DO FINANCIAL EXPERT DIRECTORS AFFECT THE INCIDENCE OF ACCRUALS

MANAGEMENT TO MEET OR BEAT ANALYST FORECASTS?

by

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A DISSERTATION

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DISSERTATION ABSTRACT

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Title: Do Financial Expert Directors Affect the Incidence of Accruals Management to
Meet or Beat Analyst Forecasts?

Evidence that firms adjust accruals to just meet or beat analyst forecasts is

pervasive. However, the implications for earnings quality are not clear. Managers can use

this practice either to mislead investors, resulting in lower quality earnings, or to signal

future earnings growth and thereby improve the decision usefulness of earnings. Assuming

that boards are concerned about providing higher quality financial information and that

they can discern the proper earnings signal, they should discourage managers from

adjusting earnings to beat the analyst forecast target if such adjustment diminishes earnings

quality. Consistent with this prediction, I find a significantly negative relation between the

probability that a firm beats the target by adjusting accruals and the presence of at least one

independent audit committee financial expert for firms with poor future performance. I also

find that the negative impact of an independent financial expert on the odds of beating the

target by adjusting accruals is significantly stronger for firms with poor future performance

than for firms with strong future performance. These findings are consistent with financial

expertise on the audit committees improving corporate governance by protecting

shareholders from accruals management that reduces the decision usefulness of earnings.

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CHAPTER I

INTRODUCTION

Considerable research has been devoted to documenting and understanding the importance of "just meeting or beating" the consensus analyst forecast.[1] For example, several studies document evidence that managers adjust accruals in order to beat consensus analyst forecast targets (Arya et al., 2003; Burgstahler et al., 2006), which is consistent with the evidence that managers have incentives to do so (Bergstresser et al., 2006; Cheng et al., 2005; Matsumoto, 2002; Matsunaga et al., 2001; McVay et al., 2006).[2] However, it is not clear whether adjusting accruals to beat the target increases or decreases earnings quality. It is also not clear how the board views such behavior or how board member characteristics influence management's tendency to use accruals to beat the target. To provide evidence on these issues, I examine whether the presence of financial experts on the audit committee affects the use of accruals to beat analyst forecast targets conditional on the impact of accruals on the earnings quality.

Using accruals to beat the analyst forecast target could either increase or decrease the quality of earnings, depending on the nature of management's private information. Adjusting accruals to beat the target would increase the information value of earnings when managers use accruals to signal private favorable information about future performance. On the other hand, when managers have private information that the firm

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[1] Hereafter, I use "beat" the consensus analyst forecast target to refer to "just meet or beat" the analyst forecast target.

[2] Firms can also guide analyst forecasts downward to avoid missing targets (Matsumoto, 2002). I do not examine expectation management as a mechanism to exceed analyst forecasts because it is strictly a reporting strategy and does not affect the quality of earnings.

will not be able to sustain its performance in the future, adjusting accruals upward to beat the target could provide an overly optimistic view of the firm and mislead shareholders.

Prior research suggests that board members monitor the financial reporting process and that higher quality boards increase earnings quality. Consistent with this view, several studies document a positive association between board quality and earnings quality (Ahmed et al., 2007; Beasley, 1996; Farber, 2005). This implies that the board should encourage or discourage accruals management to beat analyst targets depending on whether the adjustment properly reflects management's private information, namely, allowing firms to adjust accruals to beat the analyst forecast if they expect future financial performance to be good and object if they expect poor future performance. This is consistent with boards protecting shareholders by monitoring the quality of financial information presented by the firm.

However, this assumes that board members have sufficient knowledge and expertise to evaluate managers' private information, and there is evidence that the extent of financial expertise is not consistent across boards. Regulators have expressed concerns regarding whether directors have sufficient knowledge to effectively monitor the financial reporting process (Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Cmmittees, 1999; General Accounting Office [GAO], 1991; Public Oversight Board, 1993; Sarbanes-Oxley Act of 2002 [SOX], 2002). Academic research also supports this view by showing a positive relation between appropriate expertise on the audit committee and the financial reporting quality.[3] As a result, in this paper I argue

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[3] Krishnan et al. (2008) find that only accounting financial experts is positively and significantly correlated with accounting conservatism while nonaccounting expert is unrelated with accounting conservatism. Dhaliwal et al. (2010) find that the combination of both accounting and financial

that the presence of a financial expert—someone who has an understanding of generally accepted accounting principles (GAAP), has the experience in preparing, auditing, analyzing or evaluating financial statements, and who has the ability to access the accounting principle or has an understanding of internal controls and procedures for financial reporting (SEC, 2003)—is more likely to have sufficient knowledge to assess managers' private information about future performance.[4]

I expect that, when managers have negative private information regarding future earnings, financial expert directors on the audit committee will discourage managers from manipulating accruals to beat analyst forecast targets. On the other hand, when managers have positive private information regarding future earnings, the financial expert will not intervene and will allow managers to use accruals to produce earnings above the analyst forecast. Empirically, I first predict that for firms that have strong future performance, I would observe a negative relation between the presence of a financial expert on the audit committee and the likelihood that a firm adjusts accruals to beat the analyst forecast target. In addition, I predict that the impact of a financial expert on the use of accruals management to beat the target will be stronger for firms that have strong future performance than for firms that have poor future performance.

To test these hypotheses, I use earnings surprises in quarter t+1 as a proxy for future earnings performance. I create an indicator variable that equals 1 if a firm has

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experts has most positive effect on accruals quality while the presence of at least supervisory experts is not related to higher quality of accruals.

[4] Following the SEC, a director is defined as a financial expert if he/she has work experience as a certified public accountant, auditor, chief financial officer, financial controller, accounting officer, investment banker, financial analyst, or CEO or company president. See detailed discussion in later section.

earnings below analyst forecast in quarter t+1 and, zero otherwise (BadNEWS).[5,6] I also

construct a measure to capture financial experts' monitoring as defined by Section 407 of

SOX.[7] I create an indicator variable which equals 1 if there is at least one independent

audit committee financial expert (FEDIR1), and zero otherwise.

My sample is based on firms with financial data available from COMPUSTAT for

the years 2004 to 2011. I identify 1,460 firm-quarter observations that initially had

earnings before discretionary accruals (Dechow et al., 1995) below analyst forecasts by

less than one cent. Presumably, firms missing forecasts by less than one cent should be

capable of adjusting accruals to beat the target. Of 1,460 observations that are likely to

fall below the target, 1,091 observations recognize enough amounts of positive

discretionary accruals and report earnings that are above analyst forecasts, while 369

observations do not adjust earnings upward and therefore miss the target. I estimate a

logit regression if the firm adjusted accruals to beat the target, and zero if the firm chose

to miss the target. By interacting the future performance measure (BadNEWS) with the

financial expert measures (FEDIR1), I capture the differential impact of the presence of

at least one audit committee financial expert on the odds of beating the target for firms

with negative earnings surprises in quarter t+1.

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[5] I also use change in earnings from the same quarter of the prior year to capture future financial performance. The qualitative results remain unchanged.

[6] I calculate earnings surprises in quarter t+1 by using the last consensus forecasts before earnings are released in quarter t in order to make sure that quarter t+1's analyst forecast is not affected by quarter t's earnings surprises.

[7] Section 407 of SOX requires firms to disclose whether there is at least one financial expert on their audit committee. The firms need to provide an explanation if they do not include at least one financial expert on their audit committee.

Consistent with my expectation, after controlling for variables that may be correlated with the odds of beating the analyst forecast, I find that when a firm's next quarter's earnings fall below the analyst forecast, the firm is less likely to adjust earnings upward to beat the targets when there is at least one independent audit committee financial expert. The results also support my hypothesis that the impact of financial experts on the odds of beating targets by accruals is stronger for firms that have poor future performance than for firms that have strong performance. I find that the effect of an independent financial expert on the incidence of accruals management to beat the target is significantly stronger for firms whose earnings in the next quarter fall below the analyst forecast.[8]

While the prior results apply to financial experts, I also investigate whether the results are driven by accounting expertise on the audit committee. One of the most controversial SOX provisions regarding financial experts is whether financial experts should include both accounting and nonaccounting experts. The SEC's original proposal adopts a narrow definition of financial expertise that focuses on whether the director has prior accounting-related experience with financial reporting, such as experience as a public accountant, auditor, principal financial or accounting officer, or controller. However, due to widespread criticism of the narrow definition, the SEC broadened the definition in its final version to extend the field of qualified experts to include company presidents and CEOs. Because of the controversy surrounding the SEC's definition of financial expertise, prior studies examine the effects of accounting and nonaccounting financial expertise on financial reporting quality. However, the results are mixed. For

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[8] I fail to find any significant relation between the presence of at least an independent financial expert and the odds of beating targets by adjusting accruals for firms that have positive earnings surprises in the next quarter.

example, although Krishnan et al. (2008) find that accounting conservatism is not correlated with nonaccounting financial expertise or nonfinancial expertise, Zhang et al. (2007) find that both accounting and nonaccounting experts negatively affect the possibility of internal control weakness. Dhaliwal et al. (2010) also find that the mix of accounting and nonaccounting financial expertise has the most positive impact on accruals quality.

Consistent with the findings from prior studies (Dhaliwal, et al., 2010; Zhang et al., 2007), I find that the presence of both independent accounting experts and independent nonaccounting financial experts is related to lower possibility of using accruals to beat the target for firms with negative earnings surprises in quarter t+1. This evidence implies that the broad definition of financial expertise might reflect the needs of both accounting (CPA or accountant) and nonaccounting expertise (investment banker, CEO or president).

All of the prior results are based on a small group of firms that have earnings before accruals that just miss the analyst forecast. In order to make my results more generalizable, instead of focusing on firms that use accruals to beat the analyst forecast, I examine the overall predictive ability of accruals. I predict that financial experts will protect shareholders by discouraging the use of positive accruals if the firm is unable to sustain its future earnings, while financial experts will allow positive accruals if the firm performs strongly in the future. Thus, when audit committee financial experts effectively monitor managers, current accruals should be more highly correlated to future earnings. Following Sloan (1996), I estimate the ability of accruals and cash flows of current earnings to predict future earnings. I find that when firms have at least one independent

financial expert on the audit committee, the current quarter's accruals are more closely related to next quarter's earnings.

While my findings suggest that financial experts discourage management from using accruals to beat analyst forecast if future performance is expected to be poor, prior studies generally show that there is an unconditionally negative relation between board quality and the magnitude of accruals (Klein, 2002; Xie et al., 2003).[9] In order to reconcile my results to prior studies, I first replicate prior studies. Consistent with Klein (2002) and Xie et al. (2003), I find that that the number of independent directors and independent audit committee members are negatively related to the magnitude of unconditional discretionary accruals. Then, I investigate whether the presence of at least one independent financial expert unconditionally affects the magnitude of accruals. I fail to find any significant relation between the presence of at least one independent financial expert and the unconditional use of accruals. The insignificant results seem to be consistent with my main findings that the impact of the financial expert on the use of accruals is contingent upon managers' information.[10]

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[9] Prior studies argue that because accrual management destroys the quality of earnings, boards of directors should prohibit the use of accruals. In this paper, I do not assume than accruals management always diminishes the decision usefulness of earnings. Instead, I argue that the negative relation between board or audit committee independence and the magnitude of accruals is driven by the fact that directors without detailed financial expertise are unable to determine managers' private information. Thus, they unconditionally discourage the use of accruals.

[10] My hypotheses suggest that financial experts are able to assess future performance and will discourage the use of accruals when it destroys the decision usefulness of earnings. When future performance is expected to be poor, financial experts will discourage management from recognizing "positive" accruals. On the other hand, it is possible that financial experts will discourage the recognition of "negative" accruals. For example, managers may use accruals to decrease earnings due to their private incentives to smooth income (Defond et al, 1997; Grant et al., 2009), even they know the future performance is strong, financial experts Thus, on average financial experts should not unconditionally intervene in the recognition of accruals.

I conduct several sensitivity tests to validate the measurement of the financial experts' monitoring. In my main tests, I ask whether there is at least one independent financial expert to capture financial experts' monitoring as defined by Section 407 of the SOX. In the sensitivity test, I first test whether the presence of exactly one independent financial expert matters. I drop all observations with more than one financial expert on the audit committee and find that the presence of exactly one independent financial expert negatively affects the use of accruals to beat the analyst forecast for firms with poor future performance. I then investigate whether there is any additional value of having more than one financial expert on the audit committee. I find that firms with more than one financial expert on the audit committee are less likely to beat the target through adjusting accruals when the future performance is predicted to be poor. I also use the number of independent financial experts on the audit committee and the percentage of independent financial experts on the audit committee to proxy financial experts' monitoring, and find results that are similar with my main findings.

Lastly, I perform several tests that attempt to discern whether the documented effect is caused by the possibility that financial experts are drawn to firms with better accruals quality. Instead of monitoring firms' accruals management practice, financial expert directors choose firms with a better financial reporting process. To address this concern, I first lag the financial expert variables by one period and use the lagged value as an instrument in regressions of the odds of beating the analyst forecast (Hermalin and Weisbach, 1991), and find a similar result. I also perform a two-stages least squares estimation (2SLS). My first-stage model captures the determinants of the presence of at least one independent audit committee financial expert, including monitoring or advising

costs, information asymmetry, business complexity, and CEO characteristics. In the second stage, I replace the financial expert measurement (whether there is at least one independent audit committee financial expert) with the predicted value from the first-stage model. All of the results remain quantitatively similar.

My study contributes to literature in several ways. First, my study is of interest to academic researchers who study earnings management concerning analyst forecast benchmarks. I provide a possible explanation for why some firms do not adjust accruals to beat analyst forecasts. While there is considerable research which documents that managers have incentives to use accruals to beat the analyst forecast target, less attention is paid to the firms that fail to beat the target. In particular, the reasons why managers would choose not to adjust accruals and miss analyst forecasts when they are capable of doing so is not well understood. In this paper, I provide evidence that monitoring by financial experts deters managers from adjusting earnings upward to beat analyst forecast targets and leads to firms missing the target when management has negative private information regarding future financial performance.

Second, I contribute to the literature that examines the role of the board in determining earnings quality. Prior studies generally assume that accruals management reduces information value of earnings so that effective boards should prohibit the use of accruals management. Klein (2002) and Xie, et al. (2003) both find that, in general, a higher quality board (i.e., a more independent board or audit committee) is associated with a lower magnitude of discretionary accruals. I extend this stream of literature by arguing that accruals management is not necessarily harmful to shareholders. If board members have sufficient financial expertise, they should not unconditionally discourage

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the use of accruals. Instead, they will discourage the recognition of accruals when it diminishes the information value of the earnings and allow managers to adjust accruals to improve the decision usefulness of earnings.

Third, I contribute to the literature regarding the impact of accruals to beat the targets on earnings quality. Prior studies document the tendency of firms to use accruals to beat the analyst forecast (Bergstresser, et al., 2006). However, it is not clear whether the use of accruals to beat the target increases or decreases the quality of earnings. Although most previous studies interpret earnings management to beat the targets as a means by which managers obtain private benefits (Bergstresser, et al., 2006; Cheng, et al., 2005; Matsunaga, et al., 2001; McVay, et al., 2006), my analyses suggest that when managers are closely monitored by financial experts, accruals might be used to signal future strong performance and result in higher earnings quality.

This study also has implications for standard setters. I find that financial experts are better able to preserve a high quality of financial reporting, supporting the SEC's intention to push for additional financial experts on the audit committee. I also contribute to the controversy about the definition of financial expertise. The use of a financial expert remains a controversial issue. Some have argued that effective audit committee members are those who have general management experience (Olson, 1999), while others believe that accounting-specific expertise may be more important for audit committee members because audit committees are responsible for numerous duties that require a relatively high degree of accounting sophistication (DeFond, et al., 1997; Krishnan, et al., 2008). I find that the presence of both accounting and nonaccounting experts, who gain their expertise from supervising employees and overseeing the performance of companies, are

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able to contribute to the effectiveness of the board. This suggests that the SEC's wide-ranging definition of financial expertise may not be a compromise to allay public criticism but rather reflects the need for broader expertise on the board.[11]

The remainder of the paper is organized as follows. Section II discusses the related literature and hypotheses development. Section III discusses my sample selection procedure and variable definitions, and provides summary statistics. In section IV, I outline the research design and present empirical results. Section V discusses the role of accounting-specific expertise. Section VI reports the results of additional tests, and Section VII shows the results from sensitivity tests. Section VIII presents conclusions.

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[11] This broad definition of financial expertise was subsequently adopted by the NASDAQ (NASD Rule 4350(d)(2)(A)), while the NYSE implicitly adopted a broad definition by delegating the task of interpreting financial expertise to the board of their registrants (NYSE Section 303A(7)(a)).

CHAPTER II

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Prior studies provide evidence that managers have strong incentives to avoid

negative earnings surprises because negative earnings surprises generally lead to negative

price revisions (Bartov et al., 2002; Graham et al., 2005). The benefits that managers

enjoy from avoiding negative earnings surprises include maximizing the value of their

stock-based compensation (Bergstresser and Philippon, 2006; Cheng and Warfield, 2005;

McVay, et al., 2006), increasing their cash bonus (Matsunaga and Park, 2001),

establishing implicit contracting reputation (Bowen et al., 1995), and avoiding litigation

risk (Matsumoto, 2002).[12] Consistent with managers' incentives to beat the analyst

forecast, prior studies have shown that managers adjust accruals to produce earnings that

beat the target. Burgstahler and Eames (2006) find that managers manage earnings

upward through accruals in order to avoid reporting negative earnings surprises. Ayers et

al. (2006) document a significant positive association between discretionary accruals and

beating the analyst forecast benchmark.

Adjusting accruals to avoid negative earnings surprises can either increase or

decrease the information value of earnings, depending on the nature of management's

private information. If managers have negative private information regarding future

earnings performance, adjusting accruals to beat the analyst forecast target provides a

misleadingly optimistic picture of the financial success of the firm that allows managers

an opportunity to increase their personal wealth. Cheng and Warfield (2005) find that

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[12] Although managers also have incentive to lower report earnings in order to miss the target, the
evidence is rare. The only explanation so far is that executives who consider their stock options
are more likely to seek to miss targets. Missing earnings targets can reward a CEO with option
grants that are pegged to a lower stock price (McAnally et al., 2008).

high equity incentives motivate managers to engage in earnings management to beat analyst forecasts in order to increase the value of the shares. Bergstresser and Philippon (2006) provide evidence that the use of accruals to manipulate reported earnings is more pronounced at firms where CEOs' potential total compensation is more closely tied to the value of their stock and option holdings. In addition, McVay, et al. (2006) find that the likelihood of just meeting versus just missing the analyst forecast is strongly associated with subsequent managerial stock sales. Bartov et al. (2004) find that earnings are abnormally high prior to option exercises.

On the other hand, if managers have favorable information regarding future earnings performance, adjusting accruals to beat the analyst forecast reveals managers' private positive information and provides a more timely measure of a firm's future performance. When managers adjust accruals around analyst forecasts in an efficient manner consistent with minimizing information asymmetry, the earnings number becomes more informative and shareholders are able to make better informed decisions. Subramanyam (1996) suggests that managerial discretion improves the ability of earnings to reflect economic value. Xue (2003) also finds that firms with high-growth opportunities are more likely to adjust accruals to signal future performance.

Assuming that the interests of shareholders and the board of directors are properly aligned, directors should respond to investors' demands for higher quality financial information.[13] As a result, when managers have unfavorable information regarding future performance, the board should deter managers from adjusting earnings upward to beat the

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[13] Rather than being completely aligned with the interests of shareholders, boards' interests can be aligned with managers' interests (i.e., the board consists of individuals assumed to be beholden to the CEO). I address this concern by examining independent financial experts in my empirical tests. Independent directors who are concerned about their reputation are less likely to align with managers (Yermack 2004).

analyst forecast because such adjustment might be driven by managers' self-interest incentives and diminishes the information value of earnings. Conversely, when managers have positive information regarding future earnings, the board should allow managers' accruals adjustment to beat the target since such adjustment signals strong future performance and improves the decision usefulness of earnings.

However, this assumes that board members should have enough expertise to understand management's private information regarding future earnings. Prior research suggests that lack of appropriate expertise may reduce directors' ability to monitor the financial reporting process. For example, Krishnan et al. (2008) find that the proportion of nonaccounting financial experts on the audit committee (i.e., directors with experience as CEO or president) is unrelated with accounting conservatism, while the propotion of accounitng financial experts is significantly positively correlated with conservatism. In addition, Defond et al. (2005) document a positive market reaction to the appointment of an accounting expert, but no reaction to the appoinment of nonaccounitng financial expert.

Regulators also emphasize the importance of financial expertise on the audit committee (General Accounting Office, 1991; Public Oversight Board, 1993; Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees, 1999; Sarbanes-Oxley Act of 2002 [SOX], 2002). This implies that regulators have the concern that board members who lack sufficient financial expertise might deter an audit committee's ability to ensure high-quality reported earnings. For example, Section 407 of SOX requires firms to disclose whether at least one of the audit committee members is a financial expert. The NYSE requires that at least one member of the audit committee

have accounting or related financial management expertise and that all members of the audit committee be financially literate. The NASDAQ rules require companies to certify whether at least one member of the audit committee has past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background that results in the individual's financial sophistication, including being or having been a CEO, CFO, or other senior officer with financial oversight responsibilities.

In this paper, I focus on audit committee financial experts as defined by Section 407 of the SOX Act. I argue that these directors are better able to monitor financial reporting and disclosure issues through their knowledge base, educational background, or prior working experience. Based on Section 407 of the SOX Act, an audit committee financial expert is a person who has an understanding of generally accepted accounting principles (GAAP); experience in preparing, auditing, analyzing or evaluating financial statements; and the ability to understand the accounting principle or to understand internal controls and procedures for financial reporting (SEC, 2003). Under the final rules adopted by the SEC, an audit committee member can be deemed a financial expert if the member has: (a) accounting expertise from work experience as a certified public accountant, auditor, chief financial officer, financial comptroller, financial controller, or accounting officer; (b) finance expertise from work experience as an investment banker, financial analyst, or any other financial management role; or (c) supervisory expertise from supervising the preparation of financial statements (e.g., CEO or company president). Audit committee financial experts are expected to understand and evaluate the accounting accruals, estimates, and reserves, and serve as a resource for the audit

committee in carrying out its function of protecting the integrity of the financial reporting system.

Empirical academic research generally supports the regulatory view that audit committee financial expertise is related to higher quality financial reporting. Agrawal et al. (2005) find that the odds of restating financial statements are significantly lower when the audit committee has an independent financial expert on the audit committee. Farber (2005) finds that firms subject to an SEC enforcement action have fewer financial experts on their audit committees than a control group of similar firms. Similarly, Krishnan (2005) documents that the financial expertise of audit committee members is negatively related to the incidence of internal control problems. Zhang et al. (2007) also provide evidence that firms are more likely to be identified with an internal control weakness under SOX if their audit committees have less financial expertise. Overall, the empirical evidence supports the notion that members of the audit committee with financial expertise possess experience-based and well-developed frameworks and can better monitor firms' financial reporting process.

As a result, I argue that audit committee members with financial expertise are better able to evaluate managers' private information regarding future performance and to assess the quality of the information signaled by beating or missing the analyst forecast target. Thus, managers in firms with more intensive monitoring by financial experts would only engage in accruals management when they have positive information about future performance, while mangers in firms with less intensive monitoring by financial experts would always manage accruals to beat the target. This leads to an overall negative

relationship between the unconditional likelihood that a firm will adjust accruals to beat the analyst forecast and the intensity of financial experts' monitoring.

**Hypothesis 1***: The presence of an independent financial expert on the audit committee is negatively related to accruals adjustment to beat analyst forecasts.*

In addition, since financial experts are able to evaluate mangers' private information regarding future performance, I expect to observe a differential impact of financial experts on the odds of using accruals to beat the target, contingent upon future performance. When managers have negative information about future earnings, financial expert directors on the audit committee are expected to discourage managers from managing earnings upward to beat the analyst forecast because such adjustment diminishes the information usefulness of earnings. Yet, when the accruals adjustment reveals managers' private favorable information and reduces the information asymmetry between managers and shareholders, financial expert directors are expected to allow managers to adjust accruals to beat the target. This discussion would lead to the following hypotheses:

**Hypothesis 2A***: The presence of an independent financial expert on the audit committee is negatively related to the odds of beating analyst forecasts by adjusting accruals when the manager has unfavorable information regarding future financial performance.*

**Hypothesis 2B***: The impact of an independent financial expert on the odds of beating analyst forecasts by adjusting accruals is stronger when the manager has unfavorable information regarding future financial performance than when the manager has favorable information regarding future performance.*

CHAPTER III

DATA DESCRIPTION AND SUMMARY STATISTICS

<u>Sample Selection</u>

The sample starts with all firms possessing available quarterly data from

COMPUSTAT, covering the years from 2004 to 2011. I restrict my sample to post-2004

data because the SOX provision regarding financial experts is effective in 2003. The

sample is restricted to pre-2011 data because I need to examine earnings performance in

subsequent quarters. An I/B/E/S summary file provides quarterly analyst forecast data.

COMPUSTAT provides firm-specific financial information. Board data are obtained

from the Corporate Library database for 2004-2008, and from RiskMetrics for 2009-2011

because the financial expert data is missing in Corporate Library after 2008. The

Corporate Library is an independent investment research firm specializing in corporate

governance and board effectiveness, and its database includes coverage of more than

3,700 U.S. corporations and more than 38,000 individual directorships for the 2000-2008

proxy reporting year. The database contains data collected from proxy statement filings,

including information on each director's work experience, director independence, and

committee assignments. The director data in RiskMetrics includes a range of variables

related to individual board directors (e.g., name, age, tenure, gender, committee

memberships, independence classification, primary employer and title, number of other

public company boards serving on, shares owned, etc.). RiskMetrics data collection

began in 1996 and is updated annually.

I drop observations that have missing total assets or SIC code in COMPUSTAT. I

also delete all firms with Standard Industry Classification (SIC) codes from 4400-5000

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(utility industry), 6000-6999 (financial services), and 9000-9999 (nonclassifiable establishments), because accrual estimation is problematic for these industry sectors. In addition, I require all observations to have sufficient board and audit committee data from Corporate Library or RiskMetrics and sufficient forecast data from I/B/E/S. I also require each firm to have quarterly earnings data for all four quarters for the given year. Finally, to reduce the effects of extreme observations, I truncate firm-quarter observations in the top and bottom one percent of distributions of all continuous variables. Table 1 Panel A presents the sample selection (See Appendix B for all tables).

<div align="center">Accruals Measures</div>

Consistent with prior literature, discretionary accruals estimated from the cross-sectional adaptation of the modified Jones model (Dechow, et al., 1995; Balsam et al., 2002) are used as the primary measure of earnings management. The estimation procedure is as follows. First, total accruals are calculated directly from the statement of cash flows:

$$ACCR_{itq} = IBCY_{itq} - CFO_{itq}$$

IBCY is earnings before extraordinary items and discontinued operations for firm i year t quarter q, scaled by lagged total assets for firm i year t quarter q. CFO is cash flow from continuing operations for firm i year t quarter q, which is measured as extraordinary items and discontinued operations plus operating activities for firm i year t quarter q, scaled by lagged total assets for firm i year t quarter q. See Appendix A for variable measures.

The expected accruals under the modified Jones model are measured by:

$$E\left[\frac{ACCR_{itq}}{TA_{i,t,q-1}}\right] = \alpha + \beta_0\left(\frac{1}{TA_{i,t,q-1}}\right) + \beta_1\left(\frac{\Delta REV_{itq} - \Delta REC_{itq}}{TA_{i,t,q-1}}\right) + \beta_2\left(\frac{GPPE_{itq}}{TA_{i,t,q-1}}\right) \tag{1}$$

ACCR is total accruals (defined above). TA is total assets for firm i year t quarter q. REV is change in net revenues for firm i year t quarter q. REC is change in accounts receivable for firm i year t quarter q. GPPE is gross property, plant, and equipment for firm i year t quarter q. See appendix A for variable measures.

Ordinary least squares is used to obtain industry-specific estimates of the coefficients. The column parameters $\alpha$, $\beta_0$, $\beta_1$ and $\beta_2$ are estimated using a contemporaneous estimation sample of all two-digit SIC code peers in the same year and same quarter. I exclude all industry-year-quarters that have fewer than twenty observations. Discretionary accruals (as percentage of lagged total assets) for firm i quarter t are represented by:

$$DAC_{itq} = \frac{ACCR_{itq}}{TA_{i,t,q-1}} - \left[ \hat{\alpha} + \widehat{\beta_0} \left( \frac{1}{TA_{i,t,q-1}} \right) + \widehat{\beta_1} \left( \frac{\Delta REV_{itq} - \Delta REC_{itq}}{TA_{i,t,q-1}} \right) + \widehat{\beta_2} \left( \frac{GPPE_{itq}}{TA_{i,t,q-1}} \right) \right] \quad (2)$$

$\hat{\alpha}$ $\widehat{\beta}_0$, $\widehat{\beta}_1$ and $\widehat{\beta}_2$ and are the estimates of $\alpha$, $\beta_0$, $\beta_1$ and $\beta_2$ from the quarterly cross-sectional two- digit SIC industry regression (1).

For each firm-quarter observation, I first calculate nondiscretionary EPS (NDEPS), which I define as:

$$NDEPS_{itq} = \text{Actual EPS}_{itq} - DAC_{itq} \text{ per share}$$

I then compute an adjusted forecast error (AdjFE$_{itq}$), where:

AdjFE$_{itq}$ = NDEPS$_{itq}$ - Median Value of Consensus Analyst Forecasts for firm i year t quarter q.        Essentially, AdjFE represents the difference between analyst estimated earnings and the earnings number that managers would report if no discretionary accruals were recorded.[14] Stated differently, AdjFE represents the deficiency in earnings that managers would have to eliminate through discretionary accruals in order to exceed the

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[14] I use the last I/B/E/S consensus forecast before the earnings announcement (Burgstahler and Eames 2006) as analyst earnings targets.

consensus earnings forecasts. Accordingly, I construct a sample of 1,460 firm-quarter observations that have earnings before discretionary accruals initially below the analyst forecast target by less than one cent (-0.01<AdjFE<0). I assume that firms that just miss the analyst forecast by less than one cent should be capable of adjusting accruals to beat the target. Among 1,460 observations, I further identify 1,091 firm-quarter observations that have earnings before discretionary accruals initially just below the forecast (-0.01<AdjFE<0), but report sufficient positive discretionary accruals that allow earnings to meet or exceed analyst forecasts (FE = [actual earnings per share - median consensus analysts' forecast] $\geqq$ 0) as the earnings management sample. The rest of the 369 firm-quarter observations have earnings before discretionary accruals initially just below the forecast (-0.01<AdjFE<0), and still report earnings that miss analyst forecasts (FE<0). I consider these observations as firms that chose not to adjust accruals to beat the target.

### Variables Measures

My hypotheses predict that when managers have private information about disappointing future earnings, audit committee financial experts will restrict managers from using accruals to beat the analyst forecast. Assuming managers' private information about firms' future earnings performance is unbiased, the realized earnings in the future quarter should reflect managers' private information in the current quarter. Empirically, I use next quarter's earnings surprises to capture firms' future performance. If a firm projects next quarter's earnings at less than the analyst forecast, I code the dummy variable (BadNEWS) to equal 1, and zero otherwise. In order to make sure that the analyst forecast in quarter t+1 is not affected by the earnings surprise in quarter t, I use

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the latest consensus forecasts before quarter t's earnings release to calculate the earnings surprises.

Section 407 of the SOX Act mandates firms to disclose whether there is at least one financial expert on the audit committee. Using data from Corporate Library and RiskMetrics, I create a dummy variable (FEDIR1) that equals 1 when there is at least one independent financial expert on the audit committee, and zero otherwise. I focus on the independence of financial experts for several reasons. [15] First, prior studies generally suggest that the interests of independent directors are more likely to be aligned with shareholders due to concerns about their reputation (Byrd and Yermack, 2004). In addition, Section 301 of the SOX Act mandates the SEC to direct the national securities exchange and national securities associations to prohibit the listing of any company that does not require all of its audit committee members to be independent. Following the requirement, publicly traded firms should have only audit committee members who are independent from management.[16] Even though not all reporting companies are listed on a national securities exchange or association, Section 407 of the SOX Act explicitly requires a company to disclose whether the financial expert is independent of management, because the SEC believes that "investors in these companies would be interested in knowing whether the audit committee financial expert is independent of

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[15] The definition of "independen"t in Section 407 follows the listing standards of the NYSE, the AMEX, and Nasdaq. Different securities laws include different definitions of "grey" (affiliated) directors. In this paper I use a strict definition which excludes the grey directors as independent directors.

[16] In my sample, the correlation between the number of independent financial experts and the number of total financial experts is 96.9%, suggesting that most financial experts on the audit committee are independent from management.

management." This suggests that the SEC is concerned about the independence of audit committee financial experts.

<center>Summary Statistics</center>

Table 2 provides descriptive statistics. Panel A shows that, relative to all Compustat firms, my sample includes firms that are larger in size (log market value) and total assets, and are more profitable. In addition, my sampled firms recognize less discretionary accruals on average than all Compustat firms. However, the median value of discretionary accruals per share (DAC) of my sampled firms is 0.0003, which is similar to the median value of the Compustat sample. This similarity suggests that the larger mean value of DAC in the Compustat sample might be driven by outliers.

Panel B of Table 2 shows the summary statistics for firms that have earnings before discretionary accruals below analyst forecast by less than one cent. As expected, the mean value of DAC of firms that beat the forecast is significantly positive and larger than the value of firms that miss the forecast. This finding is consistent with managers who use accruals to avoid missing the analyst forecast. On average, firms that beat the forecasts through accruals have significantly less negative adjusted forecast error (AdjFE) than firms that miss the forecast, implying that it might be easier for those managers to adjust accruals to beat the target. The actual forecast error (FE) of firms that beat the target is 0.003, which is significantly larger than that of firms that miss the target.

The median firm has 10 directors on the board, with about 7 independent directors and 3 inside directors. These percentages are similar to those reported in the prior studies. Yermack (1996) reports a median of 12 board members with about 8 outsiders. Faleye et al. (2011) report that the median board has 9 members, 6 of whom are independent

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directors, using data for the period 1998 to 2006. There is no significant difference in board composition between firms that beat the target and firms that miss the target. In addition, firms that adjust accruals to beat the targets are larger in size (measured by log of market value).

Panel C of Table 2 presents the distribution of independent financial experts in my sample. Of firms that beat the target by adjusting accruals, 10.26% do not have any independent financial expert on the audit committee. Of firms that miss the target, 6.82% do not have any independent financial expert on the audit committee. In addition, half of the firms that beat the target have one audit committee financial expert, while 55% of firms that miss the target have one audit committee financial expert.

Panel D of Table 2 shows the distribution of independent accounting experts on the audit committee. On average, 85% of firms do not have any independent accounting expert on the audit committee. Only 15% of firms have at least one audit committee accounting expert. This statistic is similar to prior studies. For example, Krishnan et al. (2008) show that about 20% of firms have at least one accounting financial expert for the period 2000 to 2002. Defond et al. (2005) find that 17% of firms assign one accounting financial expert for the period of 1993 to 2002. This suggests that the presence of at least one accounting financial expert is relatively rare.

Table 3 provides a correlation table of board characteristics. As expected, large firms generally have larger boards, and the correlation between board size and firm size is significantly positive. The correlation between the number of independent financial experts and the number of total financial experts is 97.2%, suggesting that most of the financial experts on the audit committee are independent from management. In addition,

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the correlation between the number of independent accounting financial experts and the number of independent financial experts is 0.113, which suggesting that the presence of accounting financial experts is rare in my sample.

CHAPTER IV

RESEARCH DESIGN AND EMPIRICAL RESULTS

Test of H1

Hypothesis H1 predicts that the monitoring imposed by financial experts reduces

the unconditional tendency to use accruals to beat the analyst forecast. To test this

prediction, I estimate the following logit model and predict a negative relation between

the presence of a financial expert on the audit committee and the possibility of

unconditional accruals management to beat analyst forecast targets.

$$Prob(JUSTBEAT_{i,t,q}\epsilon(0,1))=logit(\alpha_0 +\beta FEDIR1_{i,t,q}+\alpha_1 SIZE_{i,t,q}+\alpha_2 BTM_{i,t,q}+\alpha_3 SHARES_{i,t,q}$$
$$+\alpha_4 NUM\_ESTIMATE_{i,t,q}+\alpha_5 CV\_AF_{i,t,q}$$
$$+\alpha_6 DOWN\_REV_{i,t,q}+\alpha_7 BOARD\_SIZE_{i,t,q}$$
$$+\alpha_8 BOARD\_IND_{i,t,q}+\alpha_9 AC\_SIZE_{i,t,q}+\zeta_{i,t,q}) \qquad (3)$$

The sample is restricted to firms whose earnings before discretionary accruals come in

below the target. JUSTBEAT equals 1 for firms that beat the target by reporting

sufficient positive discretionary accruals, and zero for firms that miss the target. See

Appendix A for variable measures.

Following prior research, I include various control variables that might correlate

with earnings surprises. I control for market value (SIZE) and book-to-market ratio

(BTM). Skinner et al. (2002) find that high-growth firms might be more likely to beat

analyst forecasts to avoid the torpedo effect associated with missing analyst forecast

targets. The number of outstanding shares (SHARES) is included because firms with

more outstanding shares have smaller EPS and are thus more likely to beat analyst

forecasts of EPS (Bartov, et al., 2002).

In addition, I include three variables to control for analyst forecast attributes:

number of analysts (NUM_ESTIMATE), dispersion of individual forecast (CV_AF), and

a downward revision dummy (DOWN_REV). The incentives to beat analyst forecasts can be stronger if more analysts are following the firm or if greater consensus exists among analysts (Payne et al., 2000). As shown in Matsumoto (2002), it is easier to beat analyst forecasts that have been guided downward, so I include a dummy variable to indicate whether analyst forecasts are revised downward in the three months before earnings announcements.

Lastly, I control for board characteristics other than audit committee financial expertise. I include BOARD_SIZE to capture the number of directors on the board. I also include number of independent directors (BOARD_IND) to control for the effect of board independence. Prior studies generally suggest that board independence is related to the board's monitoring ability (Weisbach, 1988; Beasley, 1996; Dechow et al., 1996). In addition, the Blue Ribbon Committee suggests that audit committees should have at least three members, implying that larger audit committees are more likely to have a wider knowledge base on which to draw and are better able to perform their oversight duty. Thus, number of audit committee members (AC_SIZE) is included to control for the size of the audit committee.

Table 4 reports the results in each logit regression. As expected, a significantly negative relation exists between the measure of audit committee financial expertise and the odds of unconditional accruals adjustments to beat the analyst forecast target. The coefficient on FEDIR1 is -0.687 (with p value <0.01), suggesting that the possibility of beating the analyst forecast decreases when the firm has at least one independent financial expert director on the audit committee. Table 4 also shows that firms are more likely to beat the target by adjusting accruals when they have more analysts following the

target. In addition, board size is negatively associated with the possibility of using accruals to beat the target.

## Test of H2

In this section, I empirically test Hypothesis 2 by partitioning my sample based on firms' future financial performance and estimating the following equation:

$$Prob\ (JUSTBEAT_{i,b,q}\epsilon(0,1))=logit(\alpha_0 +\beta_0 FEDIR1_{i,b,q}+\boldsymbol{\beta_1 BadNEWS_{i,b,q}*FEDIR_{i,t,q}}$$
$$+\beta_2 BadNEWS_{i,b,q}+\alpha_n CONTROL_{i,b,q}+\zeta_{i,b,q}) \qquad (4)$$

JUSTBEAT is defined as in previous section. BadNEWS equals 1 if the firm has negative earnings surprises in quarter t+1, and zero otherwise. CONTROL is the same as in section 4.1. See Appendix A for variable measures.

In equation (4), $\beta_0$ captures the effect of the presence of at least one independent financial expert on the odds of beating the analyst forecast target. By interacting the BadNEWS dummy with FEDIR1, $\beta_1$ captures the incremental effect of the presence of at least one independent financial expert on the odds of beating the analyst forecasts by adjusting accruals for the firm that has a negative earnings surprise in the following quarter; and $\beta_0+\beta_1$ is the total effect of the presence of at least one independent financial expert on the odds of beating target for the firm whose earnings fall below analyst forecasts in quarter t+1. Hypothesis 2A predicts that $\beta_0+\beta_1$ is negative. Hypothesis 2B predicts that $\beta_1$ is negative because the impact of the presence of at least one financial expert on the odds of beating the targets by adjusting accruals is greater when future performance is poor than when future performance is strong.

Table 5 shows the results using next quarter's earnings surprises to proxy for managers' private information regarding future performance. Consistent with Hypothesis 2A, which predicts that financial experts' monitoring discourages managers from

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adjusting accruals to beat analyst forecasts when the firm has poor future performance, the sum of $\beta_0+\beta_1$ is significantly negative (see last row of Table 6). This outcome suggests that independent financial experts discourage managers from adjusting accruals to beat analyst forecasts when firms have a negative earnings surprise in quarter t+1. In addition, consistent with Hypothesis 2B, the coefficient on FEDIR1*BadNEWS is significantly negative ($\beta_1$= -0.808; p<0.01), suggesting that there is an incremental negative effect of the presence of at least one financial expert on the odds of beating targets for firms with a negative earnings surprise in the next quarter. Results for the control variables are consistent with those reported in Table 4. Firms with more analysts are more likely to beat the target.

To summarize, I find results consistent with my hypotheses. Independent financial experts protect shareholders by monitoring managers' financial reporting process. Due to their education background or related working experience, audit committee financial experts are able to evaluate managers' private information regarding future performance. When managers have negative information regarding future performance, managers in firms with more intensive financial expert monitoring are less likely to manipulate earnings upward to achieve analyst forecast targets, compared to those with less intensive financial expert monitoring.

CHAPTER V

ACCOUNTING EXPERTISE ON THE AUDIT COMMITTEE

In this section, I focus on accounting expertise on the audit committee. One of the most controversial SOX provisions is the definition of financial expertise on the audit committee. The SEC's original proposal adopts a definition of financial expertise that focuses on whether the director has prior accounting experience with financial reporting and suggests that such directors will have work experience as a public accountant, auditor, principal financial or accounting officer, or controller. Accounting-specific expertise is viewed as important for audit committee members because audit committees are responsible for numerous duties that require a relatively high degree of accounting sophistication. For example, audit committees are expected to assess the extent to which the firm's accounting policies are aggressive or conservative, and understand how these policies affect the firm's financial posture. Further, they evaluate judgmental accounting areas such as the company's reserves, review management's handling of proposed audit adjustments by the external auditors, and appraise the quality, and not just the acceptability, of the firm's financial reports (Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Cmmittees, 1999; PriceWaterhouseCoopers, 1999).

However, narrowly defining financial expertise as accounting-related expertise has been widely criticized. Critics of the definition argue that its narrow focus on accounting-related expertise is unnecessarily restrictive and limits the pool of qualified directors. For example, the American Association of Bank Directors claims that the definition even disqualifies Alan Greenspan as a financial expert, and a Wall Street Journal article questions whether Warren Buffet would meet the requirements demanded

by the rule (American Association of Bank Directors, 2002). Due to the widespread criticism of the narrow definition, the SEC "compromised" by broadening the definition of financial expertise in its final version of the SOX provision (Defond, et al., 2005). The final rule gives board members wide latitude to qualify a director as a financial expert by suggesting that directors may gain such expertise through experience supervising employees with financial reporting responsibilities, overseeing the performance of companies, and other relevant experience. Although the SEC does not explicitly state the job title "qualified financial expert" under this broader definition, the final rule logically extends the field of qualified experts to encompass company presidents and CEOs.

Because of the controversy surrounding the SEC's definition of financial expertise, the definition of what constitutes a financial expert has given rise to academic research on the effects of accounting and nonaccounting financial expertise on financial reporting quality. The result of whether nonaccounting expertise is beneficial to the effectiveness of audit committees is mixed. Krishnan et al. (2008) find that in general, accounting conservatism is not correlated with nonaccounting financial expertise or nonfinancial expertise. Zhang et al. (2007) find that both accounting and nonaccounting financial experts affect the possibility of internal control weakness. They find that firms are more likely to be identified with an internal control weakness if their audit committees have less accounting financial expertise and nonaccounting financial expertise. Similarly, Dhaliwal et al. (2010) find that the mix of accounting and nonaccounting expertise provides the most positive impact on accruals quality.

Thus, I examine whether the presence of accounting expertise affects the possibility of accruals management to beat the target. Following Defond et al. (2005), I

classify a financial expert as an accounting expert if the director has experience as a

public accountant, auditor, principal or chief financial officer, controller, or principal or

chief accounting officer. Other nonaccounting financial experts, such as company

presidents, investment bankers, or CEOs, are excluded from accounting expertise.

Because RiskMetrics does not provide information regarding financial experts' profile,

the sample period for this test is restricted from 2004 to 2008, the period covered by

Corporate Library. This subsample consists of 1,106 firm-quarter observations.

To examine whether the presence of both independent accounting and

nonaccounting financial experts is related to possible use of accruals to beat the analyst

target, I estimate the following equation:

$$Prob\ (JUSTBEAT_{i,t,q}\epsilon(0,1))=logit(\alpha_0\ +\beta_0 ACCDIR1_{i,t,q}+\boldsymbol{\beta_1 BadNEWS_{i,t,q}*ACCDIR1_{i,t,q}}$$
$$+\beta_1 NonACC\_FEDIR1_{i,t,q}$$
$$+\boldsymbol{\beta_1 BadNEWS_{i,t,q}*NonACC\_FEDIR1_{i,t,q}}$$
$$+\beta_2 BadNEWS_{i,t,q}+\alpha_n CONTROL_{i,t,q}+\zeta_{i,t,q}) \qquad (5)$$

JUSTBEAT and BadNEWS are defined as in chapter IV. ACCDIR1 is a dummy variable

that equals 1 if there is at least one independent accounting expert on the audit committee

and zero otherwise. NonACC_FEDIR1 is a dummy variable equal to 1 if there is at least

one independent nonaccounting financial expert on the audit committee (i.e., CEO,

president, investment banker, etc.). CONTROL is the same as in chapter IV. See Appendix

A for variable measures.

Table 6 shows the estimation of equation (5). I find that the presence of at least

one independent accounting expert has a negative incremental effect on the possibility

that the firm adjusts accruals to beat the target in firms with negative earnings surprises in

quarter t+1. The coefficient on ACCDIR1 is significantly negative ($\beta_1$=-0.687; $p<0.05$). I

also find that the presence of at least one nonaccounting financial expert negatively

affects the possibility of adjusting accruals to beat the target. The coefficient on

NonACC_FEDIR1 is -0.533 (p<0.05), suggesting that the combination of both

accounting and nonaccounting expertise seems able to more effectively monitor mangers'

financial accruals adjustment.[17]

These findings are consistent with prior studies which document that both

accounting and nonaccounting expertise benefit the financial reporting process (Zhange

et al., 2007; Dhaliwal et al., 2005). Since nonaccounting experts typically consist of

CEOs, presidents, investment bankers, or financial analysts, they have considerable

experience in carrying out due diligence with regard to forecasting future performance,

developing business strategy, and coping with major corporate events such as mergers

and acquisitions. In the specific setting where accruals are used to beat analyst forecasts,

my findings suggest that while nonaccounting experts do not possess the domain specific

skills of accounting knowledge, the business and industry knowledge of these experts,

when coupled with accounting expertise, provides incremental benefits.

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[17] I also find that the possibility of adjusting accruals to beat the target is significantly lower for firms with both accounting and nonaccounting financial experts. The coefficient on $\beta 0+\beta 1+\beta 2+\beta 3$ is -1.314 (p<0.01) suggests that the combination of both accounting and nonaccounting expertise seems able to more effectively monitor mangers' financial accruals adjustment.

CHAPTER VI

ADDITIONAL ROBUSTNESS CHECKS

<u>Predictive Ability of Accruals</u>

My prior findings suggest that the presence of at least one independent financial expert on the audit committee is related to higher quality of accruals when accruals are used to boost the income in order to beat the analyst forecast target. In order to provide further insight into the role of audit committee financial expertise in setting accrual estimates, I examine whether the presence of at least audit committee financial experts is associated with the predictive ability of accruals. Focusing on whether firms use accruals to beat the analyst forecast restricts my analyses to a small group of firms that have earnings before accruals that just miss the analyst forecast. In order to make my results more generalizable, I directly examine the predictive ability of accruals. I argue that firms with more intensive financial expert monitoring are more likely to use accruals to signal future performance. As a result, the accrual component should better predict future earnings when firms have more financial expert directors monitoring.

Following Sloan (1996), I estimate equation (6):

$$EARN_{i,t,q+1} = \alpha + \beta_1 CFO_{i,t,q} + \beta_2 ACCR_{i,t,q} + \beta_3 CFO_{i,t,q} * FEDIR1_{i,t,q} + \boldsymbol{\beta_4 ACCR_{i,t,q} * FEDIR1_{i,t,q}} + \zeta_{i,t,q} (6)$$

EARN is net income before extraordinary items, deflated by lagged total assets. CFO and ACCR are defined in chapter III. See Appendix A for variable measures.

In equation (6), $\beta_3$ is the incremental effect of the presence of at least one independent financial expert on the productive ability of the current cash flows component on future earnings. Similarly, a positive $\beta_4$ captures the incremental effect of the presence of at least one independent financial expert on the productive ability of the

current accruals component on future earnings. $\beta_4$ is predicted to be significantly positive because financial expert directors' monitoring should improve the decision usefulness of the accruals component of earnings.

The results of estimating equation (6) are shown in Table 7. Consistent with prior studies, that both cash flows and accruals are able to predict future earnings, the coefficients on $\beta_1$ and $\beta_2$ are significantly positive. As expected, I find a significantly positive $\beta_4$, suggesting that the relation between the current period's accruals component and the following period's earnings is stronger when the firm has at least one independent financial expert on the audit committee than when the firm has no audit committee financial expert. The coefficient on FEDIR1 is 0.159 (with $p<0.05$), suggesting that the presence of at least one independent audit committee financial expert represents 15.9% of predictive ability of accruals on future earnings. The findings are consistent with my hypotheses that audit committee financial expertise increases the decision usefulness of earnings. I find that the presence of at least one independent audit committee financial expert improves the decision usefulness of accruals components in predicting future earnings.

<u>Magnitude of Discretionary Accruals</u>

My focus in this study is the impact of financial experts on the odds of accruals management in a specific setting where managers recognize positive accruals to beat the analyst forecast target. However, prior studies generally examine the relation between board characteristics and the magnitude of accruals and find that, on average, stronger boards are related to less accrual. For example, Klein (2002) documents that the absolute value of abnormal accruals is negatively related to the proportion of outside directors on

the overall board. In a similar vein to Klein (2002), Xie et al. (2003) document that audit committee independence is associated with lower discretionary accruals. The underlying assumption of these studies is that discretionary (or abnormal) accruals reduce earnings quality; thus, independent directors or audit committee members should prohibit managers from recognizing discretionary accruals to protect shareholders.

In this section, I first attempt to reconcile my findings with prior studies by replicating the results from prior studies. I examine the relation between board or audit committee independence and the magnitude of accruals. I control for other factors that may be related to the absolute value of accruals or board or audit committee independence (Klein, 2002; Houmes et al., 2010), including log value of total assets (LOG_ATQ), firm size (SIZE), operating cash flows (CFO), earnings decrease (DECROA), firms with negative income for quarter t (LOSS), financial leverage (DEBT_ASSET), prior quarter abnormal value of net operating assets (ABNOA) and shares outstanding (SHARES), and size of the boards (BOARD_SIZE). I estimate the following equation:

$$DAC_{i,t,q}=\alpha +\boldsymbol{\beta_1 BOARD\_VAR_{i,t,q}}+\alpha_1 LOG\_ATQ_{i,t,q}+\alpha_2 SIZE_{i,t,q}+\alpha_3 CFO_{i,t,q} +\alpha_4 DECROA_{i,t,q}$$
$$+\alpha_5 LOSS_{i,t,q}+\alpha_6 ABNOA_{i,t,q-1}+\alpha_7 SHARES_{i,t,q}+\alpha8 BOARD\_SIZE_{i,t,q}+\zeta_{i,t,q} \qquad (7)$$

DAC is discretionary accruals estimated following the Modified Jones model. BOARD_VAR measures include BOARD_INC, AC_IND and FEDIR1. See Appendix A for variable measures.

Table 8 shows the results. Consistent with the findings from prior studies, discretionary accruals are negatively related at the 0.10 level to the number of independent directors on the board. The coefficient on BOARD_IND is significantly negative in column (1). Column (2) presents similar results when using the number of

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independent audit committee members on the board to proxy for board quality. Although I find results that are consistent with prior studies, I do not suggest that the negative relation between board characteristics and the level of accruals is because accruals are always bad for shareholders and should be discouraged by strong boards. Instead, I argue that because independent directors or audit committee members do not have enough expertise to evaluate the quality of accruals, they unconditionally prohibit the recognition of accruals.

Financial experts who have sufficient knowledge to evaluate managers' private information will oversee the accruals contingent upon managers' incentives. For example, when managers have negative information regarding future earnings, financial expert directors will discourage management to recognize "positive" accruals; while financial expert directors might discourage the recognition of "negative" accruals if it is harmful to shareholders. McAnally et al. (2008) find that firms are more likely to miss the target just before large CEO option grants, suggesting that managers lower income intentionally because of their option incentives. As a result, I do not predict that financial experts negatively affect the magnitude of overall accruals.

In Table 8, column (3) shows no meaningful relation between discretionary accruals and the presence of at least one independent financial expert director on the audit committee. Such insignificant results are consistent with my argument. Because financial expert directors have sufficient knowledge, in some cases they might prohibit the use of positive accruals to increase earnings while in other cases they might discourage the recognition of negative accruals to decrease earnings. As a result, no overall relation

exists between the audit committee financial expertise and the magnitude of overall discretionary accruals.

<u>More than One Independent Financial Expert</u>

In this section, I examine whether there is any additional effect of having more than one independent financial expert on the audit committee. This test is motivated by the proposed rule of Section 407 of the SOX Act, which requires firms to disclose the number of financial experts on their audit committee. Although such requirement is not adopted by the final rule, the push for additional financial experts on the audit committee might suggest that financial expert directors are more capable of overseeing the financial reporting process and are better able to assess the information value of accruals.

I first examine whether the presence of exactly one independent financial expert affects the possibility of using accruals to beat the target when future performance is poor. I drop all observations that have more than one independent financial expert on the audit committee and create a dummy variable, FEONLY1, which equals 1 if there is only one independent financial expert on audit committee. I then reestimate equation (4) by replacing FEDIR1 to FEONLY1. Table 9 shows the results. Column (1) shows that the $\beta_1$ is significantly negative, suggesting that the presence of exactly one financial expert discourages the use of accruals to beat the target for firms with negative earnings surprises in quarter t+1.

I then examine whether there is any additional effect of more than one independent financial expert on the audit committee by estimating the following regression.

$$\textit{Prob (JUSTBEAT}_{i,t,q} \epsilon(0,1)) = logit(\alpha_0 + \beta_0 FEONLY1_{i,t,q} + \boldsymbol{\beta_1 BadNEWS_{i,t,q} * FEONLY1_{i,t,q}}$$
$$+ \beta_2 FEMORE1_{i,t,q} + \boldsymbol{\beta_3 BadNEWS_{i,t,q} * FEMORE1_{i,t,q}}$$

$$+\beta_4 BadNEWS_{i,t,q} + \alpha_n CONTROL_{i,t,q} + \zeta_{i,t,q}) \qquad (8)$$

JUSTBEAT and BadNEWS are defined as in chapter IV. Dummy variable FEONLY1 equals 1 when there is one independent accounting expert on the audit committee, and zero otherwise. Dummy variable FEMORE1 equals 1 when there is more than one independent nonaccounting financial expert on the audit committee, and zero otherwise. CONTROL is the same as in chapter IV. See Appendix A for variable measures.

Column (2) of Table 9 shows the results. Consistent with the findings in column (1), the coefficient on BadNEWS*FEONLY1 is still significantly negative. In addition, a significantly negative coefficient on BadNEWS*FEMORE1 suggests a negative incremental effect of the presence of more than one audit committee financial expert on the use of accruals to beat the target when future performance is poor. I also find a total negative effect of having more than one financial expert on the odds of using accruals to beat the target when future performance is poor (the sum of $\beta_2 + \beta_3$ is significantly negative).

Although I find that the presence of more than one independent audit committee financial expert affects the possibility of using accruals to beat the target, my results show that the presence of exactly one independent financial expert can also discourage managers from recognizing accruals to beat the target when future performance is poor. Thus, the benefit that firms enjoy from the presence of more than one financial expert is not clear.

CHAPTER VII

SENSITIVITY TESTS

<u>Matched Sample</u>

My main results are based on the observation having earnings before discretionary accruals below analyst forecasts by less than one cent. The implied assumption is that firms missing forecasts by less than one cent are capable of adjusting accruals to beat the target but choose not to do so. One concern with this result is that firms missing analyst forecasts by less than one cent might be incapable of adjusting accruals to beat analyst forecasts. Therefore, the negative relation between financial experts' monitoring and the odds of accruals management that destroys the decision usefulness of earnings could instead reflect the firms' capacity to use accruals adjustment to beat the target. In other words, firms with one financial expert on the audit committee might have less flexibility in accruals.

In order to mitigate this concern, I construct a matched sample. I first select all firm-quarter observations that beat the analyst forecast target by adjusting accruals (AdjFE<0 & FE≥0). Among all my sampled firms, 1,405 observations ave earnings before discretionary accruals below analyst forecast (AdjFE<0) but report earnings that are above analyst forecasts (FE≥0 ). Of 1,405 observations that use accruals to beat the target, 880 observations are able to be matched by observations that miss the target (AdjFE<0 & FE<0) based on year, prior-quarter NOA, and industry (two digit SIC code).[18] Theoretically, these matched firms are more likely to have the ability to adjust accruals to beat the target because they have a level of net operating assets similar to

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[18] The difference in NOA between matched observation and sampled observations is restricted between ±0.01.

firms that beat the target through accruals. Using the NOA-matched sample provides a more powerful setting to examine whether managers choose to miss the analyst forecast target when they perceive more intensive financial experts' monitoring on the audit committee.

Table 10 shows the results by using an NOA-matched sample. All of the results are consistent with the main results. I still find that the presence of at least one independent financial expert is associated with lower odds of using accruals to beat the target for firms with negative earnings surprises. The findings from using the NOA-matched sample reinforce my hypotheses that financial experts on the audit committee discourage managers from using accruals to beat the analyst forecast target when the adjustment destroys the quality of earnings. Managers in firms with more independent financial expert directors are more likely to choose to miss the target when they have negative information regarding the firms' future performance.

<div align="center">Controlling for Endogeneity</div>

One concern regarding the prior results is the possibility of a reverse causal relation. This would occur if financial experts with knowledge about the firm's accounting systems systematically opt out of serving on boards of firms with low financial reporting quality. This suggests that the quality of earnings and the intensity of financial experts are endogenously determined, which would bias the regression analysis. I address this endogeneity problem using several approaches. First, I estimate simultaneous equations in the odds of beating targets by adjusting accruals and number of financial experts using two-stage least squares (2SLS) regressions. My first-stage model captures the determinants of board structure including monitoring and advising costs,

<div align="center">41</div>

information asymmetry, and business complexity (Coles et al., 2008; Linck et al., 2008). More specifically, it includes free cash flow, research and development expenditures, capital expenditure, number of segments (firm complexity and advising benefits), CEO tenure, and leverage.

Table 11 reports the parameter estimates. Panel A presents the results on the determinants of the number of financial expert directors. I include all the endogenous variables as well as exogenous variables in the regression. I find that FEDIR1 is positively related to BOARD_IND (p-value< 0.01). Consistent with Coles et al. (2008) that more complex firms may have higher advising needs, I find that the presence of at least one financial experts is positively related to capital expenditure. In addition, CEO tenure is positively associated with the presence of at least one independent financial expert.

In the second stage, I replace FEDIR1 with the predicted value from the first-stage model. The results are reported in Panel B of Table 11. I continue to find a negative total effect of (predicted) FEDIR1 and the odds of beating target by accruals when the firms have negative earnings surprise in quarter t+1 (see last row of Panel B Table 11). In addition, the significant negative coefficient on $\beta_1$ suggests a significant incremental effect of financial experts on the odds of beating target for firms with negative earnings surprises.

While my results are qualitatively similar under 2SLS, this method could be subject to specification error. Thus, following Hermalin and Weisbach (1991), I use lagged (instead of contemporaneous) values of number of financial experts in regressions of the odds of beating analyst forecast targets, and all the results are unchanged.

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## Other Future Performance Measures

In the main section, I use next quarter's analyst forecast as a benchmark to measure future financial performance. In this section, I attempt to use other measurements to capture managers' private information regarding future performance. I first create a dummy variable that equals 1 if a firm's earnings in quarter t+1 is less than the earnings in the same quarter of the prior year. If the firms have negative change in earnings in quarter t+1, I expect that the presence of at least a financial expert should be associated with lower likelihood of using accruals to beat the targets. I find results that are consistent with my prediction.

In addition, I use longer-term future performance to proxy for mangers' private information regarding future earnings. I classify a firm as poor performing if it has a negative earnings surprise in quarter t+1 and t+2. All the results remain the same. I also examine earnings surprises in the subsequently three quarters and still find similar results. These evidences may suggest that the board is concerned about relatively long-term future performance.

## Other Financial Experts Measures

Besides using the presence of at least one independent financial expert on the audit committee (FEDIR1), I also use continuous variables to capture financial experts' monitoring, namely, the number of financial experts on audit committees and the percentage of financial experts on the audit committees. The main findings remain unchanged. I still document a negative relation between the number and the percentage of financial experts on the audit committee and the possibility of using accruals to beat the targets for a firm with next quarter's earnings below analyst forecast. I also use an

industry median as a benchmark to capture the financial experts' monitoring by constructing a dummy variable which equals 1 if the number of financial expert directors on the audit committee is below industry median, and zero otherwise. The results remain similar.

CHAPTER VIII

CONCLUSION

Considerable evidence suggests that managers adjust accruals to beat the analyst forecast. However, the implications of accruals adjustment on earnings quality are not clear. On the one hand, when managers have negative information regarding future earnings performance, accruals adjustment could mislead shareholders and result in lower quality of financial reporting. On the other hand, accruals could signal strong future earnings growth and thereby improve the decision usefulness of earnings. If boards protect shareholders by ensuring higher quality financial information, they should only discourage managers from adjusting earnings to beat the target if doing so reduces the quality of financial information.

In this study, I specifically examine whether the monitoring imposed by financial experts on the audit committee affect managers' accruals adjustment to beat analyst forecasts conditional upon future performance. My focus on the financial expert directors is based on the belief that directors with sufficient financial knowledge are better able to assess and understand managers' private information and are more capable of overseeing the financial reporting process than nonfinancial expert directors. I hypothesize that when future performance is poor, audit committee financial experts would intervene in accruals adjustment to beat the target, and the impact of financial experts on the odds of accruals adjustment to beat the target is stronger when future performance is poor than when future performance is strong. Consistent with my predictions, I find that the presence of at least one independent financial expert on the audit committee is negatively related to the use of accruals to beat analyst forecasts when the firm has next quarter's earnings

below analyst forecasts. In addition, the negative effect of financial experts on the odds of beating the target by adjusting accruals is greater for firms with negative earnings surprises than for firms with positive earnings surprises in quarter t+1.

I also examine the impact of accounting experts on the quality of accruals. One of the most controversial issues of Section 407 of SOX is the operationalization of who is a financial expert. I find that the presence of both accounting and nonaccounting expertise on the audit committee is associated with higher quality of accruals. This evidence is consistent with prior studies and suggests that the SEC's wide-ranging definition of financial expertise may not be a compromise to allay public criticism but rather reflects the need for broader (i.e., financial and supervisory) expertise on the board.

## VARIABLE MEASUREMENTS

| Variables | Measures |
|---|---|
| *Accruals Measurements* | |
| | |
| ACTUAL | Actual earnings per shares from I/B/E/S. |
| ACCR | Total accruals for firm i year t quarter q, which is measured as income before extraordinary items (IBCY) minus cash flow from continuing operations (XIDOCY+OANCFY), scaled by total assets (ATQ) for firm i year t quarter q-1 |
| AdjFE | Forecast error adjusted for discretionary accrual for firm i year t quarter q, which is defined as the difference between nondiscretionary EPS (Define below) and median consensus analyst forecasts from I/B/E/S. |
| DAC | Discretionary accrual for firm i year t quarter q, which is defined as the difference between total accruals and estimated nondiscretionary accruals. Nondiscretionary accruals are estimated using a modified Jones model (Dechow et al. 1995). The following cross-sectional model is run by year, quarter and two-digit SIC code: $$E\left[\frac{ACCR_{itq}}{TA_{i,t,q-1}}\right] = \alpha + \beta_0\left(\frac{1}{TA_{i,t,q-1}}\right) + \beta_1\left(\frac{\Delta REV_{itq} - \Delta REC_{itq}}{TA_{i,t,q-1}}\right) + \beta_2\left(\frac{GPPE_{itq}}{TA_{i,t,q-1}}\right)$$ $ACCR_{itq}$ = total accruals ( Defined above) <br> $TA_{it,q-1}$ = total assets (ATQ) for firm i year t quarter q-1 <br> $\Delta REV_{itq}$ = change in net revenues(SALEQ)for firm i year t quarter q <br> $\Delta REC_{itq}$ = change in accounts receivable (RECTQ) for firm i year t quarter q <br> $\Delta GPPE_{itq}$ = gross property, plant, and equipment (PPEGTQ) for firm i year t quarter q <br> The estimated coefficients from this regression are then used to compute nondiscretionary accruals for each firm as follows: |
| FE | Forecast error for firm i year t quarter q, which is defined as the difference between actual EPS and median consensus analyst forecast from I/B/E/S. |
| NDEPS | Nondiscretionary earnings per share for firm i year t quarter q, which is measured as actual EPS before recognizing discretionary accruals. |
| MEDEST | Median value of consensus analyst forecast from I/B/E/S. |
| *Board Measurements* | |
| | |
| BOARD_SIZE | Log(1+Number of directors on the board) |
| BOARD_IND | Log(1+Number of independent directors on the board) |
| AC_SIZE | Log(1+Number of audit committee members) |
| AC_IND | Log(1+Number of independent audit committee members) |
| FEDIR1 | Dummy variable equals to one if there is at least one independent |

| | financial expert on the audit committee and zero otherwise. |
|---|---|
| FEONLY1 | Dummy variable equals to one if there is one independent financial expert on the audit committee and zero otherwise. |
| FEMORE1 | Dummy variable equals to one if there is at more than one independent financial expert on the audit committee and zero otherwise. |
| ACCDIR1 | Dummy variable equals to one if there is at least one independent accounting expert on the audit committee and zero otherwise. |
| NonACC_FEDIR1 | Dummy variable equals to one if there is at least one independent non-accounting expert on the audit committee and zero otherwise. |

*Other Control Variables*

| | |
|---|---|
| ABNOA | Abnormal net operating assets for firm i year t quarter q, which is measured as NOA (Defined Below) less the median value pooled over the sample period. |
| BTM | Book to market ratio for firm i year t quarter q, which is calculated as shareholders' equity (CEQQ) dividend by market value (PRCCQ*CSHOQ) at the end of fiscal quarter. |
| CAPTIAL | Dummy variable equals one when the capital expenditure (CAPXY) for firm i year t quarter q is less than industry median for a given year, and zero otherwise. |
| CFO | Cash flows from continuing operations for firm i year t quarter q, measured as extraordinary items and discontinued operations (Statement of Cash Flows) plus operating activities (XIDOCY+OANCFY), scaled by total assets (ATQ) for quarter t-1 |
| CEO_TENURE | Number of years that current CEO serves in company (Log Value) |
| DECROA | Dummy variable equals one when ROA for firm i year t quarter q before discretionary accruals is less than ROA for quarter q-1, and zero otherwise |
| COMPANY_AGE | Number of years company has been in business (Log value) |
| CV_AF | Coefficient on variation of the consensus forecast used to calculate earnings surprise for firm i year t quarter q, which is defined as standard deviation scaled by the mean. |
| LEVERAGE | Dummy variable equals one if long term debt (DLTTQ) for firm i year t quarter q, scaled by total assets (ATQ) for quarter t-1, is greater than the median value pooled over the sample period, and zero otherwise. |
| DOWN_REV | Analyst downward revision for firm i year t quarter q, which equals one if at least one of the firm's analysts revised his or her forecast downward in the three months prior to the earnings announcement for quarter t, and zero otherwise. |
| EARN | Earnings for firm i year t quarter q, measured as income before |

| | |
|---|---|
| | extraordinary Items (IBCY), scaled by total assets (ATQ) for quarter t-1. |
| SIZEDUMMY | FIRMSIZE equals 1 if firm size for firm i year t quarter q is greater than the median for that year; and 0 otherwise. |
| LOSS | Dummy variable which equals one if the firm has negative earnings (NIQ) in for firm i year t quarter q. |
| LOG_ATQ | Log value of total assets for firm i year t quarter q (ATQ). |
| NOA | Net operating assets for firm i year t quarter q, which is measured as shareholders' equity (CEQQ) minus cash and marketable securities (CHEQ), plus total debt (DLCQ+DLTTQ), scaled by sales (SALEQ). |
| NUM_ESTIMATE | Number of analysts for firm i year t quarter q, which is measured as number of analysts whose forecasts are included in the consensus forecast used to calculate earnings surprise. |
| R&D | Dummy variable equals one when the R&D expenditure (XRDQ) for firm i year t quarter q is less than industry median for a given year, and zero otherwise. |
| SEGMENT | Number of business segment and geographic segments (Log value) |
| SIZE | Size of the firm for firm i year t quarter q, which is measured as natural logarithm of market value (PRCCQ*CSHOQ). |
| SHARES | Number of common shares (CSHOQ) outstanding for firm i year t quarter q. |

TABLES

## Table 1. Sample Selection

| Panel A: Full Sample | Firm-quarters |
|---|---|
| Total Compustat firm-quarters from 2004-2011 | 336,457 |
| Missing data on total assets (ATQ) and SIC code (SICH) | (105,546) |
| Financial, utility and unclassible industry | (73,231) |
| Without enough data to calculate discretionary accruals | (69,384) |
| Without board data on Corporate Library/RiskMetrics | (41,832) |
| Without forecast data on IBES | (18,594) |
| Without enough four quarter data for a given year and without enough data to calculate performance and/or control variables | (10,498) |
| Truncate all continuous variables by top and bottom 1 % | (2,714) |
|  | 14,658 |

| Panel B: Sample used in the analyses | #Firms | Firm-quarters |
|---|---|---|
| Firms that had earnings before DAC just miss analyst forecasts | 783 | 1,460 |
|     Firms that use accruals to beat the target | 500 | 1,091 |
|     Firms that choose to miss the target | 283 | 369 |

**Table 2. Descriptive Statistics**

**Panel A: Compustata sample and test sample**

| | Compustat Sample | | | | Test Sample | | | |
|---|---|---|---|---|---|---|---|---|
| | N | Mean | STD | Median | N | Mean | STD | Median |
| SIZE | 86,834 | 5.33*** | 2.40 | 5.37 | 1,460 | 7.55 | 1.33 | 7.42 |
| LOG_ATQ | 86,834 | 5.13*** | 2.67 | 5.30 | 1,460 | 7.24 | 1.31 | 7.20 |
| EARN | 86,834 | -0.08*** | 0.41 | 0.005 | 1,460 | 0.01 | 0.03 | 0.01 |
| DAC | 86,834 | 0.010** | 0.16 | 0.0004 | 1,460 | 0.001 | 0.10 | 0.0003 |

**Panel B: Firms with earnings before discretionary accruals below forecast by less than one cent**

| | Beat the Target | | | | Miss the Target | | | |
|---|---|---|---|---|---|---|---|---|
| | N | Mean | STD | Median | N | Mean | STD | Median |
| *Accruals Measures* | | | | | | | | |
| Discretionary Accruals (DAC) | 1,091 | 0.003*** | 0.008 | 0.001 | 369 | -0.000 | 0.002 | -0.000 |
| Nondiscretionary EPS (NDEPS) | 1,091 | 0.352** | 0.306 | 0.299 | 369 | 0.302 | 0.303 | 0.240 |
| Actual EPS (ACTUAL) | 1,091 | 0.356*** | 0.306 | 0.310 | 369 | 0.300 | 0.302 | 0.240 |
| Consensus Analyst Forecast (MEDEST) | 1,091 | 0.354** | 0.306 | 0.300 | 369 | 0.310 | 0.302 | 0.250 |
| Forecast error adjusted for DAC (AdjFE) | 1,091 | -0.001*** | 0.002 | -0.000 | 369 | -0.007 | 0.303 | -0.000 |
| Forecast Error (FE) | 1,091 | 0.001*** | 0.007 | 0.000 | 369 | -0.009 | 0.004 | -0.010 |
| *Board Characteristics* | | | | | | | | |
| BOARD_SIZE | 1,091 | 11.18 | 4.02 | 10.00 | 369 | 11.34 | 4.14 | 10.00 |
| BOARD_IND | 1,091 | 7.42 | 2.86 | 7.00 | 369 | 7.52 | 3.00 | 7.00 |
| AC_SIZE | 1,091 | 3.68 | 0.88 | 3.00 | 369 | 3.78 | 0.99 | 4.00 |
| # of Financial Expert | 1,091 | 1.62 | 1.97 | 1.00 | 369 | 1.61 | 1.09 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| # of Independent Financial Expert | 1,091 | 1.55 | 1.08 | 1.00 | 369 | 1.56 | 1.07 | 1.00 |
| # of Accounting Expert | 1,091 | 0.14 | 0.38 | 0.00 | 369 | 0.13 | 0.36 | 0.00 |
| # of Independent Accounting Expert | 1,091 | 0.13 | 0.36 | 0.00 | 369 | 0.13 | 0.36 | 0.00 |

**Panel C: Financial Experts on Firms with earnings before discretionary accruals below forecast by less than one cent**

| | Beat the Target | | Miss the Target | |
|---|---|---|---|---|
| | # | % | # | % |
| Independent Financial Expert=0 | 112 | 10.26 | 27 | 6.82 |
| Independent Financial Expert=1 | 556 | 50.97 | 204 | 55.28 |
| Independent Financial Expert>1 | 423 | 38.77 | 138 | 37.40 |
| | | | | |
| Total Firms | 1,091 | 100 | 369 | 100 |

**Panel D: Accounting Experts on Firms with earnings before discretionary accruals below forecast by less than one cent**

| | Beat the Target | | Miss the Target | |
|---|---|---|---|---|
| | # | % | # | % |
| Independent Accounting Expert=0 | 934 | 85.62 | 316 | 85.63 |
| Independent Accounting Expert=1 | 142 | 13.01 | 49 | 13.27 |
| Independent Accounting Expert>1 | 15 | 1.37 | 4 | 1.10 |
| | | | | |
| Total Firms | 1,091 | 100 | 369 | 100 |

The descriptive statistics are based on 1,460 firm-quarter observations in the period 2004-2011 excluding firm do not have quarterly earnings data for all quarters of the given year. I delete all firms with Standard Industrial Classification (SIC) codes from 4400-5000 (utility industry), 6000-6999 (financial services) and 9000-9999 (unclassible industry). 1,091 firm-quarter observations have earnings before discretionary accruals initially below forecasts by less than one cent but reports sufficient positive discretionary accruals that allow earnings to beat analyst forecasts. 369 firm-quarter observations have earnings before

discretionary accruals initially below forecasts by less than one cent and report earnings that is below analyst forecasts. See Appendix A for variable measurements. *** p<0.01, ** p<0.05, * p<0.1

**Table 3. Pearson Correlation**

| | BOARD_IND | # Independent Financial Expert | # Financial Expert | # Independent Accounting Expert | # Accounting Expert | Firm Size |
|---|---|---|---|---|---|---|
| BOARD_SIZE | 0.825 | 0.177 | 0.158 | 0.106 | 0.116 | **0.302** |
| | *<0.0001* | *<0.0001* | *<0.0001* | *<0.0001* | *<0.0001* | ***<0.0001*** |
| BOARD_IND | | 0.211 | 0.236 | 0.0923 | 0.0819 | 0.357 |
| | | *<0.0001* | *<0.0001* | *<0.0001* | *<0.0001* | *<0.0001* |
| # Independent Financial Expert | | | **0.972** | **0.113** | 0.116 | 0.211 |
| | | | ***<0.0001*** | ***<0.0001*** | *<0.0001* | *<0.0001* |
| # Financial Expert | | | | 0.127 | 0.106 | 0.204 |
| | | | | *0.007* | *<0.0001* | *<0.0001* |
| # Independent Accounting Expert | | | | | 0.963 | 0.0367 |
| | | | | | *<0.0001* | *0.160* |
| # Accounting Expert | | | | | | *0.192* |
| | | | | | | *<0.0001* |

The correlations are based on 1,460 firm-quarter observations in the period 2004-2011 excluding firm do not have quarterly earnings data for all quarters of the given year. I delete all firms with Standard Industrial Classification (SIC) codes from 4400-5000 (utility industry), 6000-6999 (financial services) and 9000-9999 (unclassible industry). See Appendix A for variable measures.

**Table 4. Test of H1**

|  |  | JUSTBEAT | t-statistics |
|---|---|---|---|
| FEDIR1$_t$ | (-) | -0.687*** | [-5.069] |
| SIZE$_t$ |  | 0.040 | [0.323] |
| BTM$_t$ | (-) | 0.272 | [1.316] |
| SHARES$_t$ | (+) | 0.000 | [0.365] |
| NUM_ESTIMATE$_t$ | (+) | 0.045*** | [3.604] |
| CV_AF$_t$ | (-) | 0.359 | [1.163] |
| DOWN_REV$_t$ | (+) | -0.273 | [-1.160] |
| BOARD_SIZE$_t$ |  | -0.446* | [-1.759] |
| BOARD_IND$_t$ |  | 0.001 | [0.0276] |
| AC_SIZE$_t$ |  | -0.122 | [-0.393] |
|  |  |  |  |
| Observations |  | 1460 |  |
| Pseudo R$^2$ |  | 0.101 |  |
|  |  |  |  |
| Year & Quarter Fixed Effect |  | Yes |  |
| Industry Fixed Effect |  | Yes |  |

The dependent variable is JUSTBEAT, which equals one when a firm whose earnings before discretionary accruals is initially below forecasts by less than one cent but reports sufficient positive discretionary accruals that allow earnings to beat analyst forecasts, and zero when a firm whose earnings before discretionary accruals is initially below forecasts by less than one cent and reports earnings that is still below analyst forecasts. See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Table 5. Test of H2**

|  |  |  | JUSTBEAT | t-statistics |
|---|---|---|---|---|
| Constant | (+) | $\alpha_0$ | 0.870 | [-1.360] |
| $FEDIR1_t$ |  | $\beta_0$ | -0.280 | [-4.351] |
| $BadNEWS_t*FEDIR1_t$ | (-) | $\beta_1$ | -0.808*** | [2.784] |
| $BadNEWS_t$ | (+) | $\beta_2$ | 0.397*** | [0.201] |
| $SIZE_t$ |  |  | 0.026 | [1.388] |
| $BTM_t$ | (-) |  | 0.290 | [0.417] |
| $SHARES_t$ | (+) |  | 0.000 | [3.989] |
| $NUM\_ESTIMATE_t$ | (+) |  | 0.047*** | [1.128] |
| $CV\_AF_t$ | (-) |  | 0.369 | [-1.004] |
| $DOWN\_REV_t$ | (+) |  | -0.231 | [-1.506] |
| $BOARD\_SIZE_t$ |  |  | -0.416 | [-0.362] |
| $BOARD\_IND_t$ |  |  | -0.008 | [-0.237] |
| $AC\_SIZE_t$ |  |  | -0.076 | [0.695] |
|  |  |  |  |  |
| Observations |  |  | 1460 |  |
| Pseudo $R^2$ |  |  | 0.105 |  |
|  |  |  |  |  |
| Year & Quarter Fixed Effect |  |  | Yes |  |
| Industry Fixed Effect |  |  | Yes |  |
| *Coefficient on $\beta_0+\beta_1$* |  |  | *-1.088**** |  |

The dependent variable is JUSTBEAT. BadNEWS is a dummy variable that equals one if a firm fails to beat analyst forecasts in the following quarter, and zero otherwise. See Appendix A for variable measures. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** p<0.01, ** p<0.05, * p<0.1

**Table 6. Accounting Expertise on the Audit Committee**

|  |  |  | JUSTBEAT | t-statistics |
|---|---|---|---|---|
| ACCDIR1$_t$ |  | $\beta_0$ | 0.152 | [0.654] |
| BadNEWS$_t$*ACCDIR1$_t$ |  | $\beta_1$ | -0.687** | [-2.012] |
| NonACC_FEDIR1$_t$ |  | $\beta_2$ | -0.246 | [-1.590] |
| BadNEWS$_t$* NonACC_FEDIR1$_t$ |  | $\beta_3$ | -0.533** | [-2.260] |
| BadNEWS$_t$ |  |  | 0.293* | [1.750] |
| SIZE$_t$ |  |  | -0.042 | [-0.276] |
| BTM$_t$ | (-) |  | 0.325*** | [2.666] |
| SHARES$_t$ | (+) |  | 0.001 | [0.487] |
| NUM_ESTIMATE$_t$ | (+) |  | 0.045*** | [3.043] |
| CV_AF$_t$ | (-) |  | 0.408 | [0.996] |
| DOWN_REV$_t$ | (+) |  | -0.109 | [-0.363] |
| BOARD_SIZE$_t$ |  |  | -0.507 | [-1.538] |
| BOARD_IND$_t$ |  |  | -0.001 | [-0.0526] |
| AC_SIZE$_t$ |  |  | 0.157 | [0.427] |
| Observations |  |  | 1106 |  |
| Pseudo R$^2$ |  |  | 0.125 |  |
| Year & Quarter Fixed Effect |  |  | Yes |  |
| Industry Fixed Effect |  |  | Yes |  |

The dependent variable is JUSTBEAT. ACCDIR1 is dummy variable equals one when there is at least one independent accounting expert on the audit committee, and zero otherwise NonACC_FRDIR1 is dummy variable equals one when there is at least one independent non-accounting financial expert on the audit committee, and zero otherwise. See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Table 7. The Predictive Ability of Accruals**

|  |  |  | EARN$_{t+1}$ | t-statistics |
|---|---|---|---|---|
| CFO$_t$ | (+) | $\beta_1$ | 0.582*** | [12.81] |
| ACCR$_t$ | (+) | $\beta_2$ | 0.315*** | [11.55] |
| CFO$_t$*FEDIR1$_t$ |  | $\beta_3$ | 0.053 | [1.071] |
| ACCRUAL$_t$*FEDIR1$_t$ | (+) | $\beta_4$ | 0.159** | [2.800] |
| Observations |  |  | 14658 |  |
| Adjusted R$^2$ |  |  | 0.381 |  |
| Year & Quarter Fixed Effect |  |  | Yes |  |
| Industry Fixed Effect |  |  | Yes |  |

The dependent variable is EARN$_{t+1}$. See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Table 8. The Magnitude of Discretionary Accruals**

|  |  | BOARD_IND (1) | AC_IND (2) | FEDIR1 (3) |
|---|---|---|---|---|
| BOARD_VAR$_t$ | (-) | -0.001* | -0.004** | 0.002 |
|  |  | [-2.052] | [-2.527] | [0.194] |
| SIZE$_t$ |  | 0.031 | 0.029 | 0.031 |
|  |  | [0.625] | [0.592] | [0.635] |
| LOG(ATQ)$_t$ |  | -0.004 | -0.003 | -0.004 |
|  |  | [-1.624] | [-1.479] | [-1.593] |
| BTM$_t$ |  | -0.204 | -0.203 | -0.204 |
|  |  | [-1.787] | [-1.780] | [-1.786] |
| CFO$_t$ |  | 0.025* | 0.025* | 0.025* |
|  |  | [2.412] | [2.411] | [2.410] |
| DECROA$_t$ |  | 0.005 | 0.005 | 0.005 |
|  |  | [0.308] | [0.296] | [0.304] |
| ABN_NOA$_{t-1}$ |  | -0.006 | -0.006 | -0.006 |
|  |  | [-1.730] | [-1.739] | [-1.728] |
| LEVERAGE$_t$ |  | -0.008 | -0.008 | -0.008 |
|  |  | [-1.493] | [-1.534] | [-1.499] |
| SHARES$_t$ |  | 0.000 | 0.000 | 0.000 |
|  |  | [1.403] | [1.425] | [1.344] |
| BOARD_SIZE$_t$ |  | 0.023** | 0.018** | 0.015* |
|  |  | [2.778] | [2.495] | [2.170] |
|  |  |  |  |  |
| Observations |  | 14,515 | 14,515 | 14,515 |
| R-squared |  | 0.017 | 0.017 | 0.017 |
| Year & Quarter Fixed Effect |  | Yes | Yes | Yes |
| Industry Fixed Effect |  | Yes | Yes | Yes |

The dependent variable is discretionary accruals (DAC), which is followed Modified Jones Model. BOARD_VAR measures include BOARD_IND,AC_IND, and FEDIR1. See Appendix A for variable measures. All the regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Table 9. More Than One Independent Financial Expert**

| | | JUSTBEAT (1) | t-statistics | JUSTBEAT (2) | t-statistics |
|---|---|---|---|---|---|
| FEONLY1$_t$ | $\beta_0$ | -0.315 | [-1.344] | -0.665*** | [-3.218] |
| FEONLY1$_t$_BadNEWS$_t$ | $\beta_1$ | -0.676*** | [-2.763] | -0.376** | [-2.138] |
| FEMORE1$_t$ | $\beta_2$ | | | -0.146 | [-0.534] |
| FEMORE1$_t$_BadNEWS$_t$ | $\beta_3$ | | | -1.002*** | [-3.917] |
| BadNEWS$_t$ | | 0.377** | [2.034] | 0.393*** | [2.759] |
| SIZE$_t$ | | -0.073 | [-0.607] | 0.021 | [0.164] |
| BTM$_t$ | | 0.319 | [1.139] | 0.285 | [1.378] |
| SHARES$_t$ | | 0.001 | [0.941] | 0.000 | [0.432] |
| NUM_ESTIMATE$_t$ | | 0.040** | [2.134] | 0.048*** | [4.102] |
| CV_AF$_t$ | | 0.032 | [0.0500] | 0.378 | [1.137] |
| DOWN_REV$_t$ | | 0.010 | [0.0269] | -0.232 | [-1.006] |
| BOARD_SIZE$_t$ | | -0.410 | [-0.825] | -0.408 | [-1.379] |
| BOARD_IND$_t$ | | 0.008 | [0.197] | -0.010 | [-0.417] |
| AC_SIZE$_t$ | | -0.250 | [-0.406] | -0.070 | [-0.216] |
| | | | | | |
| Observations | | 885 | | 1460 | |
| Pseudo R$^2$ | | 0.116 | | 0.107 | |
| | | | | | |
| Year & Quarter Fixed Effect | | Yes | | Yes | |
| Industry Fixed Effect | | Yes | | Yes | |

The dependent variable is JUSTBEAT. FEONLY1 is dummy variable equals one when there is one independent accounting expert on the audit committee, and zero otherwise FEMORE1 is dummy variable equals one when there is more than one independent non-accounting financial expert on the audit committee, and zero otherwise. See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** p<0.01, ** p<0.05, * p<0.1

**Table 10. Matched Sample**

|  |  | Beat | t-statistics |
|---|---|---|---|
| FEDIR$_t$ | $\beta_0$ | 0.688** | [2.337] |
| FEDIR1$_t$_BadNEWS$_t$ | $\beta_1$ | -1.063*** | [-4.333] |
| BadNEWS$_t$ |  | -0.055 | [-0.400] |
| SIZE$_t$ |  | 0.097* | [1.704] |
| BTM$_t$ |  | -0.297* | [-1.673] |
| SHARES$_t$ |  | -0.000 | [-0.294] |
| NUM_ESTIMATE$_t$ |  | 0.036** | [2.201] |
| CV_AF$_t$ |  | 0.166 | [1.455] |
| DOWN_REV$_t$ |  | -0.212 | [-1.244] |
| BOARD_SIZE$_t$ |  | -0.648*** | [-3.489] |
| BOARD_IND$_t$ |  | 0.021 | [1.284] |
| AC_SIZE$_t$ |  | -0.192 | [-0.960] |
|  |  | -0.037 | [-0.0689] |
| Observations |  |  |  |
| Pseudo R$^2$ |  | 1760 |  |
|  |  |  |  |
| Year & Quarter Fixed Effect |  | Yes |  |
| Industry Fixed Effect |  | Yes |  |
| *Coefficient on $\beta_2+\beta_3$* |  | -0.375*** |  |

The regression are based on 880 firm-quarter observations whose earnings before discretionary accruals is initially below forecasts but reports sufficient positive discretionary accruals that allow earnings to beat analyst forecasts and their matched observations based on two-digit SIC codes, prior quarter net operating assets and year. The dependent variable BEAT equals one when a firm has earnings before discretionary accruals below forecasts but reports sufficient positive discretionary accruals that allow earnings to beat analyst forecasts, and zero when a firm has earnings before discretionary accruals below forecasts and reports earnings that is still below analyst forecasts. See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** p<0.01, ** p<0.05, * p<0.1

**Table 11. Two-Stage Least Squares**

**Panel A: First-stage Model of the Determinants of the presence of at least an Independent Financial Expert**

| | FEDIR1 | t-statistics |
|---|---|---|
| | 0.028 | [1.122] |
| $SIZE_t$ | 0.075* | [2.171] |
| $BTM_t$ | -0.000 | [-0.909] |
| $SHARES_t$ | 0.001 | [0.298] |
| $NUM\_ESTIMATE_t$ | 0.024 | [0.825] |
| $CV\_AF_t$ | 0.045* | [1.924] |
| $DOWN\_REV_t$ | -0.189** | [-2.950] |
| $BOARD\_SIZE_t$ | 0.018*** | [3.670] |
| $BOARD\_IND_t$ | -0.086 | [-0.750] |
| $AC\_SIZE_t$ | -0.012 | [-0.556] |
| $SIZEDUMMY_t$ | 0.008 | [0.974] |
| COMPANY_AGE | 0.007 | [0.815] |
| $FCF_t$ | -0.003 | [-0.833] |
| $R\&D_t$ | 0.001 | [0.789] |
| $CAPITAL_t$ | 0.024* | [1.914] |
| $SEGMENT_t$ | 0.028 | [1.122] |
| $CEO\_TENURE_t$ | 0.075* | [2.171] |
| $LEVERAGE_t$ | -0.000 | [-0.909] |
| | | |
| Adjusted R-squared | 0.353 | |
| Year & Quarter Fixed Effect | Yes | |
| Industry Fixed Effect | Yes | |

See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Panel B Second-stage Regression of the presence of at least an Independent Financial Expert on the Odds of Beating Analyst Forecast by Accruals Contingent on Future Earnings Surprises**

|  |  |  | BEAT | t-statistics |
|---|---|---|---|---|
| $\widehat{FEDIR}1_t$ |  | $\beta_0$ | -7.431 | [-1.564] |
| $\widehat{FEDIR}1_t$*BadNEWS$_t$ | (-) | $\beta_1$ | -1.947*** | [-2.842] |
| BadNEWS$_t$ |  |  | 1.536*** | [2.851] |
| SIZE$_t$ |  |  | 0.273 | [1.337] |
| BTM$_t$ |  |  | 1.016*** | [3.238] |
| SHARES$_t$ | (-) |  | -0.000 | [-0.0609] |
| NUM_ESTIMATE$_t$ |  |  | 0.044* | [1.951] |
| CV_AF$_t$ | (+) |  | 0.318 | [0.876] |
| DOWN_REV$_t$ |  |  | 0.049 | [0.113] |
| BOARD_SIZE$_t$ | (+) |  | -2.469** | [-2.364] |
| BOARD_IND$_t$ |  |  | 0.144 | [1.155] |
| AC_SIZE$_t$ | (-) |  | -0.836 | [-1.222] |
|  |  |  |  |  |
| Observations | (+) |  | 887 |  |
| Pseudo R$^2$ |  |  | 0.412 |  |
| Year & Quarter Fixed Effect |  |  | Yes |  |
| Industry Fixed Effect |  |  | Yes |  |
| *Coefficients on $\beta_0$+$\beta_1$* |  |  | *-9.377** |  |

The dependent variable is BEAT. Predicted FEDIR1 is the predicted value of FEDIR1 in the first-stage model (Panel A). See Appendix A for variable measures. All regressions are estimated with an intercept included but the intercept is not reported. t-Statistics shown in brackets are based on robust standard errors cluster by year. *** p<0.01, ** p<0.05, * p<0.1

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