i* in four-digit SIC code *j* in quarter *q* of year *t*, less earnings per share for the same firm four quarters prior (i.e., quarter *q-4*), as reported in *First Call*; |
| $P_{ijtq}$ | = | price per share for firm *i* in four-digit SIC code *j* at the end of quarter *q* of year *t*, as reported by *Compustat* (adjusted for splits); and |
| $CRET_{ijtq}$ | = | cumulative daily excess returns for firm *i* in four-digit SIC code *j* in quarter *q* of year *t* obtained from *CRSP*. Returns are cumulated from three days after the quarter *q-4* earnings announcement to 20 days before the quarter *q* earnings announcement. |

We estimate the model for each firm-year using all firm-quarters in that year from the same four-digit SIC code. To be included in the sample, we require ten or more firm-quarters of data in the same industry. We winsorize the top and bottom one percent of each variable (i.e., $\Delta EPS_{ijtq} / P_{ijtq-4}$, $\Delta EPS_{ijtq-1} / P_{ijtq-5}$, and $CRET_{ijtq}$) to mitigate the effect of extreme values on the parameter estimates.

Since Matsumoto (2002) argues that the expected analyst forecast should be based only on data available to analysts when making their forecasts, we use the parameter estimates from the prior firm-year to determine the expected change in EPS ($E[\Delta EPS]$). We then add $E[\Delta EPS]$

to the earnings from the same quarter in the prior year to determine the expected forecast ($E[F]$) of the current quarter's earnings:

$$E[\Delta EPS_{ijtq}]=[\hat{\alpha}_{0\,jt-1}+\hat{\alpha}_{1\,jt-1}(\Delta EPS_{ijtq-1}/P_{ijtq-5})+\hat{\alpha}_{2\,jt-1}CRET_{ijtq}]\times P_{ijtq-4};$$

$$E[F_{ijtq}]=EPS_{ijtq-4}+E[\Delta EPS_{ijtq}]$$

The unexpected portion of the forecast is $E[F_{ijtq}]$ subtracted from the last published consensus forecast as reported by *First Call*. The dummy indicator variable, *DOWN*, is then equal to one if the unexpected forecast is negative, and zero if the unexpected forecast is positive.

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**TABLE 1**
**Descriptive Statistics**

**Panel A: Full sample**

| Variable | Mean | Std.Dev. | Median | 1st Quartile | 3rd Quartile | N |
|---|---|---|---|---|---|---|
| *MBE* | 0.7721 | 0.4195 | 1.0000 | 1.0000 | 1.0000 | 24,291 |
| *OPTI* | 0.4048 | 0.4909 | 0.0000 | 0.0000 | 1.0000 | 24,291 |
| *WLKDN* | 0.4341 | 0.4956 | 0.0000 | 0.0000 | 1.0000 | 24,291 |
| *DNGD* | 0.2213 | 0.4151 | 0.0000 | 0.0000 | 0.0000 | 7,471 |
| *DOWN* | 0.5167 | 0.4997 | 1.0000 | 0.0000 | 1.0000 | 22,008 |
| *EXM1* | 0.2113 | 0.4083 | 0.0000 | 0.0000 | 0.0000 | 22,008 |
| *EXM2* | 0.2310 | 0.4215 | 0.0000 | 0.0000 | 0.0000 | 22,008 |
| *EXM3* | 0.1292 | 0.3355 | 0.0000 | 0.0000 | 0.0000 | 6,894 |
| *ACSZ* | 0.4027 | 0.1171 | 0.4000 | 0.3333 | 0.4545 | 24,291 |
| *ACIND* | 0.6967 | 0.4597 | 1.0000 | 0.0000 | 1.0000 | 24,291 |
| *FEXP* | 0.7916 | 0.4062 | 1.0000 | 1.0000 | 1.0000 | 24,291 |
| *AEXP* | 0.4069 | 0.4913 | 0.0000 | 0.0000 | 1.0000 | 24,291 |
| *MEET* | 0.7385 | 0.4394 | 1.0000 | 0.0000 | 1.0000 | 24,291 |
| *BDSZ* | 2.2554 | 0.2815 | 2.3026 | 2.0794 | 2.3979 | 24,291 |
| *BDIND* | 0.6687 | 0.1713 | 0.7000 | 0.5714 | 0.8000 | 24,291 |
| *INST* | 0.6514 | 0.1718 | 0.6661 | 0.5365 | 0.7814 | 24,291 |
| *GINDX* | 14.6261 | 2.6674 | 15.0000 | 13.0000 | 17.0000 | 24,291 |
| *LNMVE* | 7.8931 | 1.4583 | 7.7548 | 6.8240 | 8.8502 | 24,291 |
| *FLLW* | 8.5017 | 5.6915 | 7.0000 | 4.0000 | 11.0000 | 24,291 |
| *MTB* | 3.4757 | 3.5029 | 2.4065 | 1.6242 | 3.9039 | 24,291 |
| *FE* | 0.0029 | 0.0060 | 0.0009 | 0.0003 | 0.0027 | 24,291 |
| *LOSS* | 0.0861 | 0.2805 | 0.0000 | 0.0000 | 0.0000 | 24,291 |
| *NERNCHG* | 0.3148 | 0.4644 | 0.0000 | 0.0000 | 1.0000 | 24,291 |

**TABLE 1-continued**

**Panel B: Restricted sample (MBE=1)**

| Variable | Mean | Std.Dev. | Median | 1st Quartile | 3rd Quartile | N |
|---|---|---|---|---|---|---|
| *OPTI* | 0.2492 | 0.4326 | 0.0000 | 0.0000 | 0.0000 | 18,756 |
| *WLKDN* | 0.3889 | 0.4875 | 0.0000 | 0.0000 | 1.0000 | 18,756 |
| *DNGD* | 0.1991 | 0.3993 | 0.0000 | 0.0000 | 0.0000 | 6,068 |
| *DOWN* | 0.5231 | 0.4995 | 1.0000 | 0.0000 | 1.0000 | 17,040 |
| *EXM1* | 0.1390 | 0.3460 | 0.0000 | 0.0000 | 0.0000 | 17,040 |
| *EXM2* | 0.2117 | 0.4085 | 0.0000 | 0.0000 | 0.0000 | 17,040 |
| *EXM3* | 0.1160 | 0.3202 | 0.0000 | 0.0000 | 0.0000 | 5,623 |
| *ACSZ* | 0.4022 | 0.1177 | 0.4000 | 0.3333 | 0.4545 | 18,756 |
| *ACIND* | 0.6988 | 0.4588 | 1.0000 | 0.0000 | 1.0000 | 18,756 |
| *FEXP* | 0.7953 | 0.4035 | 1.0000 | 1.0000 | 1.0000 | 18,756 |
| *AEXP* | 0.4128 | 0.4924 | 0.0000 | 0.0000 | 1.0000 | 18,756 |
| *MEET* | 0.7436 | 0.4367 | 1.0000 | 0.0000 | 1.0000 | 18,756 |
| *BDSZ* | 2.2526 | 0.2824 | 2.3026 | 2.0794 | 2.3979 | 18,756 |
| *BDIND* | 0.6687 | 0.1713 | 0.7000 | 0.5714 | 0.8000 | 18,756 |
| *INST* | 0.6585 | 0.1697 | 0.6725 | 0.5461 | 0.7884 | 18,756 |
| *GINDX* | 14.6275 | 2.6710 | 15.0000 | 13.0000 | 17.0000 | 18,756 |
| *LNMVE* | 7.9268 | 1.4404 | 7.7860 | 6.8708 | 8.8799 | 18,756 |
| *FLLW* | 8.7624 | 5.7614 | 7.0000 | 4.0000 | 12.0000 | 18,756 |
| *MTB* | 3.6112 | 3.6156 | 2.4869 | 1.6746 | 4.0688 | 18,756 |
| *FE* | 0.0021 | 0.0045 | 0.0007 | 0.0002 | 0.0020 | 18,756 |
| *LOSS* | 0.0580 | 0.2338 | 0.0000 | 0.0000 | 0.0000 | 18,756 |
| *NERNCHG* | 0.2407 | 0.4275 | 0.0000 | 0.0000 | 0.0000 | 18,756 |

**Notes:**

The variables are defined as follows:

| | | |
|---|---|---|
| *MBE* | = | one if actual earnings per share for the quarter are equal to or greater than the last published consensus analyst forecast, and zero otherwise; |
| *OPTI* | = | one if the first consensus analyst forecast for the current quarter after previous quarter's earnings announcement is greater than actual earnings for the current quarter, and zero otherwise; |
| *WLKDN* | = | one if the last consensus analyst forecast is less than the first consensus forecast for the quarter, and zero otherwise; |
| *DNGD* | = | one if management issues downward earnings guidance as coded by *First Call*, and zero otherwise; |
| *DOWN* | = | one if unexpected forecasts estimated using Matsumoto's (2002) model are negative, and zero otherwise; |

| | | |
|---|---|---|
| *EXM1* | = | one if analyst initial consensus forecast is optimally biased, combined with negative unexpected forecasts for the quarter, as estimated using the Matsumoto (2002) model; |
| *EXM2* | = | one if consensus analyst forecast exhibits a walk-down path, combined with negative unexpected forecasts for the quarter, as estimated using the Matsumoto (2002) model; |
| *EXM3* | = | one if management issues downward guidance, combined with negative unexpected forecasts for the quarter, as estimated using the Matsumoto (2002) model; |
| *ACSZ* | = | number of directors serving on the audit committee relative to number of directors on the entire board in the current year; |
| *ACIND* | = | one if the audit committee was completely comprised of independent directors in the current year, and zero otherwise; |
| *EXP* | = | one if the audit committee employed at least one non-accounting financial expert (FEXP) or accounting expert (AEXP) in the current year, and zero otherwise; |
| *MEET* | = | one if the audit committee met at least four times in the current year, and zero otherwise; |
| *BDSZ* | = | natural logarithm of number of directors on the board in the current year; |
| *BDIND* | = | percentage of independent directors on the board in the current year; |
| *INST* | = | percentage of the firm's aggregate common stock held by institutional investors in the current year; |
| *GINDX* | = | 24 minus current year's G-index, developed by Gompers, Ishii, and Metrick (2003); |
| *LNMVE* | = | natural logarithm of market value of equity at the beginning of the quarter; |
| *FLLW* | = | number of analysts providing forecasts at the beginning of the quarter; |
| *MTB* | = | market-to-book ratio of equity at the beginning of the quarter; |
| *FE* | = | absolute value of forecast error, measured by the first consensus analyst forecast minus actual earnings per share for the quarter, deflated by the stock price at the beginning of the quarter; |
| *LOSS* | = | one actual earnings per share for the quarter is less than zero, and zero otherwise; and |
| *NERNCHG* | = | one if the firm reports a decrease in earnings from the same quarter last year; and zero otherwise. |

**TABLE 2**
**Univariate Tests**

**Panel A: Full sample**

| | ***OPTI*** | | ***WLKDN*** | | ***DNGD*** | | ***EXM1*** | | ***EXM2*** | | ***EXM3*** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** |
| *MACSZ* =0 | 13,495 | 0.4024 | 13,495 | 0.4256 | 4,016 | 0.2149 | 12,186 | 0.2131 | 12,186 | 0.2279 | 3,705 | 0.1255 |
| *MACSZ* =1 | 10,796 | 0.4077 | 10,796 | 0.4446 | 3,455 | 0.2278 | 9,822 | 0.2091 | 9,822 | 0.2349 | 3,189 | 0.1336 |
| Mean Diff. | | -0.0053 | | -0.0190 | | -0.0129 | | 0.0040 | | -0.0070 | | -0.0081 |
| p-value | | 0.8016 | | 0.9985 | | 0.9231 | | 0.2353 | | 0.8893 | | 0.8400 |
| *ACIND* =0 | 7,367 | 0.4213 | 7,367 | 0.4424 | 2,072 | 0.2490 | 6,662 | 0.2195 | 6,662 | 0.2351 | 1,933 | 0.1485 |
| *ACIND* =1 | 16,924 | 0.3975 | 16,924 | 0.4305 | 5,399 | 0.2106 | 15,346 | 0.2078 | 15,346 | 0.2292 | 4,961 | 0.1217 |
| Mean Diff. | | 0.0238 | | 0.0119 | | 0.0384 | | 0.0117 | | 0.0059 | | 0.0268 |
| p-value | | 0.0002 | | 0.0426 | | 0.0002 | | 0.0269 | | 0.1742 | | 0.0021 |
| *FEXP* =0 | 5,063 | 0.4302 | 5,063 | 0.4657 | 1,135 | 0.2775 | 4,517 | 0.2207 | 4,517 | 0.2409 | 1,020 | 0.1657 |
| *FEXP* =1 | 19,228 | 0.3981 | 19,228 | 0.4257 | 6,336 | 0.2112 | 17,491 | 0.2089 | 17,491 | 0.2285 | 5,874 | 0.1229 |
| Mean Diff. | | 0.0321 | | 0.0400 | | 0.0663 | | 0.0118 | | 0.0124 | | 0.0428 |
| p-value | | <0.0001 | | <0.0001 | | <0.0001 | | 0.0433 | | 0.0405 | | 0.0003 |
| *AEXP* =0 | 14,407 | 0.4195 | 14,407 | 0.4459 | 4,006 | 0.2451 | 12,942 | 0.2197 | 12,942 | 0.2379 | 3,697 | 0.1458 |
| *AEXP* =1 | 9,884 | 0.3832 | 9,884 | 0.4168 | 3,465 | 0.1937 | 9,066 | 0.1993 | 9,066 | 0.2212 | 3,197 | 0.1101 |
| Mean Diff. | | 0.0363 | | 0.0291 | | 0.0514 | | 0.0204 | | 0.0167 | | 0.0357 |
| p-value | | <0.0001 | | <0.0001 | | <0.0001 | | 0.0001 | | 0.0018 | | <0.0001 |
| *MEET* =0 | 6,351 | 0.4431 | 6,351 | 0.4709 | 1,363 | 0.3118 | 5,572 | 0.2380 | 5,572 | 0.2581 | 1,234 | 0.1994 |
| *MEET* =1 | 17,940 | 0.3912 | 17,940 | 0.4210 | 6,108 | 0.2010 | 16,436 | 0.2023 | 16,436 | 0.2218 | 5,660 | 0.1140 |
| Mean Diff. | | 0.0519 | | 0.0499 | | 0.1108 | | 0.0357 | | 0.0363 | | 0.0854 |
| p-value | | <0.0001 | | <0.0001 | | <0.0001 | | <0.0001 | | <0.0001 | | <0.0001 |

**TABLE 2-continued**

**Panel B: Restricted sample (MBE=1)**

| | ***OPTI*** | | ***WLKDN*** | | ***DNGD*** | | ***EXM1*** | | ***EXM2*** | | ***EXM3*** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** | **N** | **Mean** |
| *MACSZ* =0 | 10,471 | 0.2486 | 10,471 | 0.3814 | 3,283 | 0.1949 | 9,489 | 0.1421 | 9,489 | 0.2092 | 3,047 | 0.1145 |
| *MACSZ* =1 | 8,285 | 0.2500 | 8,285 | 0.3983 | 2,785 | 0.2039 | 7,551 | 0.1352 | 7,551 | 0.2148 | 2,576 | 0.1176 |
| Mean Diff. | | -0.0014 | | -0.0169 | | -0.0090 | | 0.0069 | | -0.0056 | | -0.0031 |
| p-value | | 0.5857 | | 0.9907 | | 0.8080 | | 0.0992 | | 0.8134 | | 0.6405 |
| *ACIND* =0 | 5,650 | 0.2630 | 5,650 | 0.3906 | 1,636 | 0.2188 | 5,126 | 0.1477 | 5,126 | 0.2128 | 1,534 | 0.1317 |
| *ACIND* =1 | 13,106 | 0.2432 | 13,106 | 0.3881 | 4,432 | 0.1918 | 11,914 | 0.1353 | 11,914 | 0.2112 | 4,089 | 0.1101 |
| Mean Diff. | | 0.0198 | | 0.0025 | | 0.0270 | | 0.0124 | | 0.0016 | | 0.0216 |
| p-value | | 0.0022 | | 0.3743 | | 0.0110 | | 0.0174 | | 0.4042 | | 0.0147 |
| *FEXP* =0 | 3,839 | 0.2686 | 3,839 | 0.4100 | 907 | 0.2381 | 3,415 | 0.1473 | 3,415 | 0.2164 | 815 | 0.1374 |
| *FEXP* =1 | 14,917 | 0.2442 | 14,917 | 0.3835 | 5,161 | 0.1922 | 13,625 | 0.1370 | 13,625 | 0.2105 | 4,808 | 0.1123 |
| Mean Diff. | | 0.0244 | | 0.0265 | | 0.0459 | | 0.0103 | | 0.0059 | | 0.0251 |
| p-value | | 0.0011 | | 0.0014 | | 0.0012 | | 0.0626 | | 0.2265 | | 0.0259 |
| *AEXP* =0 | 11,013 | 0.2611 | 11,013 | 0.3994 | 3,215 | 0.2199 | 9,940 | 0.1483 | 9,940 | 0.2190 | 2,982 | 0.1308 |
| *AEXP* =1 | 7,743 | 0.2322 | 7,743 | 0.3739 | 2,853 | 0.1756 | 7,100 | 0.1261 | 7,100 | 0.2014 | 2,641 | 0.0992 |
| Mean Diff. | | 0.0289 | | 0.0255 | | 0.0443 | | 0.0222 | | 0.0176 | | 0.0316 |
| p-value | | <0.0001 | | 0.0002 | | <0.0001 | | <0.0001 | | 0.0026 | | 0.0001 |
| *MEET* =0 | 4,809 | 0.2826 | 4,809 | 0.4198 | 1,063 | 0.2803 | 4,211 | 0.1696 | 4,211 | 0.2398 | 965 | 0.1772 |
| *MEET* =1 | 13,947 | 0.2377 | 13,947 | 0.3782 | 5,005 | 0.1818 | 12,829 | 0.1290 | 12,829 | 0.2024 | 4,658 | 0.1033 |
| Mean Diff. | | 0.0449 | | 0.0416 | | 0.0985 | | 0.0406 | | 0.0374 | | 0.0739 |
| p-value | | <0.0001 | | <0.0001 | | <0.0001 | | <0.0001 | | <0.0001 | | <0.0001 |

**TABLE 2: CONTINUED**

**Notes:**

p-values are one-tailed. The variable is defined as follows:

| | | |
|---|---|---|
| *MACSZ* | = | one if number of directors serving on the audit committee relative to number of directors on the entire board in the current year is greater than the sample median, and zero otherwise. |

All other variables are defined in Table 1.

## TABLE 3

**Logistic Regressions Examining the Impact of Audit Committee Attributes on the Incidence of Analyst Optimistic Forecasts**

| | | Model 1 | | Model 2 | |
|---|---|---|---|---|---|
| **Variable** | **Predicted Sign** | **Coeff.** | **p-value** | **Coeff.** | **p-value** |
| *MACSZ* | − | 0.0481 | 0.908 | 0.0507 | 0.833 |
| *ACIND* | − | -0.0590 | 0.068 | -0.0596 | 0.066 |
| *FEXP* | − | -0.0082 | 0.418 | | |
| *AEXP* | − | | | -0.1016 | 0.003 |
| *MEET* | − | -0.0909 | 0.007 | -0.0833 | 0.013 |
| *MACSZ* × *SOX* | ? | -0.1094 | 0.063 | -0.1135 | 0.054 |
| *ACIND* × *SOX* | ? | 0.0351 | 0.625 | 0.0360 | 0.616 |
| *FEXP* × *SOX* | ? | -0.0581 | 0.495 | | |
| *AEXP* × *SOX* | ? | | | 0.0192 | 0.752 |
| *MEET* × *SOX* | ? | 0.0935 | 0.593 | 0.0908 | 0.603 |
| *BDSZ* | ? | 0.0850 | 0.189 | 0.0881 | 0.173 |
| *BDIND* | ? | 0.2202 | 0.031 | 0.2240 | 0.028 |
| *INST* | − | -0.4581 | <0.001 | -0.4493 | <0.001 |
| *GINDX* | ? | -0.0065 | 0.238 | -0.0066 | 0.231 |
| *LNMVE* | − | 0.0096 | 0.748 | 0.0054 | 0.646 |
| *FLLW* | − | -0.0217 | <0.001 | -0.0217 | <0.001 |
| *MTB* | + | -0.0345 | 0.999 | -0.0343 | 0.999 |
| *LAGFE* | + | 19.8094 | <0.001 | 19.7273 | <0.001 |
| *LAGLOSS* | + | 0.3446 | <0.001 | 0.3492 | <0.001 |
| *FD* | ? | 0.0619 | 0.104 | 0.0678 | 0.075 |
| *SOX* | ? | -0.3521 | 0.069 | -0.3938 | 0.035 |
| *INTERCEPT* | ? | 0.0202 | 0.919 | 0.0578 | 0.770 |
| N | | 22,137 | | 22,137 | |
| Psudo-$R^2$ | | 0.018 | | 0.019 | |

**Notes:**

The logistic regression is performed for the full sample, including firms that meet or beat analysts' consensus earnings forecast for the current quarter (MBE=1) and firms that do not (MBE=0). The dependent variable (*OPTI*) is set to one if the first consensus analyst forecast for the current quarter after previous quarter's earnings announcement is greater than actual earnings for the current quarter, and zero otherwise. p-values are based on robust standard errors, one-tailed for signed prediction, and two-tailed for unsigned prediction. See Tables 1 and 2 for variable definitions.

**TABLE 4**

**Logistic Regressions Examining the Impact of Audit Committee Attributes on the Incidence of Analyst Walk-Downs**

| | | Model 1 | | Model 2 | |
|---|---|---|---|---|---|
| **Variable** | **Predicted Sign** | **Coeff.** | **p-value** | **Coeff.** | **p-value** |
| *MACSZ* | − | 0.0608 | 0.839 | 0.0558 | 0.804 |
| *ACIND* | − | -0.0120 | 0.399 | -0.0116 | 0.403 |
| *FEXP* | − | -0.0728 | 0.059 | | |
| *AEXP* | − | | | -0.0877 | 0.021 |
| *MEET* | − | -0.1135 | 0.005 | -0.1100 | 0.006 |
| *MACSZ × SOX* | ? | -0.0484 | 0.481 | -0.0474 | 0.489 |
| *ACIND × SOX* | ? | 0.0180 | 0.830 | 0.0169 | 0.840 |
| *FEXP × SOX* | ? | -0.0956 | 0.335 | | |
| *AEXP × SOX* | ? | | | -0.0136 | 0.848 |
| *MEET × SOX* | ? | -0.0301 | 0.876 | -0.0412 | 0.830 |
| *BDSZ* | ? | 0.2961 | <0.001 | 0.2999 | <0.001 |
| *BDIND* | ? | 0.3098 | 0.010 | 0.3005 | 0.012 |
| *INST* | ? | -0.0349 | 0.740 | -0.0398 | 0.705 |
| *GINDX* | ? | -0.0169 | 0.009 | -0.0164 | 0.011 |
| *LNMVE* | ? | -0.0595 | <0.001 | -0.0657 | <0.001 |
| *MTB* | ? | -0.0207 | <0.001 | -0.0208 | <0.001 |
| *FE* | ? | 3.4973 | 0.322 | 3.3537 | 0.342 |
| *LOSS* | ? | 0.4293 | <0.001 | 0.4300 | <0.001 |
| *NERNCHG* | ? | 1.6787 | <0.001 | 1.6763 | <0.001 |
| *FD* | ? | -0.0465 | 0.301 | -0.0423 | 0.347 |
| *SOX* | ? | -0.0450 | 0.836 | -0.1018 | 0.625 |
| *INTERCEPT* | ? | -0.7668 | 0.001 | -0.7516 | 0.001 |
| N | | 18,756 | | 18,756 | |
| Psudo-$R^2$ | | 0.107 | | 0.107 | |

**Notes:**

The logistic regression is performed for firms that meet or beat analysts' consensus earnings forecast for the current quarter (MBE=1). The dependent variable (*WLKDN*) is set to one if the last consensus analyst forecast is less than the first consensus forecast for the quarter, and zero otherwise. p-values are based on robust standard errors, one-tailed for signed prediction, and two-tailed for unsigned prediction. See Tables 1 and 2 for variable definitions.

**TABLE 5**

**Logistic Regressions Examining the Impact of Audit Committee Attributes on the Incidence of Downward Management Guidance**

| | | **Model 1** | | **Model 2** | |
|---|---|---|---|---|---|
| **Variable** | **Predicted Sign** | **Coeff.** | **p-value** | **Coeff.** | **p-value** |
| *MACSZ* | – | 0.0889 | 0.823 | 0.0789 | 0.795 |
| *ACIND* | – | -0.0523 | 0.312 | -0.0615 | 0.282 |
| *FEXP* | – | -0.1114 | 0.167 | | |
| *AEXP* | – | | | -0.0649 | 0.249 |
| *MEET* | – | -0.2513 | 0.006 | -0.2522 | 0.006 |
| *MACSZ × SOX* | ? | -0.0968 | 0.522 | -0.0811 | 0.592 |
| *ACIND × SOX* | ? | 0.0931 | 0.609 | 0.1055 | 0.562 |
| *FEXP × SOX* | ? | -0.0568 | 0.813 | | |
| *AEXP × SOX* | ? | | | -0.2966 | 0.056 |
| *MEET × SOX* | ? | 0.7764 | 0.210 | 0.8995 | 0.159 |
| *BDSZ* | ? | 0.1131 | 0.533 | 0.1240 | 0.496 |
| *BDIND* | ? | 0.1225 | 0.643 | 0.1357 | 0.606 |
| *INST* | ? | 0.0970 | 0.702 | 0.1294 | 0.610 |
| *GINDX* | ? | 0.0105 | 0.468 | 0.0116 | 0.420 |
| *LNMVE* | ? | -0.0129 | 0.688 | -0.0205 | 0.520 |
| *MTB* | ? | 0.0096 | 0.376 | 0.0096 | 0.372 |
| *FE* | ? | 89.8842 | <0.001 | 89.8030 | <0.001 |
| *LOSS* | ? | -0.6128 | <0.001 | -0.5995 | <0.001 |
| *NERNCHG* | ? | 1.9799 | <0.001 | 1.9820 | <0.001 |
| *FD* | ? | -0.4289 | <0.001 | -0.4313 | <0.001 |
| *SOX* | ? | -0.7757 | 0.248 | -0.7933 | 0.228 |
| *INTERCEPT* | ? | -2.4671 | <0.001 | -2.5327 | <0.001 |
| N | | 6,068 | | 6,068 | |
| Psudo-$R^2$ | | 0.202 | | 0.203 | |

**Notes:**

The logistic regression is performed for firms that meet or beat analysts' consensus earnings forecast for the current quarter (MBE=1). The dependent variable (*DNGD*) is set to one if management issues downward earnings guidance as coded by *First Call*, and zero otherwise. p-values are based on robust standard errors ,one-tailed for signed prediction,  and two-tailed for unsigned prediction. See Tables 1 and 2 for variable definitions.

**TABLE 6**

**Logistic Regressions Examining the Impact of Audit Committee Attributes on the Incidence of Expectations Management**

| | | ***EXM1*** | | | | ***EXM2*** | | | | ***EXM3*** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Model 1** | | **Model 2** | | **Model 1** | | **Model 2** | | **Model 1** | | **Model 2** | |
| **Variable** | **Predicted Sign** | **Coeff.** | **p-value** | **Coeff.** | **p-value** | **Coeff.** | **p-value** | **Coeff.** | **p-value** | **Coeff.** | **p-value** | **Coeff.** | **p-value** |
| *MACSZ* | − | -0.0655 | 0.139 | -0.0672 | 0.132 | -0.0081 | 0.439 | -0.0082 | 0.438 | 0.0210 | 0.858 | 0.0139 | 0.906 |
| *ACIND* | − | -0.0928 | 0.079 | -0.0957 | 0.072 | -0.0828 | 0.073 | -0.0845 | 0.069 | -0.2575 | 0.024 | -0.2702 | 0.019 |
| *FEXP* | − | -0.0775 | 0.118 | | | -0.0463 | 0.206 | | | -0.1501 | 0.137 | | |
| *AEXP* | − | | | -0.1470 | 0.008 | | | -0.1436 | 0.003 | | | -0.2023 | 0.044 |
| *MEET* | − | -0.2700 | <0.001 | -0.2647 | <0.001 | -0.2220 | <0.001 | -0.2168 | <0.001 | -0.2760 | 0.013 | -0.2726 | 0.014 |
| *MACSZ × SOX* | ? | -0.0674 | 0.522 | -0.0667 | 0.526 | -0.0950 | 0.263 | -0.0950 | 0.262 | -0.1036 | 0.597 | -0.0950 | 0.628 |
| *ACIND × SOX* | ? | 0.0939 | 0.462 | 0.0978 | 0.443 | 0.0850 | 0.415 | 0.0871 | 0.403 | 0.2751 | 0.248 | 0.2923 | 0.219 |
| *FEXP × SOX* | ? | 0.0824 | 0.612 | | | 0.1054 | 0.415 | | | 0.3792 | 0.283 | | |
| *AEXP × SOX* | ? | | | 0.1172 | 0.284 | | | 0.1641 | 0.063 | | | -0.0129 | 0.949 |
| *MEET × SOX* | ? | 0.2114 | 0.535 | 0.2170 | 0.526 | 0.3685 | 0.176 | 0.3693 | 0.175 | 0.2318 | 0.725 | 0.2916 | 0.664 |
| *BDSZ* | ? | 0.2424 | 0.025 | 0.2450 | 0.023 | 0.1837 | 0.041 | 0.1849 | 0.040 | 0.4147 | 0.070 | 0.4263 | 0.063 |
| *BDIND* | ? | 0.1743 | 0.315 | 0.1766 | 0.307 | 0.5620 | <0.001 | 0.5652 | <0.001 | 0.9311 | 0.006 | 0.9747 | 0.003 |
| *INST* | ? | 0.3569 | 0.018 | 0.3584 | 0.017 | 0.1558 | 0.218 | 0.1607 | 0.204 | 0.2673 | 0.412 | 0.3023 | 0.353 |
| *GINDX* | ? | -0.0267 | 0.005 | -0.0263 | 0.005 | -0.0123 | 0.119 | -0.0123 | 0.118 | 0.0064 | 0.725 | 0.0073 | 0.687 |
| *LNMVE* | ? | 0.0265 | 0.205 | 0.0215 | 0.303 | -0.0330 | 0.063 | -0.0360 | 0.042 | -0.0635 | 0.112 | -0.0708 | 0.076 |
| *MTB* | ? | 0.0280 | <0.001 | 0.0276 | <0.001 | 0.0019 | 0.767 | 0.0016 | 0.806 | 0.0181 | 0.201 | 0.0181 | 0.202 |
| *FE* | ? | 51.341 | <0.001 | 51.308 | <0.001 | 25.290 | <0.001 | 25.413 | <0.001 | 80.122 | <0.001 | 80.194 | <0.001 |
| *LOSS* | ? | 0.0384 | 0.660 | 0.0457 | 0.600 | 0.1798 | 0.022 | 0.1871 | 0.017 | -0.5969 | 0.001 | -0.5790 | 0.001 |
| *NERNCHG* | ? | 1.7578 | <0.001 | 1.7553 | <0.001 | 1.4451 | <0.001 | 1.4436 | <0.001 | 1.9428 | <0.001 | 1.9384 | <0.001 |
| *FD* | ? | -0.0035 | 0.955 | 0.0023 | 0.971 | 0.0835 | 0.116 | 0.0902 | 0.090 | -0.2747 | 0.023 | -0.2703 | 0.025 |
| *SOX* | ? | -0.6370 | 0.082 | -0.6193 | 0.082 | -0.6877 | 0.021 | -0.6679 | 0.020 | -0.9734 | 0.195 | -0.6743 | 0.334 |
| *INTERCEPT* | ? | -2.9677 | <0.001 | -2.9540 | <0.001 | -2.0247 | <0.001 | -2.0004 | <0.001 | -3.9001 | <0.001 | -3.9736 | <0.001 |
| N | | 17,040 | | 17,040 | | 17,040 | | 17,040 | | 5,623 | | 5,623 | |
| Psudo-$R^2$ | | 0.127 | | 0.127 | | 0.090 | | 0.090 | | 0.190 | | 0.191 | |

**TABLE 6: CONTINUED**

**Notes:**

The logistic regression is performed for firms that meet or beat analysts' consensus earnings forecast for the current quarter (MBE=1). The dependent variables are three alternative measures of expectations management. See Table 1 for variable definitions. p-values are based on robust standard errors, one-tailed for signed prediction, and two-tailed for unsigned prediction. See Tables 1 and 2 for variable definitions.

**TABLE 7**

**Logistic Regressions Examining the Substitution Effect between Accrual Management and Expectations Management**

| Variable | Predicted Sign | *EXM1* Coeff. | *EXM1* p-value | *EXM2* Coeff. | *EXM2* p-value | *EXM3* Coeff. | *EXM3* p-value |
|---|---|---|---|---|---|---|---|
| *PSDA* | − | -1.1222 | 0.039 | -0.9295 | 0.047 | -2.1572 | 0.031 |
| *MACSZ* | − | -0.1472 | 0.106 | -0.0275 | 0.395 | -0.0073 | 0.487 |
| *ACIND* | − | -0.0936 | 0.223 | -0.1112 | 0.150 | -0.3623 | 0.061 |
| *AEXP* | − | -0.1668 | 0.088 | -0.1363 | 0.101 | -0.1889 | 0.212 |
| *MEET* | − | -0.3626 | 0.001 | -0.2496 | 0.007 | -0.0363 | 0.436 |
| *SOX* | ? | 0.0534 | 0.932 | -0.1917 | 0.728 | 2.3997 | 0.059 |
| *PSDA× MACSZ* | + | 0.7644 | 0.084 | 0.9262 | 0.029 | 1.3664 | 0.118 |
| *PSDA× ACIND* | + | 0.6424 | 0.128 | 0.5825 | 0.112 | 1.3358 | 0.155 |
| *PSDA× AEXP* | + | 0.1954 | 0.374 | -0.2956 | 0.296 | -1.6092 | 0.128 |
| *PSDA× MEET* | + | 0.7970 | 0.085 | 0.5144 | 0.150 | 0.4755 | 0.348 |
| *PSDA × SOX* | ? | -15.9032 | 0.219 | -12.1267 | 0.101 | -153.6420 | <0.001 |
| *MACSZ × SOX* | ? | -0.0500 | 0.813 | -0.0608 | 0.722 | -0.4579 | 0.220 |
| *ACIND × SOX* | ? | -0.2554 | 0.291 | -0.2103 | 0.316 | 0.3079 | 0.498 |
| *AEXP × SOX* | ? | 0.1347 | 0.541 | 0.3000 | 0.096 | 0.0591 | 0.876 |
| *MEET × SOX* | ? | -0.0937 | 0.875 | 0.0514 | 0.921 | -2.7081 | 0.025 |
| *PSDA × MACSZ × SOX* | ? | -0.3809 | 0.732 | -0.2532 | 0.785 | -3.2763 | 0.126 |
| *PSDA × ACIND × SOX* | ? | 1.1142 | 0.381 | 0.2603 | 0.852 | 0.0726 | 0.978 |
| *PSDA × AEXP × SOX* | ? | 0.1177 | 0.919 | -0.0359 | 0.971 | 1.5801 | 0.437 |
| *PSDA × MEET × SOX* | ? | 14.1443 | 0.271 | 11.6529 | 0.110 | 153.5979 | <0.001 |
| *BDSZ* | ? | 0.2660 | 0.173 | 0.1808 | 0.274 | 0.7736 | 0.059 |
| *BDIND* | ? | 0.3091 | 0.288 | 0.3456 | 0.161 | 1.2830 | 0.018 |
| *INST* | ? | 0.3814 | 0.178 | 0.1031 | 0.663 | 0.6843 | 0.231 |
| *GINDX* | ? | -0.0187 | 0.259 | -0.0140 | 0.305 | 0.0020 | 0.945 |
| *LNMVE* | ? | 0.0050 | 0.891 | -0.0209 | 0.491 | -0.2050 | 0.003 |
| *MTB* | ? | 0.0295 | 0.015 | -0.0050 | 0.653 | 0.0692 | 0.002 |
| *FE* | ? | 52.2506 | <0.001 | 20.1595 | 0.005 | 90.3654 | <0.001 |
| *LOSS* | ? | -0.1383 | 0.354 | 0.1101 | 0.399 | -0.6702 | 0.019 |
| *NERNCHG* | ? | 1.7433 | 0.000 | 1.3721 | 0.000 | 1.9203 | <0.001 |
| *FD* | ? | 0.0789 | 0.450 | 0.1286 | 0.153 | -0.3736 | 0.056 |
| *INTERCEPT* | ? | -3.0798 | <0.001 | -1.8435 | <0.001 | -4.2364 | 0.001 |
| N | | 5,959 | | 5,959 | | 2,197 | |
| Psudo-$R^2$ | | 0.123 | | 0.082 | | 0.201 | |

**TABLE 7: CONTINUED**

**Notes:**

The sample is limited to firm-quarters with positive discretionary accruals (*PSDA)*, measured by the residual from the modified Jones model, adapted for quarterly data and estimated by two-digit SIC code and fiscal year. p-values are based on robust standard errors, one-tailed for signed prediction, and two-tailed for unsigned prediction. All other variables are defined in Tables 1 and 2.

## TABLE 8

### Logistic Regressions Examining the Impact of Audit Committee Attributes on the Incidence of Expectations Management with Small Earnings Surprises

| Variable | Predicted Sign | *EXM1* Coeff. | *EXM1* p-value | *EXM2* Coeff. | *EXM2* p-value | *EXM3* Coeff. | *EXM3* p-value |
|---|---|---|---|---|---|---|---|
| *MACSZ* | − | 0.0114 | 0.898 | 0.0181 | 0.837 | -0.0791 | 0.323 |
| *ACIND* | − | -0.1348 | 0.081 | -0.1468 | 0.061 | -0.0632 | 0.364 |
| *AEXP* | − | -0.1594 | 0.038 | -0.1771 | 0.023 | -0.2630 | 0.064 |
| *MEET* | − | -0.1496 | 0.047 | -0.1383 | 0.059 | -0.2655 | 0.066 |
| *MACSZ × SOX* | ? | -0.1243 | 0.425 | -0.0416 | 0.784 | 0.1609 | 0.594 |
| *ACIND × SOX* | ? | 0.2279 | 0.239 | 0.3551 | 0.063 | 0.0597 | 0.870 |
| *AEXP × SOX* | ? | 0.0039 | 0.981 | 0.0136 | 0.931 | 0.0989 | 0.748 |
| *MEET × SOX* | ? | -0.1198 | 0.784 | -0.0005 | 0.999 | -0.8630 | 0.262 |
| *BDSZ* | ? | 0.1091 | 0.465 | 0.1488 | 0.312 | -0.0827 | 0.800 |
| *BDIND* | ? | 0.4372 | 0.083 | 0.4933 | 0.047 | 0.9736 | 0.039 |
| *INST* | ? | 0.3915 | 0.086 | 0.4901 | 0.028 | -0.4595 | 0.349 |
| *GINDX* | ? | -0.0364 | 0.009 | -0.0308 | 0.023 | 0.0011 | 0.967 |
| *LNMVE* | ? | 0.0094 | 0.760 | -0.0180 | 0.552 | -0.0886 | 0.119 |
| *MTB* | ? | 0.0013 | 0.893 | 0.0012 | 0.904 | 0.0195 | 0.281 |
| *FE* | ? | 136.38 | <0.001 | 124.21 | <0.001 | 115.71 | <0.001 |
| *LOSS* | ? | 0.0289 | 0.851 | 0.0950 | 0.525 | -0.7754 | 0.009 |
| *NERNCHG* | ? | 1.1699 | <0.001 | 1.1710 | <0.001 | 1.6059 | <0.001 |
| *FD* | ? | 0.0199 | 0.825 | 0.0419 | 0.638 | -0.0530 | 0.761 |
| *SOX* | ? | -0.2963 | 0.521 | -0.5178 | 0.262 | 0.3135 | 0.691 |
| *INTERCEPT* | ? | -2.0078 | <0.001 | -2.0106 | <0.001 | -1.9574 | 0.065 |
| N | | 5,943 | | 5,943 | | 2,204 | |
| Psudo-$R^2$ | | 0.116 | | 0.111 | | 0.200 | |

**Notes:**

The sample is limited to firm-quarters with earnings surprises that do not exceed analyst forecasts by one cent. p-values are based on robust standard errors, one-tailed for signed prediction, and two-tailed for unsigned prediction. All variables are defined in Tables 1 and 2.