

AUDIT COMMITTEE COMPOSITION
AND FINANCIAL REPORTING
PROBLEMS

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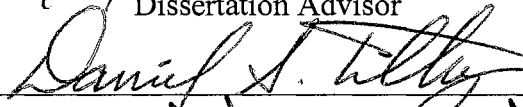
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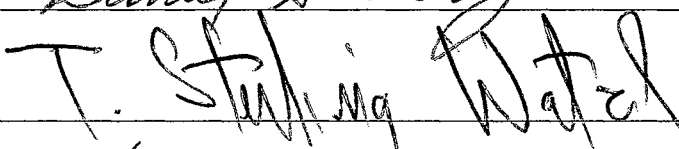
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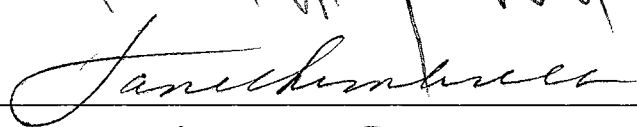
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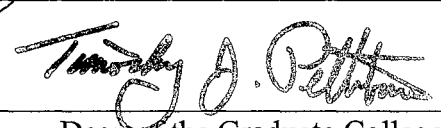


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CHAPTER 1

THE RESEARCH QUESTION

Introduction

For decades regulatory agencies, standard setters, and the accounting profession have increasingly emphasized the importance of the role of audit committees in the financial reporting process. As a result, by 1992 audit committees were mandated for all listed companies and registrants on the New York Stock Exchange (NYSE), the American Stock Exchange (ASE), and the National Association of Securities Dealers (NASD). In recent years, continuance of fraudulent financial reporting, increases in earnings misstatements, unwarranted external auditor changes, and the perceived lack of external auditor independence have elevated the need for responsible financial reporting. Therefore, added attention has been given to the qualifications of audit committees, based on the assumption that audit committees can play a key role in improving the quality and reliability of financial reporting. Thus in 1999, the Blue Ribbon Committee (BRC), sponsored by the NYSE and the NASD, issued *The Report and Recommendations Improving the Effectiveness of Corporate Audit Committees*.

Much of this report emphasizes that an effective audit committee is one that improves the disclosure and transparency of the company's true financial performance by minimizing financial reporting indicators that reflect poor reporting quality such as errors and irregularities. One way the BRC suggests improving audit committee effectiveness

is to ensure that committee directors possess specific characteristics such as independence, accounting and financial technical expertise, commitment to duties and responsibilities, oversight experience with organizations, and knowledge of the firm.

In the wake of recent corporate debacles, Enron and WorldCom, the attention directed towards audit committees has accelerated. Various congressional committees, the Justice Department and the SEC have conducted investigations and have addressed the role of the audit committee in providing more meaningful protection to investors. The Sarbanes-Oxley Act, passed in August 2002, highlights the need for financially literate board members. This Act also stringently defines “independent” board members. Corporate governance rule proposals, reflecting recommendations from the NYSE Corporate Accountability and Listings Standards Committee, submitted by the Exchange to the SEC on August 16, 2002, also tighten the definition of “independent director”. Additionally, these governance rule proposals elaborate on the needed qualifications and expected professionalism of board members. On December 11, 2001, the *Wall Street Journal* published an article, “How to Prevent Future Enrons”, by Harvey L. Pitt, Chairman of the SEC. In this article Chairman Pitt delineated nine key points that would establish a “sensible and workable approach” to preventing Enron type corporate collapses. In one of the nine points Chairman Pitt states: “Audit committees must be proactive...to ensure the quality and integrity of corporate financial reports. Audit committees must understand why critical accounting principles were chosen, how they were applied, and have a basis for believing the end result fairly presents their company’s actual status.”

Although there are clearly many who believe that audit committees can improve the quality of financial reporting (Sarbanes-Oxley Act 2000; NYSE 2002; SEC 1999; Public Oversight Board 2000; BRC 1999; AICPA 1993), whether they actually have made a difference is an important question. Further, whether or not audit committee characteristics improve effectiveness is also a critical issue.

Statement of Research Question

Although there is evidence that audit committees are important (Wild 1996; McMullen 1996) and that members of the audit committee who display the characteristic “independence” improve the financial reporting quality of a firm (Carcello and Neal 2001a, 2001b, 2000; Abbott et al, 2001; Abbott and Parker 2000; Klein 2000), few studies examine the effect of *multiple* audit committee characteristics (e.g. independence, technical expertise, firm specific knowledge, and commitment to responsibilities) on the firm’s financial reporting quality (Neal 1998, Park 1998). Furthermore, Neal [1998] and Park [1998] limit their investigation to a single financial reporting quality indicator, frequency of auditor dismissals and litigation against the external auditor, respectively. Therefore, none of these previous studies measure the effect of *multiple* audit committee characteristics across *multiple* dimensions of financial reporting indicators.

Studying the effect of *multiple* audit committee characteristics on *multiple* measures of financial reporting quality expands the possibilities of unveiling the importance of specific audit committee characteristics in minimizing alternative undesirable financial reporting quality indicators. Therefore, this study examines the effect of the audit committee characteristics: independence, accounting and financial

technical expertise, commitment to duties and responsibilities, oversight experience with organizations, and knowledge of the firm; on the financial reporting quality indicators: fraud litigation, quarterly earnings restatements, auditor changes, and lack of external auditor independence. Thus, the research question addressed in this study is: Do audit committees comprised of specific characteristics improve the financial reporting quality of a firm?

Importance of Research Question

Prior research has provided limited evidence on the significance of certain audit committee characteristics; especially evidence showing that specific audit committee characteristics may reduce the occurrence of a variety of financial reporting indicators that reflect poor reporting quality. The results of this study contribute to accounting literature in several ways. First, the study develops a theoretical relationship between five audit committee characteristics and a profile of four financial reporting quality indicators. Second, this theoretical relationship is empirically tested to determine whether audit committee characteristics improve financial reporting quality by reducing the occurrence of these financial reporting quality indicators. Finally, the results of this study indicate that several audit committee characteristics are significantly associated with multiple reporting quality indicators.

Knowing which audit committee characteristics affect certain financial reporting quality indicators has implications for board members, regulators, and accounting professionals. First, it enables the board of directors to select audit committee members with the optimal mix of characteristics needed to address firm specific reporting

problems. Second, it provides evidence for regulators to further define and refine standards as they relate to audit committee effectiveness. Finally, identifying the characteristics that are important validate the recent recommendations made by the BRC, SEC, Sarbanes-Oxley Act, and the NYSE.

The remainder of this research study consists of four chapters. Chapter two provides a review of the literature related to audit committee research and develops the tested hypotheses. Sample design, description of the empirical model, and, definition of the variables are discussed in Chapter three. The results and sensitivity tests are analyzed in Chapter four. Finally, a summary and implications for future research are discussed in Chapter five.

CHAPTER 2

THEORETICAL FRAMEWORK AND STATEMENT OF HYPOTHESES

Audit Committee Research

Initially, studies evaluated whether the presence or absence of an audit committee had a positive effect on financial reporting quality (Wild 1996, McMullen 1996, Crawford 1987, Jones 1986, Kunitake 1983). Of these five studies, only the two most recent, Wild and McMullen, found evidence supporting audit committee effectiveness. Wild [1996] examined whether the presence of an audit committee enhances a firm's earnings quality. Economic models predict that when earnings reports of higher quality are disclosed to the market the result is greater stock price reactions. Therefore, if the formation of an audit committee enhances a firm's earnings quality, then earnings reports disclosed after formation of the committee are expected to generate greater price reactions than before forming the committee. Wild [1996] found that the market's reaction was more than 20 percent greater, on average, for those firms with audit committees. McMullen [1996] investigated whether audit committees are associated with multiple indicators of financial reporting quality as measured by reduced incidences of shareholder litigation alleging impropriety in financial reporting, quarterly earnings restatements, SEC enforcement actions, illegal acts, and auditor turnover. While she found that audit committees are associated with reduced incidences of these financial reporting indicators, she noted a limitation of the study in that "it does not consider any of the attributes or characteristics

of audit committees that contribute to improving the quality and credibility of the financial reporting process.” This same limitation, mentioned by McMullen, is also true of other studies that evaluate whether audit committees are important.

In subsequent studies, researchers focused on audit committee effectiveness by addressing the relationship between a *single* specific audit committee characteristic and a *single* indicator of financial reporting quality (Carcello and Neal 2001a, 2001b, 2000, Abbott et al 2001, Abbott and Parker 2000, Klein 2000). As noted in Figure 1, all of these studies selected the degree of audit committee independence as the characteristic studied. However, the single measure of financial reporting quality varied from study to study (auditor switching, going concern report, external auditor independence, type of external auditor selected, and earnings management). The message of all the studies is the same: There is a positive relationship between audit committee independence and financial reporting quality. These studies all have the limitation that only one measure of financial reporting quality and one characteristic are studied.

Two studies examine the effect of multiple audit committee characteristics on financial reporting quality (Neal 1998, Park 1998). However, each study uses only a *single* measure of financial reporting quality (frequency of auditor dismissals subsequent to the issuance of a new going-concern modified report and litigation against the external auditor, respectively). Neal [1998] studied three characteristics: audit committee independence, technical knowledge, and commitment to responsibilities. Of the three characteristics, audit committee independence was the only characteristic found to enhance financial reporting quality. However, finding no significance for technical knowledge and commitment to responsibilities is based solely on a *single* dimension of

financial reporting quality, namely, frequency of auditor dismissal. This still leaves the possibility that technical knowledge and commitment to responsibilities could improve financial reporting quality along other dimensions such as earnings restatements, fraud litigation, auditor changes, and external auditor independence. In fact, Park [1998] supports this idea by showing that independence, commitment to responsibilities, and firm specific knowledge are negatively associated with client litigation against outside auditors. The limitation of these two studies is that only one measure of financial reporting quality is examined.

Research thus far has shown that audit committee independence improves the quality of financial reporting along several dimensions. Yet of the five measures of financial reporting quality used by McMullen (1996), the effect of independence has been explored for only three. Furthermore, while Park (1998) has also shown that commitment to responsibilities and firm specific knowledge are important in the context of client litigation against external auditors, their importance for other financial reporting quality dimensions has yet to be established empirically. Also, there may be additional characteristics that not only reduce the likelihood of litigation against external auditors but also improve financial reporting quality along various other dimensions, such as, fraud litigation, earnings misstatements, auditor switching, and external auditor independence. It is particularly important to examine the effect of *multiple* characteristics on *multiple* dimensions of financial reporting quality because the results will yield well defined measures of quality. Knowing which characteristics affect certain indicators of financial reporting quality is important because 1) it enables the board of directors to select the members of the audit committee with the right mix of

characteristics needed to address firm-specific reporting problems, and 2) it provides evidence for regulators to further define and refine standards as they relate to audit committee effectiveness.

The comprehensive analysis of this study explores the effect of multiple audit committee characteristics on multiple measures of financial reporting quality. This study examines the effect of audit committee characteristics (independence, technical expertise, commitment to duties and responsibilities, oversight experience with organizations, and knowledge of the firm) on the financial reporting quality indicators: fraud litigation, quarterly earnings restatements, external auditor changes, and lack of external auditor independence. This comprehensive analysis further identifies audit committee characteristics that truly matter for specific financial reporting quality indicators.

FIGURE 1

**Audit Committee Characteristics Studied Across
Financial Reporting Quality Indicators**

	Litigation Against Auditor	Auditor Switch	Going Concern Report	External Auditor Independence	Earnings Management	Type of Auditor Selected
Independence	Park (1998)	Carcello & Neal (2001a) Neal (1998)	Carcello & Neal (2000) Carcello & Neal (2001b)	Abbott et al (2001)	Klein (2000a)	Abbott & Parker (2000)
Technical Knowledge	Park (1998)*	Neal (1998)*				
Time Commitment	Park (1998)	Neal (1998)*				
Knowledge of the Firm	Park (1998)					

* Not Significant

Financial Reporting Quality Indicators

Disclosure and transparency of a firm's financial reporting process provide a guarantee of genuine or high quality information available to investors. Transparency means that the result of *all* material and significant transactions are recorded, available to, and clearly discernable for *all* shareholders. That is, transparency allows "every shareholder to know what every other shareholder knows" (Gleckman 2002).

In recent studies, accounting researchers have identified several financial reporting indicators that reduce the transparency of the firm's financial reporting. Some of these indicators are measured as fraudulent financial reporting, quarterly earnings restatements due to material reporting errors, external auditor changes, and lack of external auditor independence (Beasley 1996, McMullen 1996, Abbott & Parker 2000, Abbott et al 2001). During the last decade increased occurrences of these types of reporting indicators have been a major concern to regulators, accounting professionals, investors, and creditors.

SAS 82 defines both fraudulent financial reporting and material errors.

Fraudulent financial reporting is the intentional misstatement or omission of amounts or disclosures in the financial statements by management. Fraud is sometimes committed by management as a means to strengthen the firm's earnings, usually by overstating revenues and / or understating expenses (Beasley 1996). For example, management may purposely recognize fictitious sales or fail to write off obsolescent inventory in order to increase reported earnings. On the other hand, a material error in financial reporting is the unintentional misstatement of amounts or disclosures in the financial statements. Examples of errors include miscalculations, perhaps by extending incorrect prices or

quantities, in computing sales or mistakenly overlooking old materials when valuing inventory at lower of cost or market. When such errors occur, financial statements that have already been released to and relied upon by the public must be corrected.

According to the results from current research studies, the number of earnings restatements for public companies has drastically increased (Nussbaum 2002, Wu 2001). Evidence provided in a study by Wu [2001] shows that for companies listed on Lexis Nexus and the Dow Jones Interactive, there has been a marked increase in restatements from 1998 through 2000. Wu notes that the number of restatements in 1998, 1999, and 2000 totaled 91, 150, and 156 respectively. In contrast, during the period 1990 through 1997 the average number of earnings restatements per year was forty-nine. Wu indicates that these restatement increases are mainly due to changes in enforcements and review policies by the SEC (e.g. requiring that previously immaterial items be restated) and the influence of Levitt's earnings management speech in 1998 which led companies to voluntarily restate past results rather than correct on a go forward basis. Investor losses from such restatements have skyrocketed. According to Lynn Turner, former chief accountant for the SEC, in the past six years investors have lost close to \$200 billion in earnings restatements. Clearly both fraudulent financial reporting and material errors in the financial statements reduce reporting quality by distorting the true financial position of the firm.

Unnecessary changing of external auditors by companies has raised concern among accountants as well as regulators. It has been shown that unwarranted changes in the auditor are an attempt for management to shop for a new auditor that will agree with their financial reporting and / or disclosure decisions (Lennox 2002, McMullen 1996). In

an effort to stop firms from auditor shopping, as of 1971, the SEC requires that public companies report changes in external auditors and disclose any auditor-related disagreements as a result of the change in an 8-K filing. Such disagreements should include any difference of opinion regarding accounting principles or practices, financial statement disclosure, or auditing scope and procedures. As of 1989, SEC Financial Reporting Release No. 34 requires the auditors to also specify why they resigned from a client. If the current auditors are terminated because of an accounting related disagreement between them and management, it is less likely that the financial statements will reflect the appropriate results of operations. For instance, if there is a disagreement concerning an accounting principle that will materially affect reported earnings, the new auditors will more than likely side with the client and not disclose the disputed amount. In these types of cases, where independence of the external auditor is suspect, it is highly probable that the resulting financial statements will not be transparent.

With accounting firms offering new services (e.g. consulting) to audit clients, financial statement users have voiced the concern that the AICPA's code of professional conduct and the SEC's independent regulations are not adequate in addressing external auditor independence. In response to users uneasiness regarding auditor independence, many companies have reevaluated their dealings with the public accounting firm that provides them with professional services. For example, Michael Eisner, Disney Chairman and Chief Executive, recently announced that Walt Disney Co. will no longer purchase consulting services from the same accounting firm that audits its books.

As a result of the growing public debate over auditing standards, during 1998 through 2000 the Independence Standards Board (ISB), BRC, and the SEC have revisited

auditor independence regulations. In January 1999 the ISB, established by the AICPA and SEC, issued ISB Standard No. 1 “Independence Discussions with Audit Committees”. This standard requires that the outside auditor of a public company disclose in writing to the company’s audit committee all relationships with the company that could affect the auditor’s independence; confirm its view that it is independent; and discuss such matters with the audit committee. In “Improving the Effectiveness of Corporate Audit Committees”, issued in February 1999, the BRC concurred with the ISB by recommending that the audit committee review all auditor-client economic relationships to determine their impact on the objectivity of the auditors’ work. By November 2000, the SEC adopted rule amendments regarding auditor independence. A portion of this new rule states that the external auditor must be independent in appearance. This means that the auditor must be “capable of exercising objective and impartial judgment on all issues encompassed within his engagement” (SEC 2000). That is, there should exist no relationships between the auditor and the audit client (e.g. investments by audit firm personnel and their families in audit clients) that will hinder the auditor’s objectivity. This rule also requires, effective February 5, 2001, that professional fees received for audit information technology, and all other professional services offered by accounting firms be disclosed in the client’s proxy statements. In addition, the SEC rule required the client to state whether the audit committee considered the compatibility on non-audit services with the maintenance of the auditor’s independence.

The SEC’s new rule does not ban any non-audit services that the auditors provide to audit clients. However, the Sarbanes-Oxley Act of 2002 does consider it “unlawful” for registered public accounting firms to provide any non-audit services to a client

contemporaneously with the audit. In either case, the recent Enron scandal has raised questions as to whether audit firms that derive a significant percentage of their fees from non-audit services are truly objective when performing audit services for these same clients. In the situation with Enron, approximately 52 percent of the fees earned by the public accounting firm were for non-audit services. Providing this magnitude of the consulting services required that a significant number of the accounting firm's personnel remain housed at Enron year round. One may ponder: Were the external auditors truly independent in appearance? Is this type of environment a breeding ground for conflicts of interest between accounting firms and the companies they audit? Researchers have studied whether external auditors providing, to their audit clients, a significant amount of non-audit services relative to audit services may lessen the perceived independence of the external auditor (Abbott et al 2001, Firth 1997, Parkash and Venable 1993). Using the ratio of specific non-audit service fees to audit fees as a proxy for auditor independence, these researchers found that firms tend to adjust the level of non audit services purchased from their external auditor so as to minimize the perception of non-auditor independence. Results of another study, by Abbott et al [2001], indicate that audit committee members who are independent and active monitors (meet at least four times annually) of a firm's reporting process also strive to increase the perception of auditor independence by limiting non-audit services provided by the external auditor.

The Enron collapse, the WorldCom scandal, and the fraudulent acts by Waste Management, to name a few, calls into question a variety of aggressive accounting techniques, both legal and illegal, used by an increasing number of previously respected corporations. Fraudulent financial reporting, minimal disclosures, and repeated earnings

restatements by firms have made it difficult for financial statement users to discern the actual earnings of a firm. In addition, unwarranted auditor changes and the perceived lack of auditor independence have also undermined investor confidence in the financial reporting of the firm. Given these challenges, regulators and accounting professionals believe that the audit committee can be used as a vital mechanism to curb these types of poor financial reporting indicators and thus improve a firm's disclosure and transparency.

Role of the Audit Committee

The audit committee is one of the subcommittees of the board of directors. The board of directors is responsible for protecting and promoting the interests of the stockholders, serving as their representatives in establishing corporate policies, and monitoring senior management adherence to these policies (Braiotta 1999). In general, firm policies are developed to address general business practices, accounting disclosures, ethical issues, and fraud. Financial accounting policies are designed to ensure that the results of the financial reporting process provide trustworthy and candid reporting. The audit committee has the special charge of monitoring accounting policies and other practices that may affect the accuracy and transparency of financial accounting disclosures.

The audit committee is comprised of outside board members who are preferably not actively involved in the day-to-day operations of the firm. There are three broad areas of oversight that fall within the audit committee's domain of responsibility. First, the audit committee is responsible for planning the external audit function. This planning process entails selecting the external auditors and ensuring their independence from the

firm, reviewing and consolidating the audit plans of the internal and external auditing groups, and annually appraising the overall audit plan. Next, the audit committee ensures that the planning function is accomplished and that management has complied with firm policies and practices by performing the monitoring function. Committee members monitor both the external and internal auditing functions, financial reporting disclosures, fraud audit activities, and accounting disagreements between senior management and the independent auditors. Finally, the audit committee serves as a channel of communication by reporting to the board of directors the results of the planning and monitoring functions. This involves the committee disclosing to the board: reports of the independent and internal auditors (e.g. auditors' opinion of the system of internal control), reports of legal counsel with respect to significant commitments, contingencies, and government compliance, and reports of any special investigations concerning the review of the firm's financial affairs such as, political contributions (National Commission on Fraudulent Financial Reporting 1987, Braiotta 1999, SEC 1999, BRC 1999).

Given the breadth and depth of audit committee responsibilities, this committee can clearly play a vital role in heightening the quality of a firm's financial reporting process. This is true as long as committee members have the necessary qualifications for effectively carrying out their duties. Such qualifications should enable committee directors to quickly note, during the oversight process, any firm and / or auditor deficiencies and to take immediate corrective action. Recently, regulators and accounting professionals have identified qualities (independence and commitment to responsibilities) that they believe are necessary for audit committee directors to have in order for the

committee, as a whole, to effectively carry out its responsibilities. Whether or not audit committee members, who possess these characteristics, improve the financial reporting quality of a firm is of utmost interest to regulators and accounting professionals. This research study investigates whether the quality of a firm's financial reporting process can be improved by audit committee directors who possess the characteristics: independence, technical expertise, commitment to responsibilities, oversight experience, and knowledge of the firm.

Development of Hypotheses

For the past decade the SEC has increased its focus on the audit committee's qualifications, outside auditor independence, and the need for both groups to ensure transparent disclosure of a firm's financial reporting process. In a 2002 public statement, SEC chairman Harvey Pitt stated, "We have called for plain English financial statements. Corporate governance issues and the role of audit committees are also in need of review." In a subsequent statement, Pitt highlighted that one systemic problem exposed by the Enron collapse is that "audit committees often do not understand the accounting principles employed by management, or the consequences of using different principles or different assumptions." Pitt's predecessor, Arthur Levitt [1998], noted "qualified, committed, independent and tough-minded audit committees represent the most reliable guardians of the public interest." Levitt also believed that independent and objective outside auditors play a key role in providing reliable financial statements. As a result, Levitt proposed a two-fold solution for increasing transparent disclosure: 1) strengthen the audit committee process and 2) improve outside auditing.

In response to Levitt's proposal to strengthen the audit committee process, the BRC formed by the NYSE and the NASD, delineated recommendations on how to improve the effectiveness of corporate audit committees. A key suggestion made by the BRC is that major United States securities exchanges and the SEC require that audit committees be comprised solely of independent directors. Additional attributes that the BRC considers particularly important for audit committee directorships are certain "core competencies" such as financial literacy, experience with organizations, a significant degree of commitment to the company and its board, and ongoing education as to the company's business and environment and topical issues (BRC p. 21).

In this study, financial reporting quality is defined by a vector or profile of four financial reporting quality problems or indicators: fraud litigation, quarterly earnings restatements, external auditor changes, and the lack of external auditor independence. The presence or absence of a reporting quality problem is used as a measure. If any one measure decreases then the overall reporting quality of a firm increases. If an audit committee characteristic improves at least one of the financial reporting quality indicators, then the importance of the committee characteristic is established. Some studies may have failed to establish importance for a single characteristic because this characteristic was evaluated for only a single financial reporting quality indicator. Thus, analyzing the effect of multiple audit committee characteristics across multiple dimensions of financial reporting quality indicators will result in a better assessment of characteristic value. Each of the following hypotheses shows the effect of an audit committee characteristic on financial reporting quality.

Independence of the Audit Committee Directors

Independence of audit committee directors has been evaluated in many research studies (Carcello and Neal 2001a, 2001b, 2000; Abbott et al 2001; Abbott and Parker 2000; Klein 2000, Neal 1998, Park 1998). These studies provide evidence that independent¹ audit committee directors improve the quality of the firm's financial reporting process. However, the measure of an independent audit committee varies among these studies. Klein [2000] measures independence as an audit committee comprised of a majority, fifty-one percent or more, of directors independent from management. Most studies measure the independence of committee directors as the percentage or proportion of independent directors on the audit committee (Carcello and Neal 2001a, 2001b, 2000; Abbott et al 2001; Abbott and Parker 2000; Neal 1998; Park 1998). In this study, independence will be measured as the proportion of independent² audit committee directors on the committee. Therefore, the first hypothesis is stated as:

H₁: Financial reporting quality will increase for firms as the proportion of independent audit committee directors increases.

¹ Abbott et al [2001]; Abbott and Parker [2000]; Klein [2000]; Neal [1998]; and Park [1998] define an independent director as one who is not an officer or employee of the firm nor an officer of an affiliate company. Whereas Carcello and Neal [2001a, 2001b, 2000]; and Neal [1998] define an independent director as one who is not: a current employee of the firm, former officer or employee of the firm or related entity, a relative of management, a professional advisor to the firm, an officer of significant suppliers or customers of the firm, and/or an interlocking director.

² An independent director is defined in this study as one who is not: a current employee of the firm, former officer or employee of the firm or related entity, a relative of management, professional advisors to the firm, officers of significant suppliers or customers of the firm, interlocking directors, and/or one who has no significant (e.g. greater than \$60,000) transactions with the firm. This is a more stringent definition than Carcello and [Neal 2001a, 2001b, 2000]; and Neal [1998].

Technical Expertise of the Audit Committee

According to the BRC [1999], financial literacy “signifies the ability to read and understand fundamental financial statements...a company’s balance sheet, income statement and cash flow statement.” The BRC report also indicates that the audit committee should have at least one committee member with accounting and/or related financial management expertise—“where ‘expertise’ signifies past employment experience in finance or accounting, requisite professional certification in accounting or any other comparable experience or background... including having been a... senior officer with financial oversight responsibilities.”

Few studies have evaluated the technical expertise of the audit committee (Neal 1998 and Park 1998). Neal [1998] measures the technical expertise of audit committee members as the percentage of directors who are either certified public accountants (CPA) or chief financial officers (CFO). However, Park [1998] measures the technical expertise of audit committee members as directors who are CPAs, Controllers, Treasurers, and Internal Auditors. Although significant results were not obtained from these two studies, the recent Sarbanes-Oxley Act of 2002, which emphasizes the need for audit committee members with financial expertise, establishes the importance of evaluating this characteristic. For instance, this Act requires that the board have five financially literate members for five-year terms. The Act also states that two of the members must be or have been certified public accountants. For purposes of this study, audit committee

members who have experience as either a CPA or CFO will be considered to have accounting and financial technical expertise. Thus, this hypothesis is stated as:

H₂: Financial reporting quality will increase for firms as the proportion of audit committee members with accounting and financial technical expertise increases.

Commitment Level of the Audit Committee to Responsibilities

The audit committee's commitment to its responsibilities is defined by the BRC as committee directors who have "adequate time for meeting preparation and near perfect attendance." Park [1998] concluded that firms whose audit committees meet more frequently are more effective as monitors. He found that firms that meet more frequently tend to have a fewer number of audit failures and subsequently less litigations against their auditor. In this study, the commitment level of the audit committee to its responsibilities will be analyzed based on the number of audit committee meetings held during the firm's reporting year. This hypothesis is formally stated as:

H₃: Financial reporting quality will increase for firms as the average number of audit committee meetings increases during the firm's reporting year.

Oversight Experience of Audit Committee Directors

Results from a survey administered by Dezoort [1997] indicate that audit committee directors recognize the need for all audit committee members to have sufficient expertise in oversight areas relating to accounting, auditing and law. However,

some respondents agreed that they lacked sufficient expertise in many or all of these areas. In a subsequent study, Dezoort [1998] found that experienced audit committee members make more consistent judgments, have higher self-insight, and higher consensus than do members without experience. He measured oversight experience as the amount of time spent working in areas related to assigned corporate oversight responsibilities such as, auditing (internal control evaluation) experience. By extension, audit committee members with a broad base of director experience would be able to anticipate and assist companies in avoiding financial reporting difficulties. Therefore, in this study, board oversight experience will be measured as the average number of boards on which audit committee members have served. Thus, the fourth hypothesis is formulated:

H₄: Financial reporting quality will increase for firms as the average number of boards on which audit committee directors have served increases.

Audit Committee Director Knowledge of the Firm

Hermalin and Weisbach [1991] found that outside directors, who acquire firm specific knowledge over time, tend to improve firm performance. Using Tobin's q^3 as a measure of profitability, the authors noted that firms whose boards served longer average tenures tended to be more profitable. The authors also verified this finding by using an earnings based measure, earnings before interest and taxes, of profitability. Park [1998] extended Hermalin and Weisbach's line of reasoning to audit committee directors. Park determined that the longer audit committee directors served on the board of directors, the less likely a firm's audit engagement will result in subsequent client litigation against the

³ Tobin's q is computed as the ratio of the firm's market value to replacement cost of its assets.

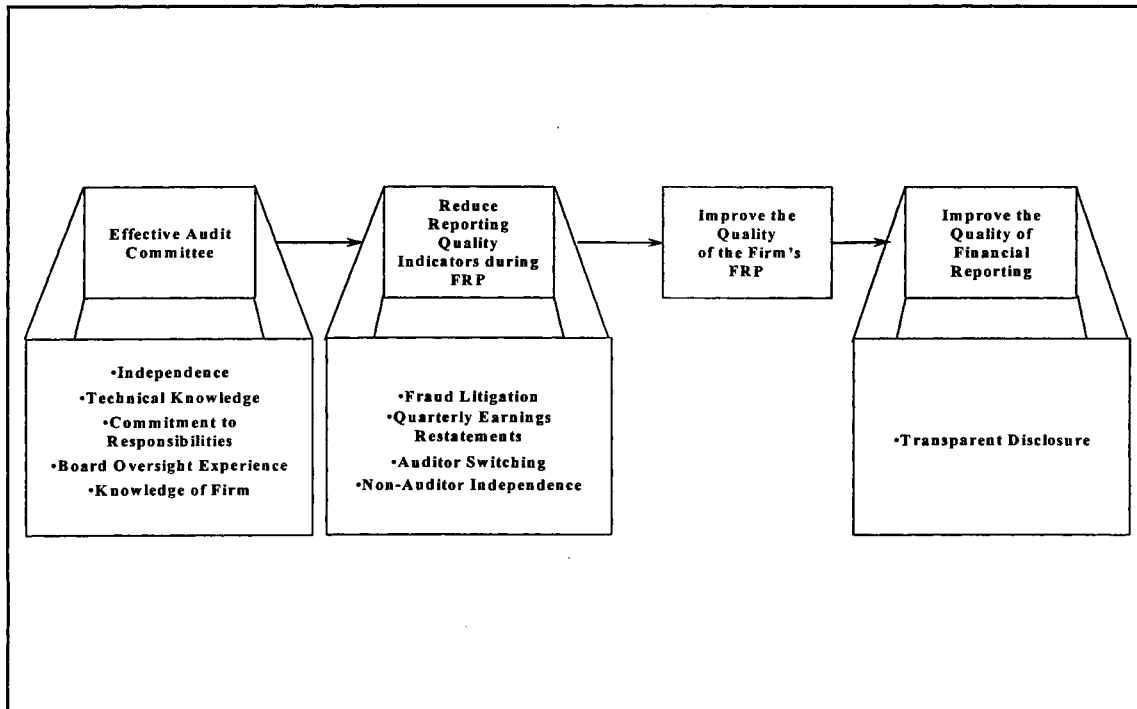
auditor. These findings imply that audit committee members with longer firm specific tenure tend to accumulate knowledge about the firm and thus may be better able to monitor and improve a firm's reporting quality. Therefore, the fifth hypothesis is:

H₅: Financial reporting quality will increase for firms as the average number of years an audit committee member serves on the current board of directors and /or works with the firm increases.

In summary, this research study proposes that the professional characteristics of each audit committee director influence the effectiveness of the entire audit committee. In turn, the composition of the audit committee has an impact on the quality of the financial reporting process of the firm. Figure 2 provides a detail model of this relationship.

FIGURE 2

The Impact of Audit Committee Characteristics on the Firm's Financial Reporting Process (FRP)



CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

Sample Design

A cross sectional analysis is performed on firms to examine the association between the five audit committee characteristics: independence, technical expertise, time commitment to duties and responsibilities, oversight experience with organizations, and knowledge of the firm; and the four financial reporting quality indicators: fraud litigation, quarterly earnings restatements, auditor changes, and lack of external auditor independence.

First, an analysis of the audit committee characteristics is performed on firms with and firms without each of the financial reporting quality indicators: fraud litigation, quarterly earnings restatements, and auditor changes. The matched sampling approach for this study involves identifying two populations. Samples from firms listed on the NYSE, ASE, and NASD were selected from each population for the period covering 1993 to 2001. By 1992 audit committees were mandated⁴ for all listed companies and registrants on these three major stock exchanges. It was also required that firms disclose in their proxy statements pertinent information about the audit committee directors, such as, the name of the committee member and their relationship to the firm, the professional

⁴ Since 1978, the NYSE has required audit committees for all of its listed companies. The ASE has required audit committees for its listed companies since 1992. The NASDAQ has required audit committees for all registrants in the National Market System (NMS) since 1989.

experience of the director, and the number of committee meetings held during the reporting year. Therefore, the year 1993 was chosen as an initial year for collecting audit committee and financial statement data. In all cases pertaining to this study, a review was performed to ensure that firms exhibiting only one financial reporting quality indicator were included in each sample. A sample composed of solely one quality indicator would furnish better information regarding the association between audit committee director characteristics and the particular financial reporting quality indicator.

A comparison sample was developed by matching each firm possessing a financial reporting quality indicator (e.g. fraud) with a firm without the financial reporting quality indicator (e.g. no-fraud). Research Insight COMPUSTAT Database was used to select firms for the comparison sample. The matching criteria included firm size, industry, and time period. Information pertaining to the comparison firm was chosen during the same year that proxy and financial statement data were obtained for each reporting quality indicator firm. Firm size was measured based on the net sales, recorded for the years corresponding with the proxy and financial statement data, for each particular firm. A two-digit Standard Industrial Classification (SIC) Code was used to match firms by industry.

Finally, an analysis is performed on firms to examine the association between the five audit committee characteristics and the financial reporting quality indicator, lack of external auditor independence. New SEC rules require registrants on the major stock exchanges to disclose in their proxy statements professional fees incurred for audit, information technology, and other non-audit services. These disclosures were required for proxy statements filed on or after February 5, 2001.

Sample Selection and Data Collection

Firms experiencing fraud litigation were selected from the SEC Accounting and Auditing Enforcement Releases (AAERs) on the Edgar Database. The AAERs, which are included in the SEC litigation releases, indicate the nature and year of the specific fraud. A firm is included in the fraud sample if the SEC indicates that management violated Rule 10(b)-5 of the Securities Exchange Act of 1934. According to this Act, Rule 10(b)-5, is violated if the *intent* to deceive or defraud by management is evident. A firm is also included in the sample if the corresponding proxy and financial statement data filed with the SEC in the fiscal year preceding the initial occurrence of management fraud is available. The proxy and financial statement data was hand collected from the 10K Wizard Database. 10K Wizard presents the original SEC filings in a more user friendly format. The year in which the fraud event occurred and the nature of the fraud litigation was verified for each firm by examining the SEC 10-K filings. In many cases, the actual discovery of the fraud event is identified several years subsequent to the year in which the event occurred. Therefore, it was possible to obtain firms for the sample that committed fraudulent acts from 1993 to 2001. For purposes of this study the “event year” is defined as the year in which the fraudulent act is included in the financial statements.

As shown in Table 1, fifty fraud firms were obtained from a review of the 1995 – 2002 AAERs. Of the 280 AAERs perused, 126 AAERs are excluded because these relate to public companies, foreign companies and companies with less than \$10 million in assets and 500 shareholders. These types of companies are not required, by the SEC to file annual and quarterly reports. Seventy-two AAERs are not included in the sample

TABLE 1
SELECTION OF FRAUD FIRMS

Total Accounting and Auditing Enforcement Releases (AAERs) 1995 – 2002	280
Criteria for exclusion:	
AAERs related to firms with no available proxy or financial statement data (e.g. small cap firms not required to file proxy statement information)	(126)
AAERs outside of the test period (e.g. fraud occurrences before 1993)	(72)
AAERs related to previously issued AAERs or duplicate AAERs	(15)
AAERs related to firms with other financial reporting quality indicators (e.g. quarterly earnings restatements)	(10)
AAERs related to regulated industries	(7)
Total fraud firms included in sample	50

because they are related to fraud occurrences prior to the test period for this study and fifteen AAERs were excluded because they were either duplicates or extensions of previously issued AAERs. Ten AAERs are not included in the sample because the firms affected by these enforcement releases also encountered other financial reporting quality indicators namely, auditor changes and quarterly earnings restatements. Finally, seven AAERs are excluded from the sample because they are associated with regulated industries, such as financial institutions and insurance companies. Exclusion of these types of institution is justifiable because the regulatory environment, like the audit committee, is also considered a third party monitor (Fama and Jensen 1983b).

The second sample consists of 50 firms that corrected previously reported quarterly earnings for the years 1993 – 2001. These firms were identified by searching the 10K Wizard database for firms that encountered “error and restatement.” As shown in Table 2, there are 304 cites for “error and restatement.” One-hundred and eight cites were excluded because they relate to small businesses not required to disclose audit committee information in their proxy statements. Seventy-two cites are not included in the sample because they relate to covenant agreements not earnings restatements. Forty-two cites accounted for firms categorized as regulated industries and were therefore not included in the sample. Twenty-three cites relate to firms not listed on the NYSE, ASE, or the NASD. Therefore, these cites were excluded because audit committee disclosure information was unavailable for these firms. Finally, nine cites are excluded from the sample because these firms experienced other financial reporting quality indicators, namely, auditor changes and fraudulent acts. The nature and year of the earnings restatement was verified for each firm by examining the firm’s 10-Q/A SEC filing.

TABLE 2

SELECTION OF EARNINGS RESTATEMENT FIRMS

Total "error and restatement" cites 1994 – 2002	304
Criteria for exclusion:	
Cites related to firms with no available proxy or financial statement data (e.g. small cap firms not required to file proxy statement information)	(108)
Cites not related to earnings restatements (e.g. covenants)	(72)
Cites related to regulated industries	(42)
Cites related to firms not listed on the NYSE, ASE, or NASD	(23)
Cites related to firms with other financial reporting quality indicators (e.g. fraud and auditor changes)	(9)
Total earnings restatement firms included in the sample	50

Auditor-Trak⁵, a comprehensive database of auditor changes, provides user friendly information gleaned from SEC 8-K filings. This database summarizes all auditor changes by year and reasons for the change. Four categories of reasons for auditor changes were chosen for selecting the sample firms. These categories include accounting disagreements between management and the external auditor, auditor resignations from the audit engagement due to independence issues or personal reasons, audit fee disputes between management and the external auditor, and receipt of a qualified audit opinion by the firm. All of these reasons imply the existence of accounting disagreements between management and the external auditor. Results from a study by Knapp [1987] indicate that when accounting related disagreements arise between management and the auditor, the audit committee members tend to support the external auditor instead of management. Given these results, external auditor changes for the above reasons are an appropriate measure for this study.

Table 3 shows that fifty-nine auditor change firms were included in the third sample. Thirty-eight firms changed auditors due to accounting disagreements between management and the external auditor. In seventeen cases the external auditors resigned from the firm because of no longer wanting SEC work, independence issues, or for personal reasons. Finally, two firms changed auditors because of fee disputes and three firms changed due to receipt of a qualified audit opinion. Of the 170 firms that changed auditors, 110 firms were excluded because these companies were not required to file annual and quarterly reports with the SEC. Only one firm was excluded because it experienced another financial reporting quality indicator, namely, quarterly earnings restatements.

⁵ Auditor Trak is developed and licensed by Stafford Publications, Inc., www.staffordpub.com

TABLE 3**SELECTION OF AUDITOR CHANGE FIRMS**

	Accounting Disagreement	Auditor Resigned	Fee Dispute	Qualified Audit Opinion	Total
Total Auditor Change Firms 1993 - 2001	99	33	31	7	170
Less:					
Firms with no proxy or financial statement data	(61)	(17)	(29)	(3)	(110)
Firms with other financial reporting quality indicators	0	0	0	(1)	(1)
Total auditor change firms included in sample	38	16	2	3	59

In choosing the firms for the “lack of external auditor independence” sample, seventy firms were randomly selected from the companies listed on the Research Insight COMPUSTAT Database for the period February 5, 2001 through December 31, 2001. Using two-digit SIC codes, companies for this sample were selected from the same industries that the previous three samples, fraud, earnings restatements, and auditor changes, were selected from. Of the seventy firms chosen, one firm was a small company. Since audit committee disclosure is not required for these companies, this firm was excluded from the sample, leaving a total sample of 69 firms.

The Model and Definition of Variables

First, a logistical (logit) cross-sectional multiple regression analysis is used to estimate the coefficients for each audit committee characteristic as it relates to three types of financial reporting quality indicators (*FRQI*): fraud, earnings restatements, and auditor changes. Logit regression is used because the dependent variable *FRQI*, represented by 1 or 0, is dichotomous (e.g. earnings restatement or no earnings restatement). From this dichotomous value, the model predicts its estimate of the probability that the *FRQI* will or will not occur. This estimation will be calculated on a choice-based sample where 50 percent of the firms have encountered the *FRQI* and 50 percent have not encountered the *FRQI*. It is likely that the true rate of a firm’s experiencing a *FRQI* is less than 50 percent. As a result, the one to one matching process proposed in this study results in disproportionate sampling from two populations.

According to Maddala [1991], only the constant term is affected by disproportionate sampling rates from two groups. A biased constant term would only

need to be corrected if the logit analysis is used to obtain parameter estimates for developing a predictive model. Since the objective of this study is to determine whether an association between each *FRQI* and audit committee characteristic exists, a biased constant term will not affect this proposed logit regression analysis.

Finally, a cross sectional multiple regression analysis is performed in order to estimate the coefficients for each audit committee characteristic as it relates to the *FRQI*, lack of external auditor independence. Regression is used because the dependent variable *FRQI*, represented by the ratio of non-audit fees to total audit fees is continuous. From this continuous variable the model predicts the level of external auditor independence given information about specific audit committee characteristics.

Two important assumptions underlying the multiple regression analysis are: 1) the sample data corresponds to a normal distribution - normality and 2) the dependent variable, ratio of non-audit fees to total audit fees, exhibits equal levels of variance across the range predictor variables (e.g. audit committee characteristics) - homoscedasticity. The audit fee data was tested for normality and homoscedasticity. The normal probability plot indicated that the data was negatively skewed. Three different transformation methods were used on the data: the inverse, natural logarithms, and a square root transformation. The natural logarithm generated the most normal probability plot.

Three separate logit models were used to estimate the coefficients for each *FRQI*. The following logit cross-sectional multiple regression model was used to test the four hypothesized relationships between audit committee member composition and the

occurrence of each *FRQI*. Table 4 summarizes the definition of each variable used in this model.

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

Where:

$$i = 1, 2, 3, 4$$

$FRQI_{i=1,2,3}$ = The financial reporting quality indicator: fraud litigation, quarterly earnings restatements, or auditor changes. This dummy variable will show a value of one when a firm encounters the *FRQI* or a value of zero otherwise.

$FRQI_{i=4}$ = The financial reporting quality indicator, lack of external auditor independence. This continuous variable is the ratio of non-audit service fees to total audit fees.

INDP = The proportion of independent audit committee members on the committee.

TECH = The proportion of audit committee members on the committee with accounting and financial technical knowledge. This dummy variable will have a value of one when an audit committee member has technical knowledge or a value of zero otherwise.

MEET = The average number of audit committee meetings held during the firm's reporting year.

BEXP = The average number of boards of directors audit committee members have served on.

- KNOW* = The average number of years audit committee members have served on the current board of directors and/or with the particular firm.
- GROWTH* = The average percentage change in total assets for two years ending before the occurrence of the financial reporting quality indicator.
- SIZE* = The natural logarithm of the book value of total assets.
- AUDIT* = the size of the external audit firm. This dummy variable will show a value of one when a firm is audited by a big five (six) auditing firm or a value of zero otherwise.
- ε = error term

Other firm specific attributes may impact the relationship between audit committee characteristics and *FRQIs*. Based on a review of the audit committee literature, the most significant variables applicable to this type of study are earnings growth performance, firm size, and size the of the external audit firm. These three variables are included in the model as control variables.

In the last decade as stock market valuations have increased, managers have become more cognizant of the relationship between stock prices, especially those related to stock based compensation, and earnings. This heightened awareness of the relationship between stock prices and earnings has increased manager incentives to manage earnings in order to maintain and improve stock market valuations (Dechow and Skinner 2000). Skinner and Sloan [2000] indicate that when firms with growth stocks report small earnings disappointments, relative to analyst forecasts, disproportionately large stock price declines occur. Therefore, knowing the effects of earnings reports on

the market, managers tend to manage earnings so as to avoid losses and earnings declines that fail to meet analysts' expectations (Degeorge et al. 1999).

Other studies show that a firm's growth in earnings is associated with the quality of the firm's financial reporting. Both McMullen [1996] and Defond and Jiambalvo [1991] provide evidence that firms that restate earnings have lower growth than firms without earnings corrections. These studies infer that managers of firms with lower than anticipated earnings are more likely to manipulate earnings to increase income. Therefore, a positive relationship between *FRQIs* and firm growth is expected. In this study *GROWTH* is measured as the average percentage change in total assets for two years ending before the occurrence of the financial reporting quality indicator.

Prior studies show that firm size is a significant determinant of reporting quality. Kinney and McDaniel [1989] indicate that larger firms tend to have better internal controls and therefore increased reporting quality. Firm size may impact financial reporting quality for various other reasons. For example, due to economies of scale, large firms tend to have more and better resources for hiring qualified financial accounting employees and maintaining information systems. Alternatively, recent events (e.g. Enron and WorldCom scandals) infer that firms may become so large that management may experience a breakdown in internal control. Therefore, a directional effect for this variable is not predicted. Firm size (*SIZE*) is measured as the natural logarithm of the book value of total assets.

Existing research points to big eight⁶ firms as quality differentiated auditors (Knapp 1987, Palmrose 1987, 1988). Knapp [1987] determined that when audited firms

⁶ Currently these firms are considered the Big 4 Accounting Firms. However, the Big 6 Accounting Firms are addressed in this study, unless noted otherwise.

are in a poor financial condition and major disputes between management and the external auditor exists, audit committee members are more likely to support a big eight auditor. This is true especially when the disputed issue relates to objective technical standards, such as the materiality of a financial statement amount. Palmrose [1988] shows that big eight firms, as a group, provide higher quality audit services than non-big eight firms. However, recent world events infer that large audit firms may tend to succumb to the wishes of management. This may be especially true when external auditor independence is threatened, possibly due to the volume of services (e.g. consulting) provided to the client by the auditor. Given these alternative viewpoints, there is no directional prediction for this variable. The dummy variable *AUDIT* will show a value of one when a firm is audited by a big five firm or a value of zero otherwise.

TABLE 4

Definition of Dependent, Independent and Control Variables

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

<u>Variable Name</u>	<u>Description</u>
Dependent Variables	
<i>FRQI_{i=1, 2, 3}</i>	Financial Reporting Quality Indicator = Fraud Litigation, Quarterly Earnings Restatements, or Auditor Changes 1 = <i>FRQI</i> , 0 otherwise.
<i>FRQI_{i=4}</i>	Financial Reporting Quality Indicator = Lack of Auditor Independence The ratio of non-audit services fees to total audit fees
Independent Variables	
<i>INDP</i>	Independent audit committee member. The proportion of independent directors on the audit committee.
<i>TECH</i>	Technical Expertise. Technical expertise of audit committee member. 1 = member is a CPA or CFO, 0 otherwise.
<i>MEET</i>	Commitment to responsibilities. Average number of audit committee meetings held during the reporting year.
<i>BEXP</i>	Oversight experience of audit committee member. Average number of boards of directors on which audit committee members have served.
<i>KNOW</i>	Knowledge of the firm. The average number of years an audit committee member has served on the current board of directors and/or worked with the company.
Control Variables	
<i>EARN</i>	Earnings growth. The average percentage change in total assets for two years ending before the occurrence of the Financial Reporting Quality Indicator (<i>FRQI</i>).
<i>SIZE</i>	Firm size. The natural logarithm of the company's book value of total assets.
<i>AUDIT</i>	Size of external audit firm. 1 = Big 6 audit firm, 0 otherwise.

Test of Hypotheses

Table 5 summarizes the predicted relationship between the dependent and independent variables. This table also describes the relationship between the dependent and control variables and links all of the variables with the five hypotheses in this study.

Hypotheses one through five address the effect of specific audit committee characteristics on certain financial reporting quality indicators. Therefore, the coefficient on the independent variables, in each of the four equations, is of primary interest. When using logit, the dependent variable estimates the probability of the occurrence of the financial reporting quality indicator. Therefore, if the coefficient on the independent variable is negative, the probability of the financial reporting quality indicator occurring decreases. However, when using multiple regression, the dependent variable predicts the level of the *FRQI*. In this case, if the coefficient on the independent variable is negative, the level of the *FRQI* will decrease.

For the *FRQIs*: fraud, earnings restatements, and auditor changes; each hypothesis indicates that an increase in the particular committee characteristic increases financial reporting quality by reducing the probability of the occurrence of these specific financial reporting quality indicators. In the case of the *FRQI*, lack of external auditor independence, each hypothesis indicates that an increase in the audit committee characteristics increase financial reporting quality. Financial reporting quality is increased by reducing the level (ratio of non-audit fees to total audit fees) of this particular *FRQI*. In order for these hypotheses to be supported, the results of each hypothesis test must be a significant negative coefficient on the independent variable. The significance of each coefficient for the logistic analysis is assessed using a one-tailed

Wald-test. For the multiple regression analysis, the significance of each coefficient is evaluated using a one-tailed t-test. If the coefficient is negative and significant for any reporting quality indicator then the hypothesis is supported.

TABLE 5

LINKAGE OF MODEL, VARIABLES, AND HYPOTHESES

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

Coefficient	Independent Variable Name	Predicted Sign	Hypothesis / Description
β_1	<i>INDP</i>	-	H ₁ : % of independent directors on committee decreases for <i>FRQI</i> firms ¹
β_2	<i>TECH</i>	-	H ₂ : % of technical directors on committee decreases for <i>FRQI</i> firms ¹
β_3	<i>MEET</i>	-	H ₃ : Average number of committee meetings decreases for <i>FRQI</i> firms ¹
β_4	<i>BEXP</i>	-	H ₄ : Average number of boards committee directors served on decreases for <i>FRQI</i> firms ^a
β_5	<i>KNOW</i>	-	H ₅ : Average number of years committee directors serves on current board or works with current firm decreases for <i>FRQI</i> firms ¹
β_6	<i>GROWTH</i>	+	Average percentage change in total assets increases for <i>FRQI</i> firms.
β_7	<i>SIZE</i>	None	Natural logarithm of the book value of total assets
β_8	<i>AUDIT</i>	None	Big five audit firm

^a Relative to firms not experiencing Financial Reporting Quality Indicators (*FRQI*)

CHAPTER 4

RESULTS AND SENSITIVITY TESTS

Descriptive Statistics

Table 6 presents the various industries represented in the fraud, earnings restatement, auditor change, and auditor independence sample firms. Each sample covers over twenty different industry categories. Of the four samples, approximately twenty-eight percent (28%) of the firms are computer services companies, twelve percent (12%) are electrical equipment companies and, eight (8%) percent provide chemical and allied products. The remainder of the firms represents a variety of industries, such as, wholesale goods, retail goods, machinery and equipment, health services, agricultural products, and crude petroleum and natural gas.

Table 7 displays the stock exchange listings of the firms and the CPA firms that served as auditors for the sample firms in this study. As shown in Table 7 Panel A, approximately twenty-three percent (23%) of the firms included in the four samples trade on the NYSE, eight percent (8%) trade on the ASE, and sixty-nine percent (69%) are registered with the NASD. Panel B indicates that of the total sample firms, approximately twenty-three percent (23%) are audited by Price Waterhouse, seventeen percent (17%) by Andersen, seventeen percent (17%) by Ernst & Young, thirteen percent (13%) by KPMG, ten percent (10%) by Coopers & Lybrand. Therefore, eighty-seven

TABLE 6
Standard Industrial Classification (SIC) Code List
For Fraud, Earnings Restatement, Auditor Change, and Auditor Fee Firms

SIC Code	Industry Title	Number of Firms				
		Fraud	Earnings Restatement	Auditor Change	Audit Fee	Total
100	Agricultural Production	1				1
700	Agricultural Services			1		1
1040	Gold & Silver Ores			1		1
1311	Crude Petroleum & Natural Gas			1	2	3
1400	Mining and Quarrying of Nonmetallic Minerals			1		1
1500	General Building Contractors – Residential	1		1		2
2000	Food & Kindred Products	2		1	2	5
2250	Textile Mill Products	1				1
2330	Apparel & Other Finished Products of Fabrics	2		1	1	4
2512	Wood Household Furniture			1		1
2671	Converted Paper Products			1		1
2800	Chemicals & Allied Products		6	4	8	18
2911	Petroleum Refining			2		2
3089	Plastic Products, NEC			2		2
3231	Glass Products	1				1
3400	Metal Products	3				3
3500	Machinery & Equipment (Farm & Construction)	3	1	4	2	10
3600	Electrical Equipment	8	7	2	10	27
3700	Motor Vehicles & Homes	1	1	1		3
3800	Controlling, Surgical, & Photographic Devices	2	3	3	2	10
4200	Trucking & Courier Services; Public Storage		1	1		2
4800	Communications Services, NEC, Telephone		1	3	1	5
4955	Hazardous Waste Mgmt.	1	2	2	1	6
5000	Wholesale-Durable Goods	2	6		9	17
5122	Wholesale-Drugs		1			1
5211	Retail Building Materials			1		1
5311	Retail – Department Stores		1			1
5600	Retail Apparel & Accessory		2		2	4
5700	Retail-Home Furniture	1			1	2
5800	Retail-Eating & Drinking	1	1	1	2	5
5900	Retail-Miscellaneous	2		3	2	7
6500	Real Estate	4	1			5
7300	Services – Computer	13	14	16	20	63
8000	Health Services	1	2	2	4	9
8700	Engineering Services			3		3
	TOTAL	50	50	59	69	228

TABLE 7
Descriptive Statistics for
Fraud, Earnings Restatement, Auditor Change, and Auditor Independence
Companies

Panel A: Sample Companies by Stock Exchange						
Exchange	Number of Companies					
	Fraud	Earnings Restatement	Auditor Change	Auditor Independence	Total	%
NYSE	17	14	4	18	53	23.2
ASE	3	3	6	6	18	7.9
NASD	30	33	49	45	157	68.9
Total Firms	50	50	59	69	228	100.0

Panel B: Sample Companies by Certified Public Accounting (CPA) Firm						
CPA Firm	Sample Companies					
	Fraud	Earnings Restatement	Auditor Change	Auditor Independence	Total	%
Andersen	8	5	10	16	39	17.1
Coopers & Lybrand	5	3	8	n/a ¹	16	7.0
Deloitte & Touche	6	3	5	10	24	10.5
Ernst & Young	8	10	5	15	38	16.7
KPMG	10	9	5	5	29	13.2
Price Waterhouse	8	17	14	14	53	22.8
All other Firms ²	5	3	12	9	29	12.7
Total Firms	50	50	59	69	228	100.0

¹ Coopers & Lybrand merged with Price Waterhouse prior to the test period (February 5, 2001 through December 31, 2001) for this sample. Therefore, Coopers & Lybrand is not applicable.

² This category represents small CPA firms. Therefore, small CPA firms audit 13% of the total sample firms. Large CPA firms are defined as the Big 5 or 6 CPA firms.

percent (87%) of the sample firms are audited by large CPA firms and thirteen percent (13%) are audited by small CPA firms.

Tables 8 through 10 show a comparison of each independent variable's mean, median and mode for the three sample firms (e.g. fraud, earnings restatements, and auditor independence firms) and their related match firm. The mean, median and mode is also presented for the auditor independence firms in Table eleven.

For the fraud sample, the variables *INDP* and *GROWTH* are comparatively different. The *INDP* variable for fraud firms indicates that, on average, approximately forty-five percent (45%) of the audit committee is comprised of independent directors. However for the no-fraud firms, on average, approximately eighty percent (80%) of the audit committee is comprised of independent directors. In addition, a comparison of the *GROWTH* variable shows that for fraud firms, on average, the growth one year before the fraud event is 1.85 million dollars as opposed to a decrease in growth of .365 million dollars for no fraud firms.

In the case of the earnings restatement sample, the variables *INDP* and *GROWTH* are comparatively different. The *INDP* variable for restatement firms show that on average approximately eighty-three percent (83%) of the audit committee has independent directors versus on average approximately ninety-one (91%) independent directors for non-restatement firms. The *GROWTH* variable indicates that restatement firms have significantly lower growth, 1.7 million dollars, than non-restatement firms which have 106.5 million dollars.

The auditor change firms show several differences (*INDP*, *MEET*, and *KNOW*) between samples. On average, for firms that tend to unnecessarily change auditors,

approximately seventy-one percent (71%) of the audit committees is made up of independent directors; the audit committee meets on average 1.6 times per reporting year, and the audit committee on average has 5.8 years of firm specific knowledge. On the other hand, for firms that do not make unwarranted auditor changes approximately eighty-six percent (86%) of the audit committee is comprised of independent directors, the committee meets on average 2.2 times per reporting year and, the audit committee on average has 6.2 years of firm specific knowledge. These descriptive statistics are consistent with the empirical findings discussed in the next section, Empirical Results.

Finally, in an effort to obtain a clearer profile of the maturity level of the audit committee directors, the mean age of the committee directors was calculated (not shown). The mean age for fraud, earnings restatement, and auditor change firms is 54.1, 56.6, and, 55.4 respectively. The mean age for no-fraud, non-earnings restatement, and non-auditor change firms is 56.4, 55.5, and, 54.5 respectively. The average age of the audit committee directors for the auditor independence sample is 60. It appears that there are no extreme differences in the average age of the committee directors between the sample groups. In general, the average age of the directors indicates that the directors have an acceptable level of maturity.

Tables 12 through 15 contain the correlation coefficients for the independent variables in the model. These coefficients were examined to determine whether multicollinearity exists in the model. High multicollinearity results in larger portions of shared variances among the independent variables and lower levels of unique variance from which the effects of the individual predictor variables can be determined. A major consequence of multicollinearity is that determining the contribution of each independent

variable is difficult because the effects of the independent variables are confounded. According to Kennedy [1998], the presence of high correlations, generally .80 or .90 and above, suggests substantial collinearity. Of the four samples, the highest coefficient obtained, .493 for *SIZE* and *MEET*, is shown in Table 12 for the fraud sample. The majority of the coefficients, for the rest of the fraud sample, as well as, the earnings restatement, auditor change, and auditor independence sample are well below .38.

TABLE 8

Descriptive Statistics—Fraud and No-Fraud Firms
Mean (Median) [Mode]

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

<u>Variable</u>	<u>Fraud-Firms</u> <u>(n = 50)</u>	<u>No-Fraud Firms</u> <u>(n = 50)</u>
<i>INDP</i>	.4482 (.3300) [.000]	.7953 (1.0000) [1.000]
<i>TECH</i>	.1326 (.0000) [.000]	.1006 (.0000) [.000]
<i>MEET</i>	2.1200 (2.000) [.000]	2.400 (2.000) [1.000]
<i>BEXP</i>	1.7330 (1.5000) [.000]	1.988 (1.6667) [.000]
<i>KNOW</i>	5.9930 (5.1667) [1.000]	6.7089 (6.000) [1.000]
<i>GROWTH</i>	1.8538 (.3814) [-.4031] ^a	-.0364 (.1595) [.5391]
<i>SIZE</i>	4.7316 (4.4561) [.95] ^a	4.3069 (3.9218) [1.86]
<i>AUDIT</i>	.90 (1.00) [1]	.84 (1.00) [1]

^a Multiple modes exist. The Smallest value is shown

TABLE 9

**Descriptive Statistics—Earnings Restatement and Non-Earnings Restatement Firms
Mean (Median) [Mode]**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

<u>Variable</u>	<u>Restatement Firms (n = 50)</u>	<u>Non-Restatement Firms (n = 50)</u>
<i>INDP</i>	.8303 (1.000) [1.000]	.9059 (1.000) [1.000]
<i>TECH</i>	.1023 (.0000) [.000]	.0975 (.0000) [.000]
<i>MEET</i>	3.0600 (2.500) [1.000]	3.1883 (3.000) [2.00]
<i>BEXP</i>	2.3797 (2.225) [1.000]	2.2086 (2.00) [2.00]
<i>KNOW</i>	6.4033 (4.5000) [3.5000]	5.9513 (5.000) [3.00]
<i>GROWTH</i>	1.8693 (.4598) [-.5545] ^a	106.5007 (.1070) [.0558] ^a
<i>SIZE</i>	5.6779 (5.6122) [1.69] ^a	5.3817 (5.3887) [4.18] ^a
<i>AUDIT</i>	.94 (1.00) [1]	.86 (1.00) [1]

^a Multiple modes exist. The Smallest value is shown

TABLE 10

**Descriptive Statistics—Auditor Change and Non-Auditor Change Firms
Mean (Median) [Mode]**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

<u>Variable</u>	<u>Auditor Change Firms (n = 59)</u>	<u>Non-Auditor Change Firms (n = 59)</u>
<i>INDP</i>	.7111 (.6667) [1.00]	.8563 (1.000) [1.00]
<i>TECH</i>	.1028 (.0000) [.000]	.1651 (.0000) [.000]
<i>MEET</i>	1.6583 (1.000) [1.00]	2.1954 (2.000) [2.00]
<i>BEXP</i>	1.3764 (1.000) [.000]	1.7786 (1.6667) [1.00]
<i>KNOW</i>	5.8319 (4.6667) [2.00]	6.2268 (5.000) [5.00]
<i>GROWTH</i>	.1294 (.1425) [-2.3718] ^a	.7139 (.2933) [2.5003] ^a
<i>SIZE</i>	3.8385 (3.5833) [.97] ^a	3.8507 (3.4635) [3.08] ^a
<i>AUDIT</i>	.80 (1.00) [1]	.88 (1.00) [1]

^a Multiple modes exist. The Smallest value is shown

TABLE 11

Descriptive Statistics—Auditor Independence Firms
Mean (Median) [Mode]

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

<u>Variable</u>	Auditor Independence-Firms <u>(n = 69)</u>
<i>INDP</i>	.8307 (1.000) [1.000]
<i>TECH</i>	.0742 (.000) [.000]
<i>MEET</i>	3.4505 (3.750) [2.000]
<i>BEXP</i>	2.1797 (1.750) [.667]
<i>KNOW</i>	9.1249 (7.000) [7.000]
<i>GROWTH</i>	.3309 (.1518) [-.5429] ^a
<i>SIZE</i>	6.0697 (6.3684) [.41] ^a
<i>AUDIT</i>	.87 (1.000) [1]

^aMultiple modes exist. The Smallest value is shown

TABLE 12

**Correlation Matrix of Independent Variables
Fraud Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

	<i>INDP</i>	<i>TECH</i>	<i>MEET</i>	<i>BEXP</i>	<i>KNOW</i>	<i>GROWTH</i>	<i>SIZE</i>	<i>AUDIT</i>
<i>INDP</i>	1.000	.228	.027	-.092	.113	.075	-.298	.140
<i>TECH</i>		1.000	.190	.057	.097	.055	-.078	.043
<i>MEET</i>			1.000	-.042	-.016	.057	-.493	.122
<i>BEXP</i>				1.000	-.013	-.037	-.296	-.071
<i>KNOW</i>					1.000	.219	-.084	-.009
<i>GROWTH</i>						1.000	.091	-.160
<i>SIZE</i>							1.000	-.343
<i>AUDIT</i>								1.000

TABLE 13

**Correlation Matrix of Independent Variables
Earnings Restatement Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

	<i>INDP</i>	<i>TECH</i>	<i>MEET</i>	<i>BEXP</i>	<i>KNOW</i>	<i>GROWTH</i>	<i>SIZE</i>	<i>AUDIT</i>
<i>INDP</i>	1.000	-.029	-.167	-.089	.048	.002	.023	-.270
<i>TECH</i>		1.000	.012	.065	.107	-.030	.012	.140
<i>MEET</i>			1.000	-.103	-.164	-.008	-.362	-.077
<i>BEXP</i>				1.000	-.015	.018	-.371	-.157
<i>KNOW</i>					1.00	.025	-.036	.099
<i>GROWTH</i>						1.000	-.010	-.010
<i>SIZE</i>							1.000	-.012
<i>AUDIT</i>								1.000

TABLE 14

**Correlation Matrix of Independent Variables
Auditor Change Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

	<i>INDP</i>	<i>TECH</i>	<i>MEET</i>	<i>BEXP</i>	<i>KNOW</i>	<i>GROWTH</i>	<i>SIZE</i>	<i>AUDIT</i>
<i>INDP</i>	1.000	.303	-.076	-.056	.301	.353	-.194	.097
<i>TECH</i>		1.000	.226	.071	-.028	.215	-.074	-.011
<i>MEET</i>			1.000	-.082	.002	.149	-.338	-.031
<i>BEXP</i>				1.000	.074	.108	-.190	-.109
<i>KNOW</i>					1.000	.386	-.134	-.062
<i>GROWTH</i>						1.000	-.203	-.104
<i>SIZE</i>							1.000	-.188
<i>AUDIT</i>								1.000

TABLE 15

**Correlation Matrix of Independent Variables
Auditor Independence Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

	<i>INDP</i>	<i>TECH</i>	<i>MEET</i>	<i>BEXP</i>	<i>KNOW</i>	<i>GROWTH</i>	<i>SIZE</i>	<i>AUDIT</i>
<i>INDP</i>	1.000	.095	.105	.118	-.216	.044	.175	.140
<i>TECH</i>		1.000	.257	-.147	-.079	.353	-.064	-.026
<i>MEET</i>			1.000	.110	-.141	.185	.334	.398
<i>BEXP</i>				1.000	-.159	-.041	.329	.172
<i>KNOW</i>					1.000	-.161	-.058	.092
<i>GROWTH</i>						1.000	-.098	.066
<i>SIZE</i>							1.000	.451
<i>AUDIT</i>								1.000

Empirical Results

Tables 16 through 19 present the findings from the regression models developed in Chapter 3. Tables 16 through 18 display the results of the logistic regression model in connection with the relationship of audit committee composition and fraud, earnings restatements, and auditor changes. Table 19 presents the results regarding the multiple regression model of the relationship between audit committee composition and lack of external auditor independence.

The statistical significance of the auditor independence multiple regression model is evaluated based on the F-ratio and R-square. The F-ratio is the amount of variation explained by the regression model scaled by the variation about the mean. If this ratio is high, the overall model is significant. Table 19 shows that the F-ratio (2.321) is significant at the $p < .05$ level. R-square is the proportion of the variance of the dependent variable about its mean that is explained by the independent variables. Table 19 indicates that the audit committee composition variables explain 23.6% of the variance of non-audit fees/total audit fees. This R-square is similar to other audit committee studies (Park 1998).

In a logistic regression, the strength of the relationship between the independent and dependent variables is summarized by a Pseudo R-square statistic. Like the R-square statistic in ordinary least squares (OLS) regression, the higher the value of the Pseudo R-square statistic, the greater the explanatory power of the regression equation, and therefore the better the prediction of the dependent variable. As noted in Tables 16 through 18, the logistic model for the fraud, earnings restatements, and auditor change samples shows Psuedo R-squares of .36, .12, and .41 respectively. These Psuedo R-

squares are similar and, in most cases, slightly higher than the Psuedo R-squares presented in prior audit committee composition studies (Carcello and Neal 2001a, 2001b, 2000; Abbott et al 2001; Abbott and Parker 2000; Klein 2000; Park 1998).

The Classification Table is another measure used to determine the success of the logistic regression model. This Table compares the model predictions to the observed outcomes for the dependent variable. Classification Tables with an overall percentage greater than fifty percent indicate that the model well fits the sample data and the population from which the sample was derived. The Classification Tables (not shown) indicate overall percentages of 74.0, 63.0, and 71.2 for the fraud, earnings restatements and auditor change samples, respectively. Given the previously mentioned acceptable statistical levels for R-square, Psuedo R-square, and the Classification Tables, both the logistic and multiple regression models appear to be properly specified. A properly specified model strengthens the significance levels of the individual parameters, which are presented in the following discussion of hypothesis testing.

In this study, the Wald statistic is used to test the significance of individual logistic regression coefficients for each independent variable and the T-statistic is used to test the significance of individual multiple regression coefficients. The Wald statistic is the ratio of the unstandardized logit coefficient to its standard error. The T-statistic is the ratio of the difference between the sample means to its standard error. For significant variables, the corresponding significance level is indicated along with the Wald and T statistic in the regression results tables.

As previously mentioned, financial reporting quality is defined by a profile of four financial reporting quality indicators or problems: fraud, quarterly earnings

restatements, auditor changes, and lack of external auditor independence. Each hypothesis is tested for all four financial reporting quality problems. The presence or absence of a reporting quality problem is used as a measure. If any one measure decreases then the overall reporting quality of a firm increases. It is especially imperative to note that if an audit committee characteristic improves at least **one** of the financial reporting quality indicators, the importance of the committee characteristic is established. The following discussion of the results of the Hypotheses testing will indicate which audit committee characteristics are vital.

H₁: Financial reporting quality will increase for firms as the proportion of independent audit committee directors increases.

The first Hypothesis predicts that as the proportion of independent audit committee directors increases the occurrence of specific financial reporting quality indicators will decrease, thus increasing the firm's quality of financial reporting.

Overall Hypothesis one is strongly supported, as noted in Tables 16 through 18. Of the four financial reporting quality indicators tested only one, lack of external auditor independence, does not support this Hypothesis. However, the results are consistent with the expectation in Hypothesis one for the reporting quality indicators: fraud, earnings restatements, and auditor change. The coefficient for *INDP*, which represents the proportion of independent audit committee directors on the audit committee, is negative for each of three reporting quality indicators. Fraud and auditor change are statistically significant at the $p < .01$ level and earnings restatements is statistically significant at the $p < .05$ level. This evidence strongly validates the importance of an "independent" audit committee director. According to these results, three reporting indicators: fraud,

earnings restatements, and auditor changes; are more likely to be minimized for firms with a higher proportion of independent audit committee directors than firms with a lower percentage of independent audit committee directors. However, the results shown in Table 19 for external auditor independence do not support Hypothesis one. These insignificant results may indicate that the audit committee is not really paying attention to the type of services (e.g. consulting, auditing) the external auditor is providing to the client. Furthermore, these findings may also infer that it is a widely accepted business practice for external auditors to provide both non-audit and audit services to the same client. If this is the case, these results support the consequences of recent corporate scandals; especially the Enron debacle where approximately fifty-two percent of the total fees earned by the public accounting firm were for non-audit services.

H₂: Financial reporting quality will increase for firms as the proportion of audit committee members with accounting and financial technical expertise increases.

The second Hypothesis posits that firms, whose audit committees have a higher proportion of technically competent directors, will tend to have fewer occurrences of financial reporting indicators that reduce the reporting quality of the firm.

In general, Hypothesis two is also strongly supported. The results in Tables 18 and 19 are consistent with the expectation in this Hypothesis for two quality indicators, auditor change and auditor independence. The coefficient *TECH*, which represents the proportion of audit committee members with accounting and financial technical expertise, is negative and statistically significant at the $p < .05$ level for both quality indicators. This evidence implies that firms, whose audit committees have a higher percentage of directors with accounting and financial technical expertise, are more likely

to reduce unnecessary changes in external auditors. These same firms are also more likely to employ an independent external auditor.

As shown in Tables 16 and 17, the model fails to provide evidence of a significant relationship between fraud and technical knowledge as well as earnings restatements and technical knowledge. Therefore, Hypothesis two is not supported for the reporting quality indicators fraud and earnings restatements. This result is not surprising given the recent fraudulent activity of several large corporations (e.g. Worldcom, Enron). Worldcom is a prime example of a corporation that grossly “cooked the books” eventually resulting in its downfall. In addition, from 1998 to 2000 there has been a marked increase in quarterly earnings restatements due to errors (Wu 2001). According to Wu [2001], from 1995 through 2000 investor loss from earnings restatements is estimated at approximately \$78.3 billion. The non-support of Hypothesis two in the case of fraud and quarterly earnings restatements infers that audit committees are not developing and / or enforcing procedures to prevent the occurrence of errors and irregularities within the firm.

H₃: Financial reporting quality will increase for firms as the average number of audit committee meetings increases during the firm’s reporting year.

Hypothesis three predicts that as audit committees meet more often the occurrence of poor reporting quality indicators will lessen. This Hypothesis is well supported. The results presented in Table 18 are consistent with the third hypothesis. The coefficient for *MEET*, which represents the average number of audit committee meetings held during the firm’s reporting year, is negative and statistically significant at the $p < .10$ level for the reporting indicator auditor change. Thus, for firms whose audit

committees meet more often, there is a higher probability that these firms will not unnecessarily change auditors. Interestingly, for the reporting indicator auditor independence, the results indicated in Table 19 are inconsistent with hypothesis three. The coefficient *MEET* is positive and statistically significant at the $p < .10$ level. This result infers that it is highly likely for firms, whose audit committees meet more often, to not employ independent external auditors. This evidence is consistent with the findings in Hypothesis one, that audit committees appear to consider it acceptable for external auditors to provide both non-audit and audit services to the same client.

Further, the results shown in Tables 16 and 17 fail to support Hypothesis three for the indicators of fraud and earnings restatements. Again, this non-support of Hypothesis three validates the fact that audit committees have not established an effective workable plan to minimize the volume of fraudulent incidents and earnings restatements.

H₄: Financial reporting quality will increase for firms as the average number of other boards on which audit committee directors have served increases.

Hypothesis four predicts the likelihood of a decrease in the occurrence of reporting quality indicators if the audit committee directors have oversight experience as a result of serving on other boards of directors. The results in Tables 16 through 19 do not support Hypothesis four. The coefficient for *BEXP*, which represents the average number of boards on which audit committee directors have served, is negative for the reporting quality indicators fraud, auditor change, and auditor independence. However, the coefficient is not statistically significant. This same coefficient for the reporting quality indicator earnings restatements is neither negative nor statistically significant. These findings suggest that audit committee directors who have oversight experience are

not especially effective in reducing the probability of the occurrence of fraud, auditor change, quarterly earnings restatements, and auditor independence.

Non-support of Hypothesis four infers that board oversight experience is not important. The results of this Hypothesis may also indicate that the majority of the audit committee directors, for all firms investigated, have the same level of board experience. In examining the descriptive statistics in Tables 8 through 11 for the audit committee members, the average number of boards served on for all samples is approximately two. Additionally, the age of the committee directors in all samples is approximately mid to late fifties. If age is commensurate with the average number of boards the committee director served on then there should not be much variation in board oversight experience for all samples.

H₅: Financial reporting quality will increase for firms as the average number of years an audit committee member serves on the current board of directors, and/or works with the firm, increases.

The final Hypothesis predicts that firms, whose audit committee directors are more knowledgeable about the firm on which they serve, are more likely to experience fewer occurrences of poor reporting quality indicators. The results in Table 18 well support this Hypothesis. The coefficient for *KNOW*, which represents the average number of years an audit committee member serves on the current board of directors and/or works with the firm, is negative and statistically significant at the $p < .05$ level. This evidence implies that audit committee directors who acquire firm specific knowledge over time may be better able to monitor and improve a firm's reporting quality by tending not to unnecessarily change external auditors.

Results presented in Tables 16, 17, and 19 fail to support Hypothesis five for the reporting quality indicators fraud, earnings restatements, and auditor independence. The descriptive statistic in Tables 8 and 9 show that audit committee members on average have approximately six years of knowledge of the firm. Table 10 indicates that audit committee directors for the auditor independence firms have over nine years of knowledge with the firm. These statistics indicate that audit committee members have sufficient business knowledge of their respective firms. However, the benefits of this business knowledge are not reflected in quality of company's financial reporting. The evidence from these results is especially meaningful because it implies that audit committee directors have not discerned the need to concentrate on monitoring fraudulent activities, earnings restatements, and external auditor independence. It is this observation by regulators and the accounting profession that has prompted the concentrated effort to strengthen the role of the audit committee in the firm's financial reporting process.

TABLE 16

**Logistic Regression Results—Fraud Firms
50 Fraud Firms Matched with 50 No-Fraud Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

Coefficient	Independent Variable	Predicted Sign	Estimated Coefficients	Standard Errors	Wald Statistic
β_0	INTERCEPT	None	.634	.967	1.884
β_1	<i>INDP</i>	-	-2.496	.735	11.517***
β_2	<i>TECH</i>	-	-.149	1.368	.862
β_3	<i>MEET</i>	-	-.099	.141	.487
β_4	<i>BEXP</i>	-	-.073	.166	.194
β_5	<i>KNOW</i>	-	-.030	.056	.598
β_6	<i>GROWTH</i>	+	.535	.303	3.118
β_7	<i>SIZE</i>	None	.336	.151	4.917**
β_8	<i>AUDIT</i>	None	-.329	.788	.174

Pseudo R^2 .356

Classification Table

Overall Percentage 74.0

Wald Statistic based on one-sided tests.

*** Statistically significant at less than the .01 level

** Statistically significant at less than the .05 level

* Statistically significant at less than the .10 level

TABLE 17

Logistic Regression Results—Earnings Restatement Firms
50 Restatement Firms Matched with 50 Non-Restatement Firms

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

Coefficient	Independent Variable	Predicted Sign	Estimated Coefficients	Standard Errors	Wald Statistic
β_0	INTERCEPT	None	.001	1.132	.000
β_1	<i>INDP</i>	-	-2.206	1.069	4.260 **
β_2	<i>TECH</i>	-	1.512	1.352	1.251
β_3	<i>MEET</i>	-	-.055	.106	.270
β_4	<i>BEXP</i>	-	.031	.158	.039
β_5	<i>KNOW</i>	-	.025	.051	.234
β_6	<i>GROWTH</i>	+	-.001	.002	.208
β_7	<i>SIZE</i>	None	.076	.120	.396
β_8	<i>AUDIT</i>	None	1.459	.828	3.108 *

Pseudo R² .119

Classification Table
Overall Percentage 63.0

Wald Statistic based on one-sided tests.

*** Statistically significant at less than the .01 level

** Statistically significant at less than the .05 level

* Statistically significant at less than the .10 level

TABLE 18

**Logistic Regression Results—Auditor Change Firms
59 Auditor Change Firms Matched with 59 Non-Auditor Change Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

Coefficient	Independent Variable	Predicted Sign	Estimated Coefficients	Standard Errors	Wald Statistic
β_0	INTERCEPT	None	4.151	1.174	12.506 ***
β_1	<i>INDP</i>	-	-3.309	.996	11.043 ***
β_2	<i>TECH</i>	-	-2.230	1.133	3.875 **
β_3	<i>MEET</i>	-	-.279	.161	2.998 *
β_4	<i>BEXP</i>	-	-.162	.169	.926
β_5	<i>KNOW</i>	-	-.124	.056	4.876 **
β_6	<i>GROWTH</i>	+	-1.820	.452	16.175 ***
β_7	<i>SIZE</i>	None	.278	.158	3.081 *
β_8	<i>AUDIT</i>	None	-.113	.607	.035

Pseudo R² .408

Classification Table
Overall Percentage 71.2

Wald Statistic based on one-sided tests.

- *** Statistically significant at less than the .01 level
- ** Statistically significant at less than the .05 level
- * Statistically significant at less than the .10 level

TABLE 19

**Multiple Regression Results—Auditor Independence Firms
69 Auditor Independence Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 AUDIT + \varepsilon$$

Coefficient	Independent Variable	Predicted Sign	Estimated Coefficients	Standard Errors	T-Statistics
β_0	INTERCEPT	None	-4.718	1.290	-3.658 ***
β_1	<i>INDP</i>	-	1.493	1.058	1.411
β_2	<i>TECH</i>	-	-4.459	2.051	-2.174 **
β_3	<i>MEET</i>	-	.298	.172	1.738 *
β_4	<i>BEXP</i>	-	2.818E-02	.161	.175
β_5	<i>KNOW</i>	-	6.788E-02	.050	1.355
β_6	<i>GROWTH</i>	+	.653	.465	1.403
β_7	<i>SIZE</i>	None	.202	.141	1.430
β_8	<i>AUDIT</i>	None	.168	.903	.186

R^2 .236

F-ratio 2.321**

T-Statistic based on one-sided t-tests.

*** Statistically significant at less than the .01 level

** Statistically significant at less than the .05 level

* Statistically significant at less than the .10 level

Sensitivity Analyses

Recent media reports have implied that certain large CPA firms may be associated with companies participating in questionable accounting practices. For example, due to the recent Enron scandal, Andersen LLP has been associated with companies that have recently been investigated for fraudulent acts. Therefore, additional tests were performed to determine whether certain types of financial reporting indicators occur in firms that are audited by specific CPA firms.

The appropriate regression (e.g. logistic or multiple) was run for the fraud, earnings restatement, auditor changes, and auditor independence sample. The *AUDIT* variable was coded 1 for the Big 6 firm tested and 0 for all other CPA firms. The regression was run for all Big 6 CPA firms. Interestingly, the results in Table 20 provide evidence that Coopers & Lybrand is associated with reduced occurrences of fraud. The coefficient for *COOPR* is negative and statistically significant at the $p < .10$ level. This finding suggests that firms audited by Coopers & Lybrand are less likely to encounter fraudulent activities. However, Table 21 indicates that Price Waterhouse is associated with increased occurrences of auditor changes. The coefficient for *PRICE* is positive and significant at the $p < .10$ level. This result infers that firms audited by Price Waterhouse are more likely to unnecessarily change external auditors. The results of this test for the remaining four Big 6 CPA firms were essentially the same as the initial test (See Tables 16 through 19).

The overwhelmingly strong support for Hypothesis 1 (the occurrence of financial reporting problems will decrease as the proportion of independent audit committee directors increases) initiated another sensitivity analysis. The estimated logistic

regression model for the financial reporting indicators fraud, earnings restatement, and auditor changes was used to analyze the probability of a firm being in the reporting problem group given a varying level of the proportion of independent audit committee directors. Keeping all other variables in the model at their mean, the effect of various different levels (proportion of independent directors on the audit committee) of independence on the probability of the firm being in the reporting problem group was examined. Interestingly, Figures 3 and 4 show that for all three reporting problems a slightly curvilinear relationship exists between the probability of a firm being in the financial reporting problem group and the proportion of independent audit committee directors. The probability of a firm being in the financial reporting problem group decreases as the proportion of independent directors on the audit committee increases.

As indicated in Figure 3 for the fraud sample, when the proportion of independent members of the audit committee is twenty-five percent (25%) the probability of a firm being in the fraud group is approximately seventy-six percent (76%). When the proportion of independent audit committee directors increases to the mean value of sixty-two percent (62%), the probability of a firm being in the fraud group significantly decreases to fifty-six percent (56%). Finally, if the proportion of independent audit committee directors increases to eighty-seven percent (87%) the probability of a firm being in the fraud group is forty percent (40%). Figure 4 indicates similar results from this same analysis for earnings restatement and auditor changes. These sensitivity tests reveal the power and importance of having independent directors on the audit committee. Incremental increases in the proportion of independent audit committee directors translate into significant reductions in financial reporting problems.

TABLE 20

**Logistic Regression Results for Fraud Firms
Coopers & Lybrand versus All Other CPA Firms
50 Fraud Firms Matched with 50 Non-Fraud Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 COOPR + \varepsilon$$

Coefficient	Independent Variable	Predicted Sign	Estimated Coefficients	Standard Errors	Wald Statistic
β_0	INTERCEPT	None	1.028	.789	1.697
β_1	<i>INDP</i>	-	-2.188	.710	9.490 ***
β_2	<i>TECH</i>	-	.107	1.360	.006
β_3	<i>MEET</i>	-	.043	.126	.117
β_4	<i>BEXP</i>	-	.013	.157	.007
β_5	<i>KNOW</i>	-	-.015	.054	.074
β_6	<i>GROWTH</i>	+	.694	.316	4.828 **
β_7	<i>SIZE</i>	None	.000	.000	.746
β_8	<i>COOPR</i>	None	-1.501	.908	2.733 *

Pseudo R² .344

Classification Table
Overall Percentage 70.3

Wald Statistic based on one-sided tests.

*** Statistically significant at less than the .01 level

** Statistically significant at less than the .05 level

* Statistically significant at less than the .10 level

TABLE 21

**Logistic Regression Results for Auditor Change Firms
Price Waterhouse Versus All Other CPA Firms
59 Auditor Change Firms Matched with 59 Non-Auditor Change Firms**

$$FRQI_i = \beta_0 + \beta_1 INDP + \beta_2 TECH + \beta_3 MEET + \beta_4 BEXP + \beta_5 KNOW + \beta_6 GROWTH + \beta_7 SIZE + \beta_8 PRICE + \varepsilon$$

Coefficient	Independent Variable	Predicted Sign	Estimated Coefficients	Standard Errors	Wald Statistic
β_0	INTERCEPT	None	.4.570	1.093	17.473***
β_1	<i>INDP</i>	-	-3.413	1.014	11.320***
β_2	<i>TECH</i>	-	-2.005	1.094	3.361*
β_3	<i>MEET</i>	-	-.179	.152	1.390
β_4	<i>BEXP</i>	-	-.107	.168	.403
β_5	<i>KNOW</i>	-	-.109	.055	3.852**
β_6	<i>GROWTH</i>	+	-1.699	.433	15.402***
β_7	<i>SIZE</i>	None	.000	.000	.375
β_8	<i>PRICE</i>	None	1.010	.606	2.779*

Pseudo R^2 .406

Classification Table
Overall Percentage 72.9

Wald Statistic based on one-sided tests.

*** Statistically significant at less than the .01 level

** Statistically significant at less than the .05 level

* Statistically significant at less than the .10 level

FIGURE 3

Effect of Independent Audit Committee Directors on the Probability of Being in the Fraud Group

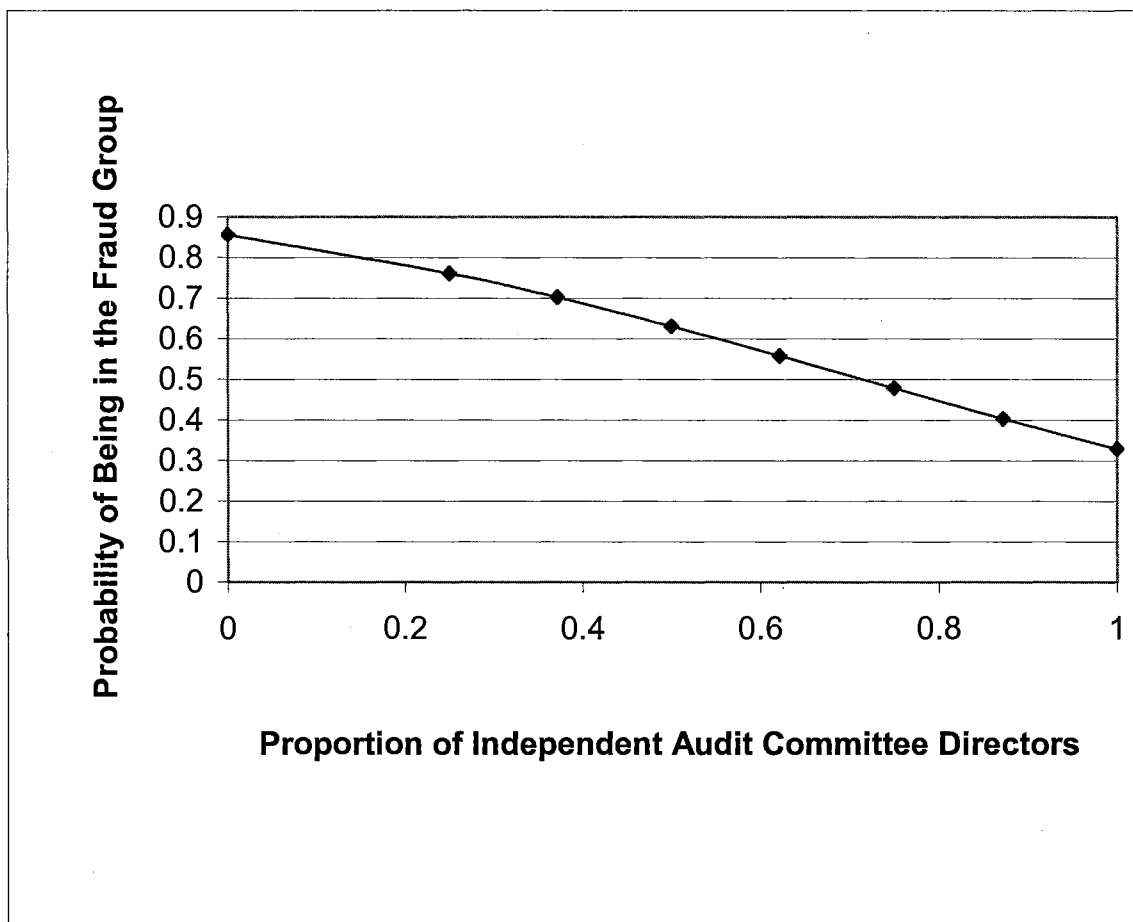
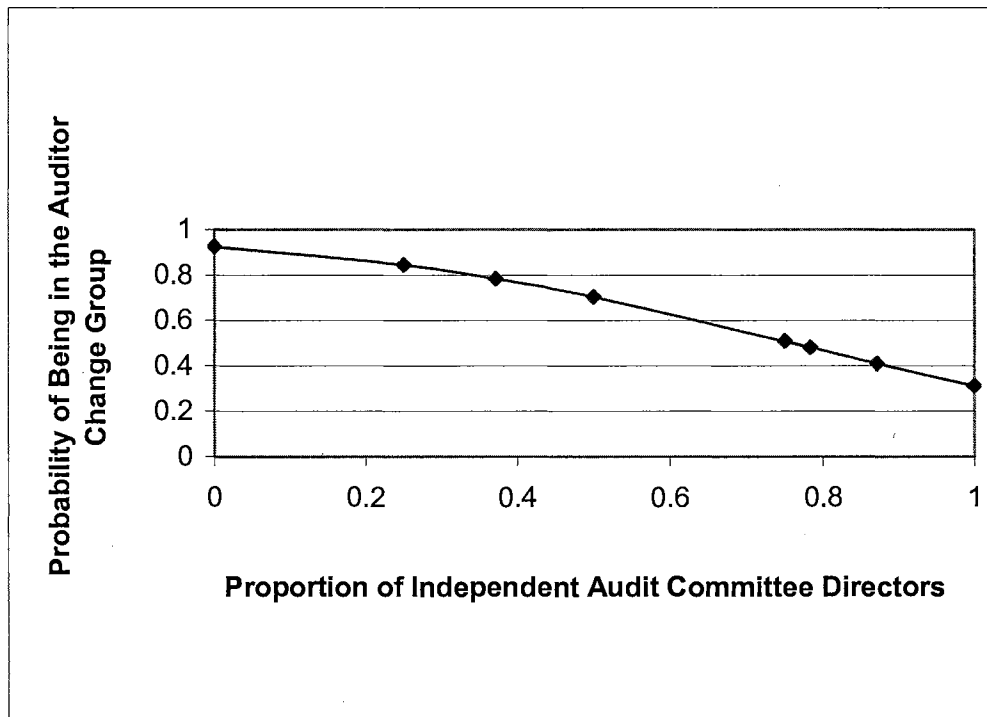
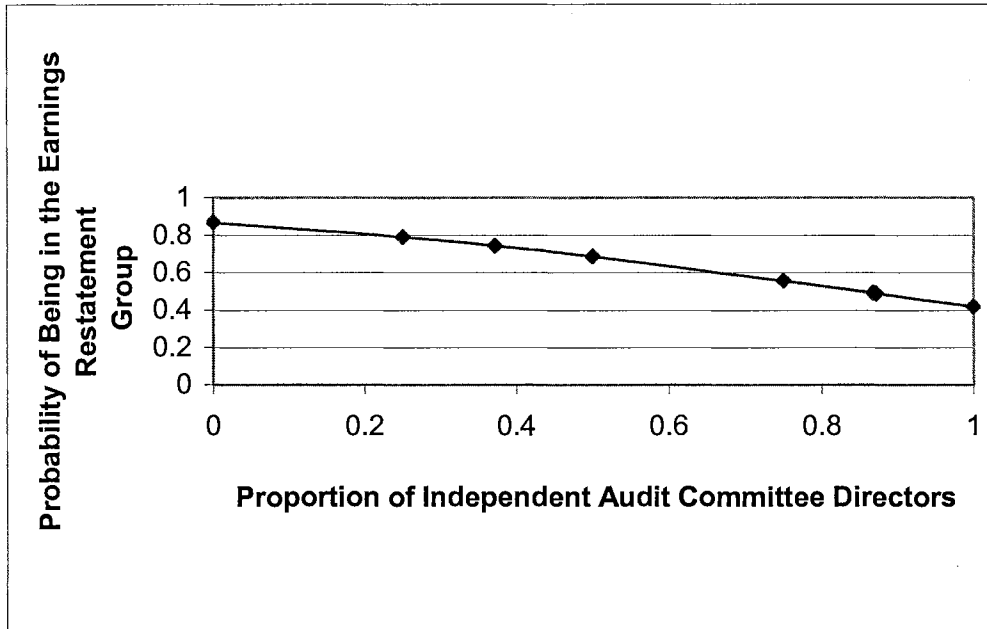


FIGURE 4

Effect of Independent Audit Committee Directors on the Probability of Being in the Earnings Restatement Group and Auditor Changes Group



CHAPTER 5

SUMMARY, LIMITATIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

This study empirically examines the effect of multiple audit committee characteristics on multiple dimensions of financial reporting problems. The financial reporting problems studied are fraud, quarterly earnings restatements, unnecessary auditor changes, and lack of external auditor independence. A cross sectional logistic regression analysis of matched sample firms, with and without these financial reporting problems, was used to evaluate the effect of audit committee characteristics (independence, technical expertise, commitment to duties and responsibilities, oversight experience with organizations, and knowledge of the firm) on fraud, earnings restatements, and unnecessary auditor changes. In addition, a cross sectional multiple regression analysis of sample firms was used to examine the same audit committee characteristics on lack of external auditor independence.

As shown in Table 22, the results of this research study provide overwhelming evidence that multiple audit committee characteristics are associated with multiple dimensions of financial reporting problems. Independence is strongly associated with reduced occurrences of fraud, earnings restatements, and unnecessary auditor changes. Technical expertise is significantly associated with reduced incidences of unnecessary auditor changes and lack of auditor independence. The characteristic commitment to responsibilities is significantly associated with reduced occurrences of unnecessary

auditor changes and lack of auditor independence. Finally, the characteristic knowledge of the firm is significantly associated with fewer incidences of unnecessary auditor changes.

Evidence from this research is especially beneficial to boards of directors, regulators, and accounting professionals. Knowing which audit committee characteristics affect a particular financial reporting indicator will enable the board of directors to select audit committee members with the optimal mix of characteristics needed to address reporting problems unique to a specific firm. Regulators and accounting professionals are constantly evaluating the role of the audit committee in providing more meaningful financial reporting to investors and other financial statement users. These professionals have made recommendations and enacted standards requiring audit committee members to have the same characteristics that were examined in this research study. The significant findings obtained for four of the five audit committee characteristics add credence to the suggestions made by the Blue Ribbon Committee and the recently endorsed Sarbanes-Oxley Act of 2002. Therefore, the results of this study also provide evidence for regulators, standard setters, and the accounting profession as they further define and refine standards relating to audit committee effectiveness.

TABLE 22

Summary of Significant Hypotheses
Data Significant and Consistent with Hypotheses?

Hypotheses	Predicted Relation	Fraud	Earnings Restatements	Auditor Changes	Lack of Auditor Independence
H ₁ : % Independent Directors (<i>INDP</i>)	Inverse	Yes	Yes	Yes	
H ₂ : % Technical Expertise (<i>TECH</i>)	Inverse			Yes	Yes
H ₃ : Avg. # Meetings (<i>MEET</i>)	Inverse			Yes	Yes (Positive Relation)
H ₄ : Avg. # Boards Served (<i>BEXP</i>)	Inverse				
H ₅ : Avg. # Years on Board / Work (<i>KNOW</i>)	Inverse			Yes	

There are limitations to the results of this study. First, this type of association study, which shows an association between audit committee characteristics and financial reporting problems, does not identify a literal causal relationship. There may be another variable excluded from the study that may provide this causal relationship. For example, the dependent variable used for lack of auditor independence (ratio of non-audit fees to total audit fees) could be used as an explanatory variable for the financial reporting problems evaluated in this research study. Finally, board oversight experience was the only audit committee characteristic for which no significance was found. A more precise measure, such as the number years an audit committee member has served in the capacity of board oversight, may provide meaningful results for this committee characteristic.

REFERENCES

- Abbott, L. J., S. Parker, G. Peters, and K. Raghunandan. 2001. The Effect of Audit Committee Characteristics and Non-Audit Fees on Audit Fees, Working Paper, University of Memphis, Santa Clara University, University of Georgia, Texas A&M International University.
- Abbott, L. J., S. Parker, G. Peters, and K. Raghunandan. 2001. An Investigation of the Impact of Audit Committee Characteristics on the Relative Magnitude of Non-audit Service Purchases, Working Paper, University of Memphis, Santa Clara University, University of Georgia, Texas A&M International University.
- Abbott, L. J. and S. Parker. 2000. Auditor Selection and Audit Committee Characteristics. *Auditing A Journal of Practice & Theory*, vol. 19, No. 2, Fall.
- AICPA, The Public Oversight Board (POB). 1993. *Special Report: Issues Confronting the Accounting Profession*. Stanford, CT: AICPA POB.
- AICPA, Summary of Sarbanes-Oxley Act of 2002. 2002. www.aicpa.org/info/sarbanes_oxley_summary.htm.
- Beasley, M. S. 1996. An Empirical Analysis of the Relation Between the Board of Director Composition and Financial Statement Fraud. *The Accounting Review* 71 (October): 443-465.
- Blue Ribbon Commission on Improving the Effectiveness of Corporate Audit committees (BRC). 1999. *The Report and Recommendations of the Blue Ribbon Commission on Improving the Effectiveness of Corporate Audit Committees*. New York. NYSE.
- Braiotta, L. Jr. 1999. *The Audit Committee Handbook*, third edition. John Wiley and Sons, Inc.
- Carcello, J. V., and T. L. Neal. 2000. Audit Committee Composition and Auditor Reporting. *The Accounting Review*, vol. 75, No. 4, October, pp 453-467.
- Carcello, J. V., and T. L. Neal. 2001a. Audit Committee Composition and Auditor Dismissals, Working Paper, University of Tennessee, University of Kentucky
- Carcello, J. V., and T. L. Neal. 2001b. Audit Committee Composition and Disclosure Choice for Financially Distressed Firms, Working Paper, University of Tennessee, University of Kentucky
- Crawford, J. G. 1987. An Empirical Investigation of the Characteristics of Companies with Audit Committees, Unpublished Dissertation, the University of Alabama.
- DeFond, M.L., and J. Jiambalvo. 1991. Incidence and Circumstances of Accounting Errors. *The Accounting Review*, July, 643-655.

- Dechow, P., R., and D. J. Skinner. 2000. Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons*, vol. 14, no. 2, June, 235-250.
- DeGeorge F., J. Patel, and R. Zeckhauser. 1999. Earnings management to exceed thresholds. *Journal of Business* 72: 1-33.
- Dezoort, F.T. 1997. An Investigation of Audit Committees' Oversight Responsibilities. *Abacus* (September): 208-227.
- _____. 1998. An Analysis of Experience Effects on Audit Committee Members' Oversight Judgments. *Accounting Organizations and Society* vol. 23 (January): 1-22
- Firth, M. 1997. The Provision of Nonaudit Services by Accounting Firms to Their Audit Clients. *Contemporary Accounting Research* (Summer): 1-21.
- Fama, E. F. and M. C. Jensen. 1983b. Agency Problems and Residual Claims. *Journal of Law and Economics* vol. XXVI June, 327-349.
- Gleckman, H., There's No Positive Spin on This One, Mr. Lindsey. *Business Week*, January 28, 2002
- Hermalin B. E. and M. S. Weisbach. 1991. The Effects of Board Composition and Direct Incentives on Firm Performance. *Financial Management*, winter, 101-112.
- Independence Standards Board (ISB). 1999. Independence Discussions with Audit Committees. Standard No. 1. New York, NY: ISB (July 15).
- Jones, T. M. 1986. Corporate Board Structure and Performance: Variations in the Incidence of Shareholder Suits. *Research in Corporate Social Performance and Policy* 8: 345-359.
- Kennedy, P. 1998. A Guide to Econometrics, The MIT Press, Cambridge Massachusetts, 187
- Klein, A. 2000. Audit Committee, Board of Director Characteristics, and Earnings Management. Working Paper, New York University.
- Kinney, W. R. and L. S. McDaniel. 1989. Characteristics of Firms Correcting Previously Reported Earnings. *Journal of Accounting and Economics* 11, February: 71-93.
- Knapp, M.C. 1987. An Empirical Study of Audit Committee Support for Auditors Involved in Technical Disputes with Client Management. *The Accounting Review*. 578-588.
- _____. 1991. Factors that Audit Committee Members Use as Surrogates for Audit Quality. *Auditing: A Journal of Practice and Theory*, vol. 10, no. 1, spring.
- Kunitake, W. 1983. Audit Changes by Audit Committees and Outside Directors, *Akron Business & Economic Review* Fall, p. 48-52.
- Lennox, C. S. 2002. Opinion Shopping, Audit Firm Dismissals, and Audit Committees. Working Paper, Hong Kong, University of Science and Technology.

- Levitt, A. 1998. Securities and Exchange Commission, The "Numbers Game", NYU Center for Law and Business, New York, September 28.
(<http://www.sec.gov/news/speeches/spch220.txt>)
- Maddala, G.S. 1991. A Perspective on the Use of Limited-Dependent and Qualitative Variables Models in Accounting Research. *The Accounting Review* 66 (October): 788-807.
- McMullen, D. A. 1996. Audit Committee Performance: An Investigation of the Consequences Associated with Audit Committees. *Auditing: Journal of Practice and Theory*. Vol. 15, no. 1 87-103.
- National Commission on Fraudulent Financial Reporting. 1987. Report of the National Commission on Fraudulent Financial Reporting (Washington, D.C.: National Commission on Fraudulent Financial Reporting)
- Neal, T. L. 1998. Audit Committee Effectiveness: An Examination of Audit Committee Composition and Auditor Switching. Dissertation. The University of Tennessee, Knoxville.
- New York Stock Exchange (NYSE). 2002. Corporate Governance Rule Proposals Reflecting Recommendations from the NYSE Corporate Accountability and Listing Standards Committee As Approved by the NYSE Board of Directors August 1.
- Nussbaum, B. 2002. Can You Trust Anybody Anymore? *Business Week*, January 28.
- Palmrose, Z. 1987. Litigation and Independent Auditors: The Role of Business Failures and Management Fraud. *Auditing: A Journal of Theory and Practice*, spring: 90-103.
- _____. 1988. An Analysis of Auditor Litigation and Audit Service Quality. *The Accounting Review*, vol. LXIII, No. 1, January.
- Park, Young K. 1998. Audit Committees, Corporate Governance, and the Quality of Financial Reporting: Evidence from Auditor Litigation and Market Reaction to Earnings Announcements. Unpublished Dissertation, University of Pittsburgh.
- Parkash, M. and C. Venable. 1993. Audit Incentives for Auditor Independence: The Case of Nonaudit Services. *The Accounting Review* 68, No. 1: 113 – 133.
- Pitt, H. L. 2002a. Public statement by SEC Chairman: Regulation of the Accounting Profession. SEC Headquarters, Washington, D. C. , January 17.
- _____. 2002b. Public statement by SEC chairman: Remarks at the 29th Annual Securities Regulation Institute., Coronado, California, January 23.
- _____. 2001. How to Prevent Future Enrons. *The Wall Street Journal*, December 11.
- Public Oversight Board. 2002. The Panel on Audit Effectiveness Report and Recommendations, August.
- Securities and Exchange Commission (SEC). 1999. Final Rule: Audit Committee Disclosure. Washington, D. C.: Government Printing Office.
- Securities and Exchange Commission (SEC). 2000. Revision of the commissions auditor independence requirements. Washington, D. C.

Skinner D. J. and R. G. Sloan. 2000. Earnings Surprises, Growth Expectations, and Stock Returns, or: Don't Let an Earnings Torpedo Sink Your Portfolio. Working paper, University of Michigan.

Wild, J. J. 1996. The Audit Committee and Earnings Quality. *Journal of Accounting, Auditing and Finance*, Winter, pp. 247-276

Wu, Min. 2001. Quantitative Measures of the Quality of Financial Reporting. Financial Executives International Research Foundation Inc.

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