

# Characteristics Of Diligent Audit Committees

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## ABSTRACT

*The mounting attention given to audit committees following a series of corporate financial reporting failures has resulted in numerous provisions within Sarbanes Oxley Act (SOX hereafter) of 2002. The SOX addresses aspects of the audit committee, including its authority and composition characteristics, but the requirement for minimum meeting frequency for the audit committee member was absent from the final SOX provision despite the recommendations of regulators. Since audit committee activity, or degree of audit committee diligence, is determined by the audit committee itself, we investigate various firm-level and governance attributes that likely influence audit committees' choice to meet more often than anticipated.*

*After analyzing a sample of 2,715 firm-year observations spanning fiscal years 1998-2003, we find that audit committee diligence is positively associated with audit committee attributes such as financial expertise, but negatively association with audit committee tenure, suggesting that efficiency gains are enjoyed by audit committees as they become more familiar with firm-specific reporting issues. We also document positive associations between audit committee diligence and both governance and agency cost variables. Finally, we document a significant increase in audit committee diligence in the years following the implementation of the SOX 2002 provisions.*

**Keywords:** Audit Committees; Audit Committee Diligence and Characteristics

## INTRODUCTION

 ver the past two decades, a growing amount of attention has been given to the audit committee's role in the financial reporting process and, in particular, its potential effect on the quality of financial statements (see DeZoort et al., 2002; SOX 2002). The focus on audit committees resulted in a number of SOX 2002 provisions that address the composition and behavior of corporate audit committees. Despite the concerns expressed by policy makers and echoed by the recommendations of the *Blue Ribbon Commission* (hereafter, BRC) *on Improving Audit Committee Effectiveness*, the final provisions of SOX 2002 do not require that a minimum number of meetings be held by the audit committee during the fiscal year (Levitt, 1998; BRC, 1999). Recent studies suggest that a great deal of variation exists in audit committee activity regardless of regulators' concern about inactive audit committees, with most audit committees meeting no more than the company's audit committee charter requires (Carcello et al., 2002). The purpose of this study is to identify attributes that explain *audit committee diligence*. In other words, why do some audit committees meet more than anticipated?

Given the lack of authoritative guidance beyond the BRC recommendation of holding a minimum of four meetings during a fiscal year, the degree of diligence is essentially left to the discretion of the audit committee itself. We would expect to observe audit committees meeting at least quarterly given the frequency of corporate filings with the SEC. Since the audit committee is a subset of the board of directors and its members also participate in general board meetings, we would also expect the audit committee to meet at least as often as the board. In fact, a review of audit committee charters by Carcello et al. (2002) reveals that, on average, audit committees meet no more than expected as the mean number of meeting required by the audit committee charter (3.31) is approximately equal

to the mean number of meetings actually held (3.54). This finding suggests that the typical audit committee does not meet more than it is required to and that certain audit committees that choose to be more actively engaged in the financial reporting process may possess unique attributes that explain its audit committee diligence. Our sample size confirms this apathy as approximately 20% of our sample meets more than the board of directors, suggesting that audit committee meeting frequency may simply be a matter of convenience rather than a desire to perform effective oversight of the financial reporting process.

In response to the perceived relevance of audit committee activity, researchers have adopted audit committee meeting frequency as a proxy for audit committee diligence and observed some financial reporting benefits for companies with active audit committees (DeZoort et al., 2002). Related studies document a variety of factors that possibly explain meeting frequency, including agency costs and governance characteristics (Menon and Williams, 1994; Collier and Gregory, 1999; Raghunandan and Rama, 2007; Sharma et al., 2009). This study extends this line of inquiry by exploring audit committee level attributes that likely influence audit committees' decisions to hold an extraordinary number of meetings during a fiscal year. Specifically, we examine whether committee members' collective experiences on a company's audit committee (i.e., audit committee tenure) and financial expertise (i.e., background in accounting) are associated with the degree of diligence exhibited by the audit committee. Given the voluntary nature of meeting frequency and the autonomy allotted to the audit committee, there is still relatively little known about the audit committee characteristics that help explain why certain audit committees are more active (i.e., diligent) than the board of directors or meet more often than recommended by the Blue Ribbon Commission. By examining the audit committee's incremental effort relative to a routine benchmark, we are better situated to measure audit committee diligence and, therefore, gain more insight into the audit committee, governance and agency attributes that affect diligence.

This study's sample period includes 2,715 firm-year observations of S&P Small, Mid and Large-Cap companies spanning fiscal years 1998-2003. Consistent with prior research, we document a positive and significant association between audit committee diligence, firm size, board independence, presence of a Big 5 auditor and increased levels of diligence during the period following the implementation of the SOX 2002 provisions. At the audit committee level, we hypothesize and find that active committees are associated with the presence of financial experts, but that firm-specific knowledge reduces the need for frequent meetings. We also document an increased level of meeting activity following the implementation of SOX 2002, suggesting that the attention given to audit committees during that period was a sufficient catalyst for increased audit committee diligence and that establishing minimum meeting requirements may be unnecessary at this time.

Our results extend related research that investigates the determinants of audit committee activity (Menon and Williams, 1994; Collier and Gregory, 1999; Raghunandan and Rama, 2007; Sharma et al., 2009). The primary contribution of our study is the consideration of audit committees that meet more than anticipated. The Blue Ribbon Commission recommends that audit committees meet at least quarterly. By employing a measure of abnormal meeting frequency, we are able to examine and document the characteristics of committees that exhibit what is perceived to be extraordinary diligence (DeZoort et al., 2002). We also corroborate recent research which suggests that there are financial reporting benefits of firm-specific experience of auditors and that investors price firm-specific risk (Easley and O'Hare, 2004; Francis, 2004). Our study is unique in that we document a significant association between firm-specific knowledge, as proxied for by audit committee tenure, and audit committee diligence. This supports the argument that firm-specific knowledge exists since greater tenure may allow the committee greater oversight efficiency and, therefore, require it to meet less frequently. Finally, we document a significant increase in audit committee activity in the period following the implementation of the SOX 2002, suggesting that audit committees were responsive to the growing pressure from regulators.

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **Audit Committees and Corporate Governance**

Jensen and Meckling (1976) provide a theoretical description of the separation of ownership and control within a firm that gives rise to agency costs and serves as a catalyst for the evolution of various governance mechanisms designed to mitigate these costs. Firms that find it relatively more efficient to internalize the cost of

monitoring will rely primarily on the board of directors to provide adequate oversight of management's performance and reduce agency costs (Jensen and Meckling, 1976; Williamson, 1984). The ability of directors to use financial accounting information to monitor managerial performance and reduce agency costs is, in part, a function of the board's ability to effectively oversee the creation of this information during the financial reporting process (Bushman and Smith, 2001)<sup>1</sup>. Consequently, the duty to enhance the quality of financial information is charged to the audit committee of the board of directors. Since the audit committee ultimately approves the financial statements that are submitted to the board of directors and then filed with the SEC, audit committee members have the opportunity to significantly influence the quality of earnings presented to the investing public.

The importance of audit committee oversight has evolved throughout the 1900's, as evidenced by numerous recommendations from financial institutions that firms form audit committees dating as far back as the Securities Acts of 1933 and 1934. However, it was not until the early 1990's that publicly traded companies listed on the NYSE, NASDAQ, and AMEX were required to have an audit committee as part of their governance structure (BRC, 1999). Facing the possibility of regulatory action, the major exchanges created a Blue Ribbon Committee in 1999 to examine the audit committee characteristics that were presumed to affect monitoring effectiveness, and eventually issued several recommendations (e.g., independence from management) that were, in part, adopted by the exchanges as listing requirements. Congress took additional steps to improve investor confidence in accounting information by mandating many of the previous recommendations regarding audit committee characteristics and behavior (e.g., SOX 2002; NYSE 2005). Although SOX 2002 gives ample attention to audit committees, and despite regulatory concern, SOX 2002 provisions fail to establish a minimum number of annual meetings to be held by the audit committee. Thus, firms are left with BRC's recommendation of at least four audit meetings per fiscal year as guidance for adequate audit committee activity.

### **Audit Committees and Financial Reporting Quality**

Initially, audit committee research focused on the existence and benefits of audit committees. Early studies explored the characteristics of firms that explore Bradbury (1992) first explores the characteristics of New Zealand companies that voluntarily formed audit committees are characterized by board of director size and a greater degree of director ownership. Menon and Williams (1994) continue this line of inquiry and find that voluntary audit committee formation is associated with the use of a Big 8 auditor and board independence. Wild (1996) later explores the financial reporting benefits of maintaining audit committees and documents a positive association between audit committee existence and the firm's earnings quality.

As the audit committee literature stream has evolved, efforts have been made to compartmentalize audit committee research into four areas: composition, authority, resources, and diligence (DeZoort et al., 2002). Research has focused primarily on the commitment of the audit committee to its monitoring duties (i.e., diligence) and the characteristics of the audit committee members (i.e., composition), as these factors tend to be more readily observable.

Composition studies initially examined the effect of audit committee attributes on various financial reporting outcomes. Audit committee member independence appears to be associated with higher financial reporting quality (Carcello and Neal, 2003; Krishnan, 2005; Klein, 2002; Bedard et al., 2004). Financial reporting problems, including earnings management, restatements, and accruals quality, are negatively associated with various proxies of audit committee financial expertise (e.g., Xie et al., 2003; Bedard et al., 2004; Carcello et al., 2006; Dhaliwal et al., 2006). Other audit committee characteristics, such as greater director experience, less ownership by audit committee members and larger audit committees appear to be associated with higher earnings quality (Bedard et al., 2004, Yang and Krishnan, 2005).

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<sup>1</sup> Several studies have examined the role of the board of directors in the financial reporting process and generally document a positive association between strong governance attributes and various financial reporting quality proxies (Beasley 1996; Beasley et al. 2000; Klein 2002; and Bedard et al. 2004).

Several audit committee diligence studies employ audit committee meeting frequency as an explanatory variable to examine whether meeting frequency, amongst other attributes, leads to higher quality financial reporting. Generally, the findings indicate that firms are less likely to be sanctioned by the SEC or engage in less earnings management are associated with more active audit committees (McMullen and Raghunandan, 1996; Abbot et al., 2000; Bedard et al., 2004).

### **Determinants of Audit Committee Diligence**

#### *Audit Committee Meeting Frequency*

Researchers have also employed the number of annual audit committee meetings as a dependent variable and attempt to document the determinants of audit committee activity. DeZoort et al. (2002) argues that audit committee diligence as proxied for by the number of annual meetings is reflected in the effort invested by the committee in its oversight duties. Audit committees that meet more frequently are more likely to become aware of financial reporting issues that may ultimately affect the quality of reported earnings.

Several studies have explored the possible determinants of audit committee meeting frequency. Menon and Williams (1994) concluded that agency costs play a role in the frequency of annual committee meetings by documenting that firm size and board of director independence have positive associations with meeting frequency. Collier and Gregory (1999) focus their analysis on a sample of firms from the United Kingdom and measures audit committee in terms of the hours spent conducting audit committee meetings. Their findings are, in part, consistent with Menon and Williams (1994) agency costs argument, as firms with Big Six auditors, or that are highly leveraged, are more likely to have relatively more active audit committees, while firms with weak director independence conduct fewer audit committee meetings. More recently, Raghunandan and Rama (2007) focus on fiscal year 2003 and include an expanded set of variables to explain variation in audit committee activity. Their findings indicate that agency costs such as firm size, presence of block holders on the board, litigation risk, as well as governance characteristics like board meeting frequency, audit committee size and audit committee financial expertise all increase audit committee meeting frequency. A subsequent study by Sharma et al. (2009) focuses on New Zealand firms and provides somewhat contradictory results in that the presence of Big 4 auditors, growth and litigation risk are negatively associated with audit committee meeting frequency, yet audit committee independence and size, as well as managerial ownership, appear to have a negative association with meeting frequency.

Our study assesses audit committee diligence from a different perspective by examining the characteristics of firms that appear to meet more often than would be expected. Using the BRC's recommended annual meeting frequency and the board of director meeting frequency as benchmarks, we measure the degree to which an audit committee excels in its financial reporting oversight efforts. By examining the determinants of the audit committee's incremental effort, we are able to better understand the audit committee, governance and agency costs attributes that are associated with audit committee diligence.

#### *Audit Committee Tenure*

Experience serving on a particular audit committee may also affect audit committee diligence. Francis et al. (2004) provides evidence that investors price firm-specific information risk which suggests that firms have unique information environments. Since the audit committee is charged with overseeing the financial reporting process, it seems reasonable that over a period of time, audit committee effectiveness and efficiency would be impacted by the degree to which committee members familiarize themselves with firm-specific financial reporting issues. Positive outcomes have been documented in the auditor-client relationship. It apparently takes the audit team a period of time to become aware of the client's business model and unique accounting issues during the early stages of the relationship, with the benefits of this knowledge acquisition manifesting itself in later years (Johnson et al., 2002; Carcello and Nagy, 2004).

Psychology research confirms a learning effect as people develop credible knowledge sets regarding a given task as experience with the task increases, thus leading to an improvement in task performance (Mazur and Hastie, 1978). Related research in the accounting setting confirms this phenomenon (Libby, 1993). For example,

successful performance of audit tasks appears to be related to both practice and feedback (Bonner and Walker, 1994). Experienced subjects are more likely to succeed at difficult tasks by relying on heuristics that provide an advantage relative to less experienced subjects, suggesting that experience results in efficiency gains (Ahdolmohammadi and Wright, 1987).

Although research shows that extended board of director tenure may provide financial reporting benefits, the literature has not yet addressed whether audit committee knowledge acquisition results in more effective and efficient monitoring practices by focusing on the tenure of specific audit committee members (Beasley, 1996; Bedard et al., 2004; Cohen et al., 2004). Learning effects could surface in the audit committee setting as it becomes more familiar with management's reporting practices and that this knowledge, over time, could lead to more efficient performance of its oversight activities. As an audit committee's firm-specific knowledge is acquired, firms with long-serving committee members may enjoy efficiencies that provide sufficient oversight with fewer meetings. We therefore hypothesize a negative association between audit committee tenure and audit committee diligence.

**H1:** Audit committee diligence is negatively associated with audit committee tenure.

#### *Audit Committee Financial Expertise and Size*

The financial expertise of audit committee members has also received considerable attention in the literature. By increasing the committee members' accounting and finance-related knowledge, the degree of financial expertise should improve audit committee effectiveness. Initial investigations into the financial reporting implications of audit committee expertise generally suggest that expertise improves the quality of financial statements. Financial reporting problems, including earnings management, restatements and accruals quality, are negatively related to various proxies of audit committee expertise (e.g., Xie et al., 2003; Bedard et al., 2004; Carcello et al., 2006; Dhaliwal et al., 2006).

Financial experts are more likely to pursue technical issues which likely lead to more meeting activity. If financial expertise mitigates earnings management as some studies suggest, then those efforts likely require more meetings amongst management, auditors and the audit committee. In a related study, Raghunandan and Rama (2007) controls for audit committee financial expertise as a potential determinant of audit committee activity, and find a marginally significant, positive association between the two attributes. We hypothesize that audit committee financial expertise will increase audit committee diligence.

**H2:** Audit committee diligence is positively associated with audit committee financial expertise.

Audit committee size has also been identified as a potential factor influencing audit committee activity. Firms' willingness to expend resources to maintain large audit committees reflects an overall commitment to monitoring. Early governance studies investigate this at the board level and document a positive association between the board size and the board meeting activity (e.g., Vafeas, 1999; Raghunandan and Rama, 2007 and Sharma et al., 2009) also document similar associations between audit committee size and audit committee meeting frequency. Therefore, we anticipate observing a similar association between audit committee size and audit committee diligence.

**H3:** Audit committee diligence is positively associated with audit committee size.

#### **Corporate Governance Mechanisms and Characteristics**

The financial reporting process and the quality of the information it produces is likely affected by board level mechanisms governance. Following prior research, we consider several governance characteristics including board size, board independence and board meeting frequency that possibly affect accounting information quality, as well as the degree to which audit committees commit to the committees' financial reporting oversight responsibilities (Menon and Williams, 1994; Vafeas, 1999; Collier and Gregory et al., 1999; Francis, 2004; Raghunandan and Rama, 2007; Sharma et al., 2009).

Independent boards are indicative of strong governance and are more prone to encourage management oversight activity. Larger boards are more likely to have a greater pool of directors from which to select audit committee members that can be tasked solely with financial reporting duties, thus freeing them from other directorship responsibilities and making frequent meetings possible. Given the logistics of conducting and assembling board meetings, audit committees are likely to have meetings since they are already present at the board meetings. Consequently, we anticipate observing a positive association between audit committee diligence and board independence, board size and board meeting frequency and make the following hypothesis:

**H4:** Audit committee diligence is positively associated with strong governance characteristics.

### **Agency Costs Related Firm Characteristics**

#### *Firm Size*

Menon and Williams (1994) first documents an association between audit committee activity and higher agency costs by observing a positive association between audit committee activity and firm size. Other studies have since confirmed these results, corroborating the notion that the larger firms experience an increased demand for monitoring efforts due the ongoing scrutiny placed on such firms by market analysts, and since the relative cost of such efforts become less expensive given the marginal benefit of such investments (Collier and Gregory, 1999; Raghunandan and Rama, 2007; Sharma, et al., 2009). In other words, larger firms have more to gain by maintaining stronger, more diligent audit committees.

#### *Leverage*

Agency costs are also associated with highly leveraged firms, and appear to influence the quality of firms' governance mechanisms demanded by debt holders (Jensen and Meckling, 1976; Watts and Zimmerman, 1990). Debt holders also rely on accounting information to resolve to assess the liquidity positions of firms when making credit-related decisions and often employ financial ratios as debt covenants to mitigate exposure to default risk (DeFond and Jiambalvo, 1994; Bushman and Smith, 2001; Andersen et al., 2004). Menon and Williams (1994) hypothesize and Collier and Gregory (1999) document a marginally significant, positive association between meeting activity and firm leverage. If audit committees' efforts improve the quality of the financial reporting process, and highly-leveraged firms rely on accounting information to reduce agency costs, such firms have incentives to invest in their audit committees and to expect greater audit committee diligence.

#### *Growth*

Growth firms often experience high agency costs as prior research documents lower earnings quality for firms during the early stages of the business cycle (DeFond and Jiambalvo, 1994; Abbot et al., 2000). The resulting agency costs likely create greater monitoring demands, which can manifest in greater effort by the audit committee. Growth firms also experience greater pressure to report favorable earnings trends, yet lack an established history of financial reporting quality that corroborates the integrity of current financial information (Raghunandan and Rama, 2007). By holding more audit committee meetings, firms may exhibit more diligence over the financial reporting process, thus reducing the firm's stakeholders' perceived information risk and resulting agency costs.

#### *Litigation Risk*

We also anticipate that litigation risk faced by firms in certain industry possibly affects the audit committee's desire to signal to financial statement users that frequent committee meetings enhances the reliability of the firm's financial statement information. Firms in the pharmaceutical, computers, electronics, retail and software industries face a greater likelihood of facing lawsuits as a result of misleading disclosures that ultimately contribute to significant stock price declines and subsequent shareholder lawsuits (Francis et al., 1994; Raghunandan and Rama, 2007). In certain cases, accounting practices unique to a particular industry (i.e., capitalization of software development costs) could be employed opportunistically and eventually lead to stock price volatility and shareholder lawsuits (Kaszniak and Lev, 1995).

*Big Five Auditor*

By retaining a Big 5 auditor<sup>2</sup> and paying a premium for higher quality audits, firms can communicate their commitment to an effective financial reporting process. Big 5 auditors seek to preserve their reputation performing higher quality audits and are therefore desired by firms that seek to reduce agency costs (Francis and Wilson, 1988; DeFond, 1992; Francis et al., 1999; Francis, 2004). In turn, Big 5 firms are also more likely to place importance on the role of audit committees as Big 5 firms were early advocates for the voluntary formation of audit committees by publically traded companies (Menon and Williams, 1994).

If the use of Big 5 auditors signals a firm's desire to reduce agency costs, and Big 5 auditors place importance on the role of the audit committee in the financial reporting oversight process, then Big 5 firms are more likely to advocate frequent participation of the audit committee throughout the financial reporting process. Therefore, we also consider the possible effect of the retention of a Big 5 auditor and audit committee diligence.

**H5:** Firms that experience high agency costs will be associated with more diligent audit committees

For H5 to be supported, we would expect to observe positive associations between our audit committee diligence variable specifications and our proxies for firm size, leverage, growth, litigation risk and the presence of a Big 4 auditor.

**Sarbanes-Oxley Act of 2002**

We also control for the post-SOX 2002 period as the increased regulatory scrutiny surrounding the audit committee possibly influenced audit committees' propensity to meet despite the lack of SOX 2002 meeting requirements. Beasley et al. (2009) argue that SOX greatly increased expectations for audit committees, and research studies have documented financial reporting behavior around the implementation of SOX 2002 and generally find that earnings quality improved in the wake of the legislation (Gordon et al., 2006; Lobo and Zhou, 2006; Cohen et al., 2008; Heflin and Hsu, 2008). If audit committees influence the favorable changes in financial reporting behavior following the implementation of SOX 2002 provisions, we would expect that to be reflected by an increase in audit committee diligence. Therefore, we make the following hypothesis:

**H6:** Audit committee diligence is positively associated with regulatory pressure of SOX 2002

**METHODOLOGY AND MODEL DEVELOPMENT**

**Sample Selection**

Our sample includes 2,715 firm-year observations from an approximately equal distribution of S&P Small, Mid-Cap and Large-Cap firms, for fiscal years 1998-2003. The firms' related proxy statements were examined and governance data, such as committee and board size, financial expertise, meeting frequency, director independence and tenure and were collected. Committee member biographies were examined to determine whether members possessed professional experience in either accounting or finance and the audit committee tenure variable measured how long the particular director served on the firm's audit committee. Using meeting frequency data, we also constructed our proxies for audit committee diligence. Compustat data was used to construct the remaining the remaining agency costs variables as well as auditor type.

**Dependent Variables**

We attempt to capture audit committee diligence by measuring the incremental meeting activity of audit committees. First, we compute *AC\_BRC\_Ratio* by dividing the number of annual audit committee meetings by the four meetings recommended by the BRC. Although it is not mandated, the BRC's recommendation represents the

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<sup>2</sup> The sample period covers the pre- and post-Andersen, LLP periods. Therefore we simply refer to both Big Five and Big Four audit firms during the respective time periods as Big Five.

closest form of regulatory guidance regarding the minimum number of meetings audit committees should conduct in order to effectively execute the committee's oversight duties. By measuring the degree to which audit committees exceed this minimum threshold, we are better able to assess the characteristics of audit committees that appear to be more diligently performing their oversight responsibilities.

The ratio of audit committee meetings to board of director meetings (*AC\_BOD\_Ratio*) is computed to help determine the extent to which audit committees meet independently from the board of directors. Audit committee meetings are likely to occur during board of director meetings since the committee members would already be present at general board of director sessions. If the audit committee's willingness to meet is driven simply by the convenience of doing so, then the audit committee's commitment to effective oversight of the financial reporting process may be questionable. By measuring the degree to which audit committees are willing to meet in addition to scheduled board of director meetings, we improve our ability to assess the characteristics that help explain why some audit committees are more diligent monitors of firms' financial reporting processes than others.

### Explanatory Variables

Model 1 includes several audit committee variables that may also be associated with audit committee diligence. Throughout our analysis we include alternating proxies for audit committee tenure (*ACT*) that measure the total number years that existing committee members have collectively served on the audit committee (*AC\_Tenure\_Sum*) and a second variable, *AC\_Tenure\_Avg*, which represents the average tenure of directors serving on the firm's audit committee. *Fin\_Exprt* is the percentage of audit committee members with finance or accounting backgrounds during the year and *AC\_Size* is the number of directors serving on the audit committee during the fiscal year.

Other governance mechanisms include the number of board members (*BOD\_Size*), the proportion of independent directors serving on the board (*BOD\_Indp*) and the number of board of director meetings held during the fiscal year (*BOD\_Mtgs*). Our analyses also include proxies for agency costs. Firm Size (*Size*) is equal to the firm's total assets<sup>3</sup>. Leverage (*LEV*) is the debt-to-asset ratio and (*Growth*) is the market-to-book ratio. Litigation Risk (*Lit\_Risk*) is a dichotomous variable equal to one when the firm-year observation is from a high risk industry (SIC 2833-2836; 3570-3577; 3600-3674; 5200-5961; or 7370), zero otherwise. Auditor type (*Big\_Five*) is given a value of takes value one if the firm is audited by a big five (four) auditor, zero otherwise. We also control for the potential effect of the passage and implementation of SOX 2002 by including an indicator variable (*SOX*) that equals one if the fiscal year is either 2002 or 2003 (i.e., the post-SOX sample period).

### Descriptive Statistics

Table 1, Panel A, provides descriptive statistics for the variables used in our analyses during fiscal years 1998-2003. Audit committees in our sample meet an average of five times and, therefore, on average, meet only once more than the four times recommended by the BRC. Relative to board meeting activity, audit committees appear to be less active than their boards as the ratio of audit committee meetings to board meetings (*AC\_BOD\_Ratio*) was 0.78. Both proxies for audit committee tenure reveal that the average aggregate experience of directors serving on the firm's audit committee (*AC\_Tenure\_Sum*) is 18.6 years and that audit committee members have, on average, 4.66 years of experience (*AC\_Tenure\_Avg*) on the firm's audit committee. The percentage of the firm's audit committee members with finance or accounting background (*Fin\_Exprt*) is 0.13. The median audit committee size (*AC\_Size*) is four.

Panel B of Table 1 includes our samples governance characteristics. The typical board of directors contains about ten directors (*BOD\_Size* = 9.59), nearly seven of which are independent of the firm's management (*BOD\_Indp* = 0.68). The average number of board meetings (*BOD\_Mtgs*) is 7.01, exceeding the frequency of audit committee meetings 5.03 reported in Panel A. Other firm characteristics are provided in Panel C of Table 1 and indicate that our sample is comprised of moderately leveraged (*LEV* = 0.23), highly valued, growth firms (*Growth* =

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<sup>3</sup> The natural log of total assets was used as the proxy for firm size during the statistical analysis. Total assets are presented in Table 1 as part of the descriptive statistics.



3.48), of which nearly on quarter are from highly litigious industries (*Lit\_Risk* = 0.27). Almost ninety-eight percent of sample firms were audited by Big Five audit firms during our sample period.

**Table 1: Summary Statistics for Dependent and Independent Variables**

Variable Name	N	Mean	Std. dev.	Median	Q2	Q3
<b>Panel A: Audit Committee Characteristics</b>						
<i>AC_Mtg_Freq</i>	2715	5.03	2.74	4.00	3.00	6.00
<i>AC_BRC_Ratio</i>	2715	1.25	0.68	1.00	0.75	1.50
<i>AC_BOD_Ratio</i>	2715	0.78	0.46	0.66	0.50	1.00
<i>AC_Tenure_Avg</i>	2715	4.66	1.56	4.60	3.50	5.66
<i>AC_Tenure_Sum</i>	2715	18.63	8.62	18.00	12.00	24.00
<i>Fin_Expirt</i>	2715	0.13	0.18	0.00	0.00	0.25
<i>AC_Size</i>	2715	3.79	1.13	4.00	3.00	4.00
<b>Panel B: Governance Characteristics</b>						
<i>BOD_Size</i>	2715	9.59	2.60	9.00	8.00	11.00
<i>BOD_Indp</i>	2715	0.68	0.17	0.70	0.57	0.81
<i>BOD_Mtgs</i>	2715	7.01	2.83	6.00	5.00	8.00
<b>Panel C: Firm Characteristics</b>						
<i>Assets</i>	2715	10025.06	41037.55	2087.03	735.82	7080.1
<i>Lev</i>	2715	0.23	0.16	0.24	0.10	0.34
<i>Growth</i>	2715	3.48	2.97	2.48	1.69	4.11
<i>Lit_Risk</i>	2715	0.27	0.44	0.00	0.00	1.00
<i>Big_Five</i>	2715	0.97	0.14	1.00	1.00	1.00

Variable name	Description
<b>Audit Committee Characteristics</b>	
<i>AC_Mtg_Freq</i>	Number of audit committee meetings held during the fiscal year
<i>AC_BRC_Ratio</i>	Number of audit committee meetings held during the year divided by the four meetings recommended by the Blue Ribbon Committee
<i>AC_BOD_Ratio</i>	The number of annual audit committees divided by the number annual of a board of director meetings held during the fiscal year
<i>AC_Tenure_Avg</i>	The total number of years the audit committee members have collectively served on the firm’s audit committee divided by the number of audit committee members serving during the fiscal year
<i>AC_Tenure_Sum</i>	The total number of years the audit committee members have collectively served on the firm’s audit committee
<i>Fin_Expirt</i>	The percentage of audit committee members with experience in either accounting or finance
<i>AC_Size</i>	The number of audit committee members
<b>Governance Characteristics</b>	
<i>BOD_Size</i>	The number of board members
<i>BOD_Ind</i>	The percentage of independent directors on the board
<i>BOD_Mtgs</i>	The total number of meetings held by the board of directors during the fiscal year
<b>Firm Characteristics</b>	
<i>Size</i>	Total Assets
<i>Lev</i>	Debt-to-asset ratio
<i>Growth</i>	The market-to-book ratio
<i>Lit_Risk</i>	Take value 1 if the firm’s standard industry classification code falls within the following ranges (2833-2836; 3570-3577; 3600-3674; 5200-5961; or 7370), otherwise <i>Lit_Risk</i> = 0
<i>Big_Five</i>	Takes value of 1 if the firm is audited by a big five (four) auditor, zero otherwise

**RESEARCH DESIGN**

We test our hypotheses by conducting a series of univariate and regression analyses. Correlation analysis is first used to demonstrate potential support for our hypotheses, while multivariate analyses confirm such associations after controlling for other relevant factors.

$$AC\_Diligence_{it} = \beta_0 + \beta_1 ACT_{it} + \beta_2 Fin\_Exprt_{it} + \beta_3 AC\_Size_{it} + \beta_4 BOD\_Size_{it} \\ + \beta_5 BOD\_INDP_{it} + \beta_6 BOD\_Mtg_{it} + \beta_7 Size_{it} + \beta_8 Lev_{it} + \\ \beta_9 Growth_{it} + \beta_{10} Lit\_Risk_{it} + \beta_{11} Big\_Five_{it} + \beta_{12} SOX_{it} + \epsilon_i$$

Model 1 above regresses the general form of our audit committee diligence proxies on various audit committee, governance proxies, and agency costs proxies. We also include control variables for year and industry effects (not shown above). In addition to the model variables described above, *AC\_Diligence* represents audit committee diligence and is defined as either *AC\_BRC\_Ratio* or *AC\_BOD\_Ratio* throughout the statistical analysis. *ACT* represents audit committee tenure and is defined as either *AC\_Tenure\_Avg* or *AC\_Tenure\_Sum*. If our hypotheses are supported, we would expect to expect to see significant, positive coefficients on each explanatory variable, with the exception of audit committee tenure (*ACT<sub>it</sub>*).

## RESULTS

### Univariate Results

We begin our analysis by performing univariate tests (untabulated) of our primary hypotheses in which we tests for significant correlations between the Model 1 explanatory variables and our two proxies for audit committee diligence, the ratio of the number of audit committee meetings to the BRC's four recommended meetings (*AC\_BRC\_Ratio*) and the ratio of the number audit committee meetings to board of director meetings (*AC\_BOD\_Ratio*). According to the Pearson correlation test, the coefficients indicate that our proxies for audit committee diligence are significantly correlated with the independent variables in the hypothesized direction. The audit committee characteristics (Panel A) are almost all positive and significantly correlated with each of the audit committee diligence proxies. Committees with a higher degree of financial expertise (*Fin\_Exprt*) and a greater degree of committee-specific tenure (*AC\_Tenure\_Avg* and *AC\_Tenure\_Sum*) are positive and significantly correlated with the degree of audit committee diligence (*AC\_BRC\_Ratio* and *AC\_BOD\_Ratio*). Unexpectedly, larger audit committees (*AC\_Size*) are positively and significantly correlated with committee diligence as measured by the BRC ratio though not the BOD ratio. The governance characteristics are consistent with our hypotheses as larger (*BOD\_Size*), more independent (*BOD\_Indp*) and active boards (*BOD\_Mtg\_Freq*) are positive and significantly correlated with our audit committee diligence proxies. The agency cost proxies (*Size*, *LEV*, and *Big\_Five*) and the diligence proxies exhibit positive and significant correlation coefficients, except *Lit\_Risk* which is only correlated to diligence as measured by BRC ratio but not the BOD ratio. *Growth* is negatively correlated with diligence.

### Regression Results

Our multivariate analysis consists of a series of regressions of the audit committee diligence and audit committee tenure proxy specifications included in Model 1. Table 2 presents the first set of results from our regression analyses after defining audit committee diligence as the ratio of audit committee meetings to the four meetings recommended by the BRC (*AC\_BRC\_Ratio*) and measuring audit committee tenure as the average number of years a member served on the firm's committee (*AC\_Tenure\_Avg*). The model's adjusted-R<sup>2</sup> is 0.43 and the results largely support our hypotheses. Of the audit committee characteristics (H1-H3), audit committee tenure (*AC\_Tenure\_Avg*) has a negative and significant coefficient (p-value = 0.0003), while the degree of audit committee financial expertise (*Fin\_Exprt*) is positive and significant (p-value < 0.0001) associated with audit committee diligence. Contrary to our expectations, though, the size of the audit committee (*AC\_Size*) is negatively, but insignificantly associated with audit committee diligence (p-value = 0.0118). Variance inflation factors (not tabled) indicate that multicollinearity was not an issue.

**Table 2: Ordinary Least-Squares Regression of Dependent Variable *AC\_BRC\_Ratio* on *AC\_Tenure\_Avg***

$$AC\_BRC\_Ratio_{it} = \beta_0 + \beta_1 AC\_Tenure\_Avg_{it} + \beta_2 Fin\_Exprt_{it} + \beta_3 AC\_Size_{it} + \beta_4 BOD\_Size_{it} + \beta_5 BOD\_INDP_{it} + \beta_6 BOD\_Mtgs_{it} + \beta_7 Size_{it} + \beta_8 Lev_{it} + \beta_9 Growth_{it} + \beta_{10} Lit\_Risk_{it} + \beta_{11} Big\_Five_{it} + \beta_{12} SOX_{it} + \epsilon_i$$

Variable	Hypothesized sign	Estimated coefficient	Standard error	p-value
Intercept	?	-0.1373	0.0893	0.1243
AC_Tenure_Avg	-	-0.0252	0.0069	0.0003
Fin_Exprt	+	0.2495	0.0557	<.0001
AC_Size	+	-0.0267	0.0106	0.0118
BOD_Size	+	0.0066	0.0052	0.2036
BOD_INDП	+	0.1726	0.0616	0.0051
BOD_Mtgs	+	0.0394	0.0037	<.0001
Size	+	0.0641	0.0081	<.0001
Lev	+	0.0002	0.0662	0.9965
Growth	+	-0.0007	0.0034	0.8202
Lit_Risk	+	0.0777	0.0235	0.0010
Big_Five	+	0.1924	0.0702	0.0062
SOX	+	0.9564	0.0333	<.0001
N =		2715		
Adj R <sup>2</sup> =		0.43		

*AC\_BRC\_Ratio* equals the number of audit committee meetings held during the year divided by the four meetings recommended by the Blue Ribbon Committee For the rest of variable definition; please refer to the footnote to Table 1.

The regression coefficients on the Model (1) governance variables generally support H4 as it appears that stronger board of director characteristics are positive and significantly associated with audit committee diligence. The coefficients on *BOD\_Indp* and *BOD\_Mtgs* are all positive and significant, though *BOD\_Size* has an insignificant effect on audit committee diligence. Consistent with Menon and Williams (1994), and consistent with H5, we find that agency cost proxies are positive and significantly associated with audit committee diligence. *Size*, *Lit\_Risk* and *Big\_Five* all exhibit positive and significant coefficients, while the coefficients on *Lev* and *Growth* are insignificant. Consistent with other pre-post SOX 2002 studies and H6, the period following the implementation of the SOX 2002 is associated with greater audit committee diligence.

We also estimate Model (1) with the alternative specification (untableted) of our measure of audit committee tenure (*AC\_Tenure\_Sum*) which aggregates the total number of years the audit committee members collectively served on a specific audit committee. The results are consistent with those reported in Table 2 as the adjusted R<sup>2</sup> is 0.43 and the coefficient estimates largely support H1-H6. Specifically, *AC\_Tenure\_Sum* is negative and significantly associated with audit committee diligence (p-value < 0.0001), while *Fin\_Exprt* continues to exhibit a positive and highly significant coefficient estimate. The governance characteristics *BOD\_Indp* and *BOD\_Mtgs*, as well as the agency cost proxies *Size*, *Lit\_Risk* and *Big\_Five* remain positive and significantly associated with audit committee diligence. Overall, the results suggest that audit committees that meet beyond the BRC's recommended four times per fiscal year possess stronger audit committees, more independent and engaged boards of directors and are overseeing firms with greater agency costs.

We continue our analysis after modifying the audit committee diligence proxy specification so that it measures the activity relative to the board of director activity. Specifically, we employ *AC\_BOD\_Ratio*, which measures the ratio of the number of audit committee meetings to the number of board of director meetings during the same fiscal year. Table 3 reports the results after re-estimating Model (1) using *AC\_BOD\_Ratio* as the dependent variable along with our alternative specifications of our audit committee tenure proxies. The results are largely similar to those reported in Table 2. We also regress *AC\_BOD\_Ratio* on the average number of years that an audit committee member has served on the committee (*AC\_Tenure\_Avg*) along with our audit committee, governance and agency cost proxies. The model's adjusted R<sup>2</sup> is slightly lower at 0.42, and the significance of the explanatory variables is slightly weaker than what we observed when using *AC\_BRC\_Ratio* as our dependent variable. Each of the audit committee characteristics continue to be significantly associated with audit committee diligence, as *AC\_Tenure\_Avg* and *Fin\_Exprt* have negative and positive coefficients, respectively, and support H1 and H2. Again, contrary to H3, the coefficient estimate on *AC\_Size* is negative and significant (p-value = 0.0656).

**Table 3: Regression of Dependent Variable *AC\_BOD\_Ratio* on *AC\_Tenure\_Avg***

$$AC\_BOD\_Ratio_{it} = \beta_0 + \beta_1 AC\_Tenure\_Avg_{it} + \beta_2 Fin\_Exp_{it} + \beta_3 AC\_Size_{it} + \beta_4 BOD\_Size_{it} + \beta_5 BOD\_INDP_{it} + \beta_6 BOD\_Mtgs_{it} + \beta_7 Size_{it} + \beta_8 Lev_{it} + \beta_9 Growth_{it} + \beta_{10} Lit\_Risk_{it} + \beta_{11} Big\_Five_{it} + \beta_{12} SOX_{it} + \epsilon_i$$

Variable	Hypothesized sign	Estimated coefficient	Standard error	p-value
Intercept	?	0.5644	0.0614	<.0001
AC_Tenure_Avg	-	-0.0089	0.0047	0.0608
Fin_Exp	+	0.1192	0.0383	0.0019
AC_Size	+	-0.0134	0.0073	0.0656
BOD_Size	+	0.0025	0.0035	0.4787
BOD_IND	+	0.0535	0.0424	0.2065
BOD_Mtgs	+	-0.0650	0.0025	<.0001
Size	+	0.0300	0.0056	<.0001
Lev	+	-0.0646	0.0455	0.1565
Growth	+	0.0019	0.0024	0.4253
Lit_Risk	+	0.0261	0.0162	0.1073
Big_Five	+	0.2051	0.0483	<.0001
SOX	+	0.5922	0.0229	<.0001
N =		2715		
Adj R <sup>2</sup> =		0.422		

*AC\_BOD\_Ratio* equals the number of annual audit committees divided by the number annual of a board of director meetings held during the fiscal year; remaining variables are defined in Table 1.

Other explanatory variables exhibit similar, albeit weaker associations when *AC\_BOD\_Ratio* is employed as our proxy for audit committee diligence. Of the governance characteristics (H4), only *BOD\_Mtgs* is significant ( $p < .0001$ ) which is primarily due to the nature of the specification of our dependent variable, *AC\_BOD\_Ratio*; as the number of board meetings increases, the *AC\_BOD\_Ratio* would naturally decrease. There continues to be some significant associations between our agency costs proxies (H5) and audit committee diligence. Larger firms (*Size*) are associated with significantly greater audit committee diligence ( $p\text{-value} < .0001$ ) and firms audited by Big Five accounting firms are also more active ( $p\text{-value} < .0001$ ), particularly during the period following the implementation of the SOX 2002 provisions (H6) ( $p\text{-value} < .0001$ ).

The final modification of Model 1 includes the use of *AC\_BOD\_Ratio* and *AC\_Tenure\_Sum*. The untabulated results again generally support our hypotheses as we observe significantly negative coefficient ( $p\text{-value} = 0.0025$ ) on *AC\_Tenure\_Sum* and *BOD\_Mtgs*, while the coefficients on *Fin\_Exp*, *Size*, *Big\_Five* and *SOX* remain positive and significant. Taken together, the results of our regression analyses suggest that audit committees that meet more frequently than either the BRC's four recommended meetings per fiscal year, or the meetings already being conducted by the board of directors, are likely to have less audit committee members, greater financial expertise, stronger governance characteristics and greater agency costs. An increase in audit committee diligence was also observed during the period following the implementation of the Sarbanes-Oxley Act of 2002, suggesting that audit committees responded to the greater regulatory scrutiny that accompanied SOX 2002.

### Sensitivity Analyses

We also conducted a series of sensitivity analyses (untabulated) to determine whether our findings are robust to alternative specifications of Model 1. We first considered additional agency costs proxies that may explain the degree of audit committee diligence. Our original results hold after controlling for firms seeking capital through either an equity or debt issuance, both of which have an insignificant association with our audit committee diligence proxies. We further expanded Model 1 by controlling for the number of outside directorships held by the audit committee members, but find that it does not have a significant influence on audit committee diligence. We also specified financial expertise as a dichotomous variable equaling one when at least one member of the committee is a financial expert, zero otherwise and find that the coefficient remains positive and significant. Finally, we re-estimated Model 1 after replacing the audit committee proxies with the number of audit committee meetings (*AC\_Mtg\_Freq*) used by prior research (e.g., Menon and Williams, 1994) and once again observe results consistent with those reported in Tables 2 and 3.

## CONCLUSION

Audit committee researchers have adopted audit committee meeting frequency as a proxy for audit committee diligence and observe some financial reporting benefits for companies with active audit committees (DeZoort et al., 2002). However, recent studies suggest that a great deal of variation exists in audit committee activity regardless of regulators' concerns about inactive audit committees, with most audit committees meeting no more than the company's audit committee charter requires (Carcello, et al., 2002). Our study extends this line of inquiry by exploring attributes that likely explain why some audit committees are more active than anticipated. Unlike related research that relies on the number of audit committee meetings held each year, our study focuses on the number of audit committee meetings held relative to benchmarks that likely influence audit committee activity. Using the ratio of audit committee meetings to the four annual meetings recommended by the BRC and the ratio of audit committee meetings to the number of meetings held by the board, we explore which audit committee, governance and agency costs attributes are associated with a greater degree of diligence.

The sample period includes 2,715 firm-year observations of S&P Small, Mid and Large-Cap companies spanning fiscal years 1998-2003. At the audit committee level, we hypothesize and find that active committees are associated with the presence of financial experts, but that firm-specific knowledge reduces the need for frequent meetings. Stronger governance structures are evident by more active and independent boards and are associated with greater audit committee diligence. Consistent with prior research, we also find that firms with greater agency costs, as indicated by firm size, litigation risk and retention of Big Five auditors, are most likely to maintain more diligent audit committees. We also document an increased level of meeting activity following the implementation of SOX 2002, suggesting that the attention given to audit committees during that period was a sufficient catalyst for increased audit committee diligence and that establishing minimum meeting requirements may be unnecessary at this time.

As more attention is placed on the regulatory environment surrounding the sphere of corporate governance, the behavior of key governance mechanisms will likely receive ongoing scrutiny. Regulators, including former SEC Chairman Levitt, have expressed disappointment with the lack of audit committee activity and suggest that inactive audit committees are failing to perform their oversight duties. Regulators, therefore, have an incentive to identify characteristics of firms with audit committees that appear to be more diligent so that they can, in turn, better understand and identify firms that fail to perform rigorous oversight of the financial reporting process. The results of our study provide evidence that regulatory influence occurring on the periphery (i.e., greater scrutiny of audit committees from SOX 2002) will likely have an indirect and desired effect on other aspects of governance behavior as indicated by the increased audit committee meeting frequency that followed the implementation of many related, but independent SOX provisions.

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NOTES