

HOW DOES ENGAGEMENT RISK AND THE FOCUS OF THE PCAOB INSPECTION
PROCESS INFLUENCE AUDITORS' INTERNAL AUDIT RELIANCE DECISIONS?

BY

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ACCEPTANCE

This dissertation was prepared under the direction of the candidate's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor in Philosophy in Business Administration in the Robinson College of Business of Georgia State University.

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To my husband, Scott, and my children, Jessica and Colin.

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Table of Contents

ABSTRACT	viii
CHAPTER 1: INTRODUCTION	1
1.1 Overview of Research Question	1
1.2 Motivation of the Research Question	2
1.2.1 PCAOB Auditing Standards	3
1.2.2 Inspection Focuses	4
1.2.3 The Effect of Engagement Risk	6
1.3 Overview of Methodology	7
1.4 Overview and Discussion of Findings	7
1.5 Contribution of Research	8
1.6 Organization of Dissertation	10
CHAPTER 2: BACKGROUND AND LITERATURE REVIEW	11
2.1 SOX and PCAOB Regulation	11
2.1.1 PCAOB Inspection Process	11
2.1.2 The Potential Impact of AS5 on the Integrated Audit	12
2.1.3 Current Research on the PCAOB Inspection Process	13
2.2 Prior Research on External Auditors' Reliance on the Internal audit function	14
2.2.1 Research on internal audit function	14
2.2.2 Other factors affecting reliance	16
2.2.3 Outsourcing	17
2.3 Engagement Risk	17
2.4 Audit efficiency	18
2.5 Summary of Chapter 2	19
CHAPTER 3: DEVELOPMENT OF THEORY AND HYPOTHESES	20
3.1 Motivated reasoning theory	20
3.2 Engagement Risk	22
3.3 Riskiness of the Audit Tests	23
3.4 The Interaction of Engagement Risk, Focus of the Inspection Process, and Riskiness of the Test	24
3.5 Type of Audit Tests: Tests of Controls versus Substantive Procedures	28
3.6 Summary of Chapter 3	30
CHAPTER 4: METHODOLOGY	31
4.1 Participants	31
4.2 Experimental Design	33
4.2.1 Independent Variables	33
4.2.2 Dependent Variables	35
4.3 Case Materials	35
4.4 Experimental Procedures	39
4.5 Hypotheses Testing Procedures	40
4.6 Summary of Chapter 4	41

CHAPTER 5: RESULTS	42
5.1 Manipulation Checks	42
5.2 Descriptive Statistics	44
5.3 Test of the Overall Model	47
5.4 Hypothesis 1 – The Effect of ER	49
5.5 Hypothesis 2 – The Effect of RiskT	49
5.6 Hypothesis 3 – The Interaction of Engagement Risk, Focus of the Inspection Process and Riskiness of the Test	50
5.7 Hypothesis 4 – Type of Tests	53
5.8 Conclusions	58
CHAPTER 6: CONCLUSION	60
6.1 Summary of Results	60
6.2 Contributions	61
6.3 Limitations and Suggestions for Future Research	62
REFERENCES	64
APPENDIX A	73

ABSTRACT

HOW DOES ENGAGEMENT RISK AND THE FOCUS OF THE PCAOB INSPECTION PROCESS INFLUENCE AUDITORS' INTERNAL AUDIT RELIANCE DECISIONS?

By

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With the passage of Sarbanes-Oxley in 2002, external auditors face a new regulatory inspection process in addition to an increase in litigation (or engagement) pressure. It has been communicated that this new inspection process will place an increased emphasis on the efficiency of integrated audits while maintaining the same level of effectiveness. In an experiment, I explore how external auditors' reliance decisions on the internal audit function will be affected by different inspection focuses, varying levels of engagement risk, and the level of risk associated with the audit test or procedure. While I expect that there will be significant main effects for inspection focus, engagement risk and the riskiness of the audit test, I explore the potential presence of a three-way interaction between these three factors. My findings suggest that the auditor reliance decisions are impacted by differing levels of engagement risk, the focus of the inspection process, and the riskiness of the audit tests. In general, as engagement risk increased, auditors' reliance decreased. Also, as the riskiness of the audit test increased, auditors placed less reliance on the internal audit function. However, when the focus of the inspection changed, these factors interacted with one another. Specifically, when auditors faced a focus of both effectiveness and efficiency, their reliance decisions increased as engagement risk and riskiness of the test decreased, but when auditors faced a focus of effectiveness only, their reliance decisions were not impacted by the engagement risk when the riskiness of the test was high. Thus, the impact of engagement risk on auditors' reliance decisions depends on the focus of the inspection process and the riskiness of the tests.

Keywords: Internal audit function; engagement risk; PCAOB inspection process;

Data Availability: Contact the author

CHAPTER 1 INTRODUCTION

1.1 Overview of Research Question

Sarbanes-Oxley Act (SOX) was passed in 2002. Its expressed purpose was to restore investor confidence following a series of corporate scandals and bankruptcies. SOX created the Public Company Accounting Oversight Board (PCAOB)¹ to oversee external auditing and corporate governance issues. The PCAOB has the authority to establish auditing standards for public companies and is responsible for inspecting registered public accounting firms.

One of the major requirements of SOX is that management and the external auditor are to report on the adequacy of the company's internal control over financial reporting (ICFR). This is the most costly aspect of this legislation for companies to implement, since documenting and testing internal controls requires enormous time and effort. The additional costs of the external audit have also increased significantly (GAO-06-361, 2006).

PCAOB inspections differ from the peer review process that was in place prior to SOX for publicly traded companies. The PCAOB is charged "to assess the degree of compliance... with the Act, the rules of the Board, the rules of the Commission, or professional standards" (SOX section 104 part (a)). The PCAOB has not disclosed how it chooses specific audits for inspection, except that its focus is on aspects of the selected audits that are most likely to present "challenging issues" (PCAOB, 2007 Annual Report). Therefore, there is no basis for firms to know which of their audits will be selected or what issues the inspectors will be concentrating on. In light of the new auditing standards on ICFR (AS5), the PCAOB has indicated that its inspection process will place an increased emphasis on the efficiency of integrated audits while maintaining the same level of effectiveness (PCAOB Release No. 104-2006-105, 2007 Annual

¹ Also referred to as Board.

Report). Auditors' reliance on the internal audit function is likely to be affected by the focus of the PCAOB's inspection process. If the inspection focus is concerned with a more balanced approach between effectiveness and efficiency rather than focusing only on effectiveness, auditors should rely on the internal audit function more when the focus is balanced.

In addition to facing the risks² from the inspection process, auditors also face increased litigation (or engagement) pressure because of the corporate failures that lead to the passage of SOX.³ After the fall of one of the largest accounting firms, Arthur Andersen, public accounting firms are more concerned about their reputation. Monitoring engagement risk is an integral part of the audit process. Research has shown that as engagement risk increases, auditors become more conservative (Hackenbrack and Nelson 1996). Thus, under high engagement risk, auditors are less likely to rely on the internal audit function for audit procedures.

The research question that I investigate is "How will auditors' reliance decisions on the work of others (i.e., internal auditors)⁴ be affected by the competing pressures from different inspection focuses, varying levels of engagement risk, and the level of risk associated with the audit test or procedure?" While I expect that there will be significant main effects for inspection focus, engagement risk, and the riskiness of the audit test, the more interesting prediction is the potential presence of a three-way interaction between the three factors. In addition, I test whether auditors' reliance on the internal audit function varies across the two major types of audit tests: test of controls and substantive procedures.

1.2 Motivation of the Research Question

SOX set new or enhanced standards for all U.S. public company boards, management, and public accounting firms. Debate continues over the perceived benefits and costs of SOX.

² PCAOB has the authority to impose a range of disciplinary sanctions against registered accounting firms.

³ "Auditor liability: to cap or not to cap?" The Accountant January 31, 2007.

⁴ From this point forward the "work of others" will be referred to as the internal audit function.

The SOX mandate with the most perceived cost was section 404, which required management to issue an assessment on the effectiveness of their entity's ICFR and the entity's external auditors to issue an opinion on the effectiveness of the entity's ICFR.

1.2.1 PCAOB Auditing Standards

In 2004, the PCAOB issued Auditing Standard 2 (AS2) (PCAOB 2004) to provide guidance for auditors on how to conduct an audit of ICFR. Almost immediately, AS2 was criticized by numerous parties for being too costly.⁵ Part of the criticism of AS2 was that it involved excessive auditing by requiring unnecessary procedures (i.e. walkthroughs), requiring internal control testing work in low risk areas, and not allowing auditors to use the internal audit function. AS2 required that the auditor perform enough of the testing so that his or her own work provided the *principal* evidence supporting the auditor's opinion. This AS2 requirement limited the use of the internal audit function by the external auditor (PCAOB 2004, p. 111).

In 2007, the PCAOB responded to the criticisms that audits were too costly and not well integrated by issuing AS5 (PCAOB 2007).⁶ AS5 requires the external auditor to use a risk-based approach in conducting an integrated audit of ICFR and of the financial statements.⁷ AS5 also has a number of other requirements intended to reduce costs while maintaining the same level of effectiveness. Under AS5, the auditor is required to use a risk-based approach to determine whether an account is "significant or not" based on a series of risk factors related to the likelihood of financial statement error and magnitude of the account. One of the major cost reductions was the change allowing external auditors to rely more on the internal audit function

⁵ Surveys by Financial Executives International and CRA International were completed in 2005 a follow up in 2006. Each survey showed costs to be higher than expected and audit fees consisted of approximately 35% of the total.

⁶ Passed by the SEC on July 25, 2007.

⁷ An integrated audit involves the audits of internal control with the audit of the client's financial statements; so that evidence gathered and tests conducted in the context of either audit contribute to completion of both audits (PCAOB Release 2005-009).

by removing AS2's principal evidence requirement. How this change affects the external auditors' reliance decisions on the internal audit function has not been previously examined and is an area of increased importance as a result of these regulatory changes.

AS5 allows the auditors to apply professional judgment in determining the extent to which they will use the internal audit function. PCAOB's report on the first-year implementation of AS5 showed the inspectors observed instances "where the extent of the auditor's use of the internal audit function to reduce the auditor's own work was greater than was appropriate under AS5 considering the level of risk associated with the control being tested" (PCAOB Release 2009-006, p.6). In addition the inspectors observed numerous instances "where the extent of the auditors' retesting of the internal audit function was seemingly unrelated to the risk involved (PCAOB Release 2009-006, p. 6). The risk associated with an account or test affects the auditors' reliance decisions. As the risk associated with a control or test increases, the need for the auditor to perform his or her own work on the control or account increases.

1.2.2 Inspection Focus

In conjunction with the change in AS5 to make the requirements of an integrated audit more efficient, the PCAOB announced that its inspection process would focus not only on the effectiveness of a registered firm's audits, but that it would also check to insure that the firm had implemented AS5 appropriately (PCAOB Release No. 104-2006-105). This included making sure that firms are also conducted their audits efficiently.

SOX Section 104 requires that registered public accounting firms be inspected by the PCAOB. The PCAOB's selection of audits for inspection does not appear to be random but

rather based on the riskiness of the audited entity.⁸ A review of inspection reports shows that the PCAOB inspection teams have been critical of many of the audits inspected.⁹ While the focus of prior inspections has been on the effectiveness of the audit, the PCAOB recently stated that its future inspections will look at the efficiency of the audit.¹⁰ In light of changes required by AS5 discussed above, inspectors will also focus on how efficiently the firms performed the audit. More specifically, inspectors will evaluate the degree of integration between the audit of ICFR and the audit of financial statements, including the use of a top-down approach, proper assessment of and response to identified risks, and using the internal audit function. In the first-year inspection reports under AS5, inspectors noted instances where auditor's relied on the internal audit function greater than was appropriate considering the level of risk associated with the control being tested, but they also noted numerous instances where auditors' retested the internal audit function when it was unrelated to the risk involved (PCAOB Release 2009-006, p. 6).

I examine two differing PCAOB inspection focuses: One where the focus is on effectiveness only and one where the focus is a more balanced approach between effectiveness and efficiency. I expect the auditors' reliance decisions on the internal audit function will increase when the PCAOB's inspection focus is on effectiveness and efficiency. In contrast, I expect the auditors' reliance decision will decrease or remain the same when the PCAOB's focus is on effectiveness.

⁸ PCAOB 2005 Annual Report states "the PCAOB chose those audits, and the particular aspects reviewed, on the basis of its assessment of the risk of material misstatement or significant auditing deficiencies, as well as firm-specific risks" (p. 8).

⁹ PCAOB Release No. 2005-023, 2007-004.

¹⁰ PCAOB Release No. 104-2006-105, 2007-004.

1.2.3 The Effect of Engagement Risk

Auditors are facing increased litigation pressure as a result of the corporate failures (e.g., Enron and WorldCom) that led to the passage of SOX.¹¹ When faced with increased engagement (or litigation) risk,¹² auditors adjust the nature, timing and extent of audit procedures. Prior research on engagement risk shows that, in general, auditors become more conservative when faced with high engagement risk. For example, auditors have been found to allow more aggressive reporting by clients when engagement risk is low than when engagement risk is high (Hackenbrack and Nelson 1996). Hackenbrack and Nelson (1996) also show that engagement risk affects a number of auditor decisions, including evidence gathering choices.

I chose to examine the auditors' reliance decision under differing engagement risk levels because auditors face a new regulatory environment as a result of the changes brought on by AS5 and the PCAOB inspection process. The emphasis by the PCAOB on increased efficiencies in the integrated audit to reduce costs and the increase in engagement risk will likely create a natural conflict in the auditors' decision process for evidence gathering. For example, when engagement risk is low and the inspection process emphasizes increased efficiency, auditors are likely to rely more on the internal audit function. However, when engagement risk is high and there is an increased emphasis on efficiency in the inspection process, auditors may not rely on the internal audit function sufficiently to satisfy PCAOB inspectors.

This study examines auditor reliance decisions under different focuses of the PCAOB inspection process, engagement risk levels, and riskiness levels of audit tests or procedures. How each of these factors interacts with one another and affect auditors' decisions to use the internal audit function (i.e. internal auditors) is the focus of this research.

¹¹ "Auditor liability: to cap or not to cap?" *The Accountant* January 31, 2007.

¹² Engagement risk is defined as the risk that the audit firm is exposed to loss or injury from events arising in connection with the audited financial statements (SAS 47).

1.3 Overview of Methodology

I conduct an experiment that uses experienced auditors (senior associates to partners). The experiment presented participants with background information about SOX and the PCAOB, and case information for a hypothetical company. I used a 2 x 2 x 2 x 2 mixed-factorial design with Engagement Risk and Focus of the Inspection as between-subjects factors and Riskiness of the Test and the Type of Test as repeated measures factors. I manipulated engagement risk at two levels: high and low. I also manipulated the focus of the PCAOB at two levels (an effectiveness level and a balanced level). The first level serves as a control condition while the second level serves as the test condition. For the repeated measures factors, the participants make eight reliance decisions on four tests of controls and four substantive procedures that vary based on their riskiness (high and low). Each test is measured on an 11 point scale from no reliance to moderate reliance to extensive reliance. Four dependent variables for each participant are constructed by using the average responses for the two types of tests (tests of controls and substantive procedures) and the two levels of riskiness for the tests.

1.4 Overview and Discussion of Findings

My findings suggest that auditor reliance decisions are impacted by differing levels of engagement risk, the focus of PCAOB inspection process, and the riskiness of audit tests. In addition, the auditors' reliance on the internal audit function varies by the type of audit test. In general, as engagement risk increased, auditors' reliance on the internal audit function decreased. Also, as the riskiness of the test decreased, the auditor placed more reliance on the internal audit function. However, these factors interacted with one another. Specifically, when auditors planned low riskiness tests, the change in their reliance decisions was based on the level of engagement risk with the balanced focus of inspection always resulting in more reliance than the

effectiveness focus of inspection. When auditors planned high riskiness tests, the auditors' reliance decisions did not differ for the effectiveness focus of the inspection process across both levels of engagement risk, whereas in the balanced focus of inspection their reliance decisions were higher when engagement risk was low relative to when engagement risk was high.

I also found that the auditors' reliance decisions varied by tests of controls and substantive procedures. First, auditors relied more on the internal audit function to conduct tests of controls than substantive procedures. Second, when planning test of controls, auditors' rely more on the internal audit function when the focus of the PCAOB inspection focus is balanced, the riskiness of the test is low, and the engagement risk is low. Third, the auditors' reliance decisions when planning substantive procedures, shows the following. First, when considering reliance on the internal audit function to perform substantive procedures, auditors' reliance decisions depend on the level of engagement risk and not the focus of the inspection. Second, when riskiness of the substantive test is low, the auditors' reliance on the internal audit function was not impacted by the focus of the PCAOB inspection process. Third, when the riskiness of the substantive test was high, the auditors relied more on the internal audit function when the focus of the PCAOB's inspection process was balanced.

1.5 Contribution of Research

The proposed research has important implications for auditors, regulators, academics and other interested stakeholders. First, there are no research studies that I am aware of that examine how the PCAOB's inspection process influences auditors' reliance decisions on the internal audit function. This is important given the recent changes imposed by the PCAOB. Thus, this study extends the audit literature by examining how the inspection process by the PCAOB affects auditors' reliance decisions on the internal auditor function (Gramling 1999, Felix et al. 2001,

Felix et al. 2005). Second, AS5 allows the external auditor to rely more on the internal audit function when conducting an audit of ICFR. My findings suggest that auditors' reliance decisions may be compromised and result in unintended consequences from this regulatory change. For example, when the riskiness of the test is high, instead of conducting the work themselves, the auditor may rely on the internal audit function and not collect the appropriate corroborating evidence. Third, auditors face increased pressure to maintain a high level of effectiveness while increasing the efficiency of their audits. To my knowledge, there is little empirical research in auditing related to the tradeoff between effectiveness and efficiency. This study examines the effectiveness/efficiency tradeoff by having auditors make reliance decisions where there is an increased emphasis on efficiency holding effectiveness constant. Therefore, the impact of effectiveness/efficiency pressures is directly examined. When auditors' are under pressures to increase efficiency and hold effectiveness constant, they will rely more on the internal audit function than if they are under pressure only for effectiveness. Lastly, prior research has examined how engagement risk influences auditors' decision-making behavior (e.g., Knapp 1985; Walo 1995; Hackenbrack & Nelson 1996; Johnstone 2000). This study extends this risk-based auditing research by examining engagement risk under the new regulatory pressures of the PCAOB inspection process. The impact of engagement risk on auditors' reliance decisions depends on the focus of the PCAOB inspection process and the riskiness of the tests. When the focus of the PCAOB inspection is on a more balanced approach, auditors' reliance decisions are greater the lower the engagement risk, but when the focus of the PCAOB inspection is on an effectiveness approach and the riskiness of the test is high, auditors' reliance decisions do not differ between the level of engagement risk.

1.6 Organization of Dissertation

The remainder of this dissertation is organized as follows. Chapter 2 provides background information and a review of relevant literature. Chapter 3 develops applicable theories and hypotheses. Chapter 4 describes the experiment and related methodology. Chapter 5 presents a discussion of results. Chapter 6 concludes this dissertation with a summary of findings, and a discussion of the contributions, limitations, and avenues for future research.

CHAPTER 2

BACKGROUND AND LITERATURE REVIEW

This chapter provides background information and reviews relevant literature. Section 2.1 discusses SOX and PCAOB regulations. Section 2.2 reviews prior research on external auditors' reliance on the internal audit function. Section 2.3 examines engagement risk while Section 2.4 examines audit efficiency. Lastly, Section 2.5 closes with a brief summary.

2.1 SOX and PCAOB Regulation

The internal audit function has had an increasing role in the external audit over the last decade due to changes in regulation. First, in 2002, SOX was passed with requirements that (1) companies establish and maintain an adequate system of internal controls sufficient to ensure reliable financial reporting and (2) management assess the effectiveness of internal control. In addition, the external auditor is also required to report on the effectiveness of the entity's internal control. The internal audit function plays a major role in such activities. Second, since November 2003, the New York Stock Exchange (NYSE) requires that listed companies must maintain an internal audit function to provide management and the audit committee with ongoing assessments of the company's risk management processes and system of internal control (NYSE Section 303A).

2.1.1 PCAOB Inspection Process

The PCAOB is responsible for oversight of the integrated financial statement audits of publicly-traded corporations. Part of this oversight includes issuing auditing standards that provide guidance over auditor ethics and independence; supervision; hiring and development of audit personnel; and client acceptance and continuation. The PCAOB is also responsible for

inspecting auditing firms to ensure their compliance with SOX regulations and professional auditing standards. The PCAOB can impose sanctions on accounting firms, including civil penalties and suspensions from auditing public companies. The PCAOB may refer these matters to the SEC and the Department of Justice for further legal action if it believes such action is needed.

The Board conducts a continuing program of inspections to assess the degree of compliance of each registered public accounting firm and associated persons of that firm with SOX, the rules of the Board, the rules of the Commission, and professional standards. PCAOB inspections are designed to identify and address weaknesses and deficiencies related to how a firm conducts audits. To achieve that goal, Board inspections include reviews of certain aspects of selected audits performed by a firm and reviews of other matters related to a firm's quality control system. The Board sets its own rules for the inspection process.

2.1.2 The Potential Impact of AS5 on the Integrated Audit

The PCAOB issued AS2 in 2004 to provide guidance in conducting the integrated audit for public companies. This standard was criticized for being too costly as a result of excessive auditing by requiring unnecessary procedures and limiting the use of the internal audit function through the principal evidence requirement.¹³ In 2007, the PCAOB issued AS5 with the intention of providing audit guidance to decrease audit costs by encouraging auditors to focus on the matters that are most important to internal controls.¹⁴ AS5 incorporates a top-down approach that begins with an assessment of company-level controls and financial statement elements and then links them to significant accounts, relevant assertions, and to significant processes.¹⁵ AS5

¹³ Refer to Chapter 1

¹⁴ See SEC meeting, July 25, 2007.

¹⁵ PCAOB Release No. 2007-005A, June 12, 2007. AS5 codifies the guidance introduced on a policy statement regarding implementation of AS2 (PCAOB Release No. 2005-009, May 16, 2005).

emphasizes the importance of risk assessment and encourages external auditors to place more reliance on the internal audit function (e.g., internal auditors), especially in areas of lower risk. AS5 also allows multi-location site visits to be determined based on risk rather than coverage and allows audit risk assessments to be influenced by the results obtained in prior audits. Such guidance requires that the risk assessments should drive the external auditors' focus towards higher risk areas.

With respect to the integrated audit and the internal audit function, AS5 provides the following guidance: The auditor should evaluate the extent to which he or she will use the internal audit function to reduce the work the auditor might otherwise perform himself or herself (paragraph 16). Thus, the auditor may use work performed by, or receive direct assistance from, internal auditors, company personnel (in addition to internal auditors), and third parties working under the direction of management or the audit committee that provide evidence about the effectiveness of internal control over financial reporting. In an integrated audit, the auditor also may use this work to provide evidence supporting the auditor's assessment of control risk for purposes of the audit of the financial statements. The extent to which the auditor may use the internal audit function in an audit of internal control also depends on the risk associated with the control being tested. As the risk associated with a control increases, the need for the auditor to perform his or her own work on the control increases.

2.1.3 Current Research on the PCAOB Inspection Process

Currently, there has been little research on the PCAOB inspection process. Lennox and Pittman (2009) examined audit firm supervision since the PCAOB began inspections. They find that audit clients do not perceive the PCAOB's inspection reports as valuable information for signaling audit quality and examining both peer reviews and inspection reports under the new

regulatory regime, there appears to be less transparency about audit firm quality. Several studies deal with the deficiencies noted in the inspection reports (Hermanson et al. 2007; Gramling et al. 2008).

2.2 Prior Research on External Auditors' Reliance on the Internal Audit Function

External auditors have always had the option of relying on the internal audit function in conducting a financial statement audit. SAS No. 65 (AU 322) was the first auditing standard to formalize the process to be followed by the external auditor when using internal auditors for assistance.¹⁶ SAS No. 65 (AICPA, April 1991) outlines two principal ways in which internal auditors' work may impact the external audit process for a financial statement audit. First, the external auditor can evaluate the competence, objectivity and work performed of the internal audit function and if it is deemed proficient or acceptable, the auditor can rely on the internal audit work. Second, the internal audit function can provide direct assistance to the auditor on a financial statement audit.

2.2.1 Research on internal audit function

Research on the reliance of the internal audit function began with empirical studies that developed a list of factors, or indicators, for evaluating the competency (Gibbs and Schroeder, 1979), performance, and objectivity (Clark et al. 1980; Clark et al. 1981) of internal auditors. Brown (1983) was the first study to focus on factors that might be considered important by external auditors in evaluating the reliability of an internal audit function, and the degree to which consistent use is made of those factors across auditors. Brown used a questionnaire that included a brief description of a manufacturing concern and then provided 48 different scenarios of internal audit function characteristics which encompassed competence, objectivity, and

¹⁶ SAS No. 9 "The Effect of an Internal Audit Function on the Scope of the Independent Audit (AICPA 1975) provided the three main areas: objectivity, quality and competency, but did not provide any benchmarks or measurement criteria. The reliance decision was left up to auditor judgment.

performance dimensions. The participants made degree of reliability judgments on each scenario. Brown found that independence and previous years' audit work were the primary factors used by the auditors, regardless of their firm affiliation or years of audit experience.

Schneider (1984) ran three experiments to identify descriptive models of how external auditors evaluate the three factors (competence, objectivity, and work performed by the internal audit function) identified in SAS No. 65. Schneider (1985b) examined the degree of agreement among auditors in evaluating the internal audit function and he found a high degree of consensus. Schneider (1985a) examined both the extent to which auditors would rely on the internal audit function, and the relationship between the reliance decision and their evaluation of internal audit strength. The three factors were used to construct various case profiles of an internal audit function. The auditors ranked these profiles in terms of strength and then indicated the amount of external audit hours they would assign for each profile. The results showed that auditors generally relied on internal auditing to reduce their external audit work and the relative importance weights of the three factors were approximately the same for the reliance decisions and for the evaluation judgments.

Margheim (1986) examined whether external auditors adjusted the nature and extent of audit procedures due to reliance on internal auditors and, if so, whether this reliance related to the competence, objectivity, and work performed by the internal auditors. She found that auditors adjusted their planned audit hours when a high level of competence/work performance existed but they did not adjust their hours to different degrees of internal auditor objectivity.

Additional studies examined external auditor reliance on the internal audit function along the three factors prescribed by professional auditing standards (Brown and Karan 1986; Edge and Farley 1991; Felix et al. 2001; Maletta 1993; Maletta and Kida 1993; and Messier and

Schneider 1988). While these studies find differences in ranking the importance of the three factors, they do provide evidence that each factor used to evaluate the internal audit function influenced the extent to which external auditors rely on the work performed by internal auditors.

2.2.2 *Other factors affecting reliance*

A number of research studies examined other factors that affected the external auditor's reliance decision. Whittington and Margheim (1993) examined materiality and inherent risk and varied each on two levels in an experimental setting. The results showed that at the low materiality level the audit managers assigned more tests of control work to the internal auditors, but the substantive work appeared to depend on the nature of the individual assertion's evidence. Inherent risk factors were not found to be significant. DeZoort et al. (2001) examined the effects of incentive compensation and a consulting role across two different routine tasks: an objective test of controls task and a subjective inventory valuation task. They found auditors' reliance decisions were only impacted when there was incentive compensation under a subjective task, and consulting roles had no effect under either task. Gramling (1999) conducted an experiment that examined whether audit managers' planning decisions are influenced by client fee pressure and by the preferences of the audit partner. She found that audit managers under high fee pressure relied more on the internal audit's work than under less fee pressure, and partner preferences influenced the audit managers' reliance decisions, but the results did not show an interaction between fee pressure and partner preferences. Felix et al. (2001) found that the internal audit contribution to the external audit is influenced by internal audit quality and conditional on the level of inherent risk, the availability of internal audit and the extent of coordination between internal and external auditors. Finally, Felix et al. (2005) examined how external audit evidence gathering choices are influenced by nonaudit fees and client pressures.

They found that when significant nonaudit services are provided, client pressure significantly increases the extent of internal audit reliance. Each of these studies showed that a number of various factors (i.e. level of materiality, incentive compensation, fee pressure, and nonaudit services) can influence the external auditors' evaluation of the internal audit function.

2.2.3 *Outsourcing*

A number of recent research studies examined the effects of sourcing arrangements on the external auditors' reliance decision. The internal audit function has traditionally been seen as internal to the business, but a number of companies outsourced some or all of their internal audit activities (Cheney 1995; Aldihizer and Cashell 1996; Powell 1997). Prior research has examined the extent of internal audit outsourcing (e.g., Pelfrey and Peacock 1995; Petravick 1997) and other studies have examined the effects of performance of the dual role of internal and external audits on external auditor judgments (e.g., Lowe et al. 1999; Swanger and Chewing 2001; James 2003). Other studies examined whether the in-house auditors or outsourcing the internal audit function impacts the auditors reliance decisions. For example, Ahlawat and Lowe (2004) examined the impact of outsourcing on internal auditor judgments. Participants in their study were from corporations (in-house) and Big 4 accounting firms (outsourced). Each participant completed a case study and the results found that the source of the internal audit provider did not impact the external auditors' judgment decisions. Glover et al. (2008) used external auditors to complete an experimental case in which they manipulated the internal audit sourcing, and they found no difference when both in-house and outsourced were considered objective.

2.3 **Engagement Risk**

Engagement risk refers to the risk that the audit firm is exposed to loss or injury from litigation, adverse publicity, or other events arising in connection with the audited financial

statements (Johnstone 2000; Bell et al. 2000). Prior audit research demonstrates that engagement risk influences auditors' decision-making behavior (e.g., Knapp 1985; Walo 1995, Hackenbrack and Nelson 1996; Johnstone 2000) and is an aspect of the overall audit environment (Bell et al. 2000; POB 2000). More specifically, research has shown that when auditors were faced with higher engagement risk, they responded by requiring more conservative reporting and justifying their choices with conservative interpretation of accounting standards (Hackenbrack and Nelson 1996).

Under AS5, the auditor must consider the internal audit reliance decision as part of the integrated audit. As the risk of a material misstatement increases or the degree of subjectivity increases, the need for the auditor to perform his or her own tests of the assertions increases.¹⁷ Therefore, as engagement risk increases, auditors' reliance on the internal audit function is likely to decrease. However, there are conflicting results in prior research that show that in high risk situations other factors may affect the reliance decisions and not only engagement risk. Research has found that auditors increased their audit hours when faced with higher engagement risk (Hackenbrack and Nelson 1996; Clarkson and Simunic 1994) while Maletta and Kida (1993) found that in high risk situations the external auditors' reliance decisions depends on the design of the accounting control policies and procedures and not on the engagement risk.¹⁸

2.4 Audit Efficiency

Auditors are always facing a tradeoff between effectiveness and efficiency concerns on an audit. Clark (1921) links efficiency and effectiveness by making the argument that a system

¹⁷ In making judgments about the extent of the internal auditors' work on the auditors' procedures, the auditors consider the materiality of financial statement amounts, the risk of material misstatement, and the degree of subjectivity involved in the evaluation of evidence (PCAOB AU Section 322).

¹⁸ Other research on litigation risk includes client risk factors, audit effort, and audit fees (Pratt and Stice, 1994; O'Keefe et al., 1994; Johnstone and Bedard, 2003; Clarkson and Simunic, 1994; Simunic and Stein, 1996).

is “inefficient when it is cheap but ineffective.” There are few theoretical models and relatively little empirical research on audit efficiency. Auditing practitioners and researchers tend to define efficiency as accomplishing the audit task in less time, thereby increasing profitability or reducing overall audit cost (e.g. Hollingshead, 1996; Davis and Solomon, 1989; Libby, 1995). Recently, Knechel et al. (2009) found that audits are more efficient for clients that are larger, have a December year-end, and are highly automated, but that audits are less efficient when the auditor relies on internal control, tax services are provided, and the client has subsidiaries. This study developed a model on audit production but relied on data from a 1991 survey. Thus, the results that relying on internal controls decrease efficiency may not hold in the post-Sox environment that requires an integrated audit. The PCAOB defines efficiency as the auditor achieving the objectives described in the Board’s standards with the least expenditure of effort and resources (PCAOB Release No. 2005-023).

2.5 Summary of Chapter 2

Overall, there is little research on the PCAOB inspection process and how it may affect the external auditors’ reliance decisions on the internal audit function. Prior research on external auditors’ reliance decisions has shown that the reliance depends on a number of different factors. Several studies show that the internal auditors’ competency, performance, and objectivity are what the external auditor examines when relying on the internal audit function. Other factors that affect the external auditors’ internal audit reliance decisions include materiality, incentive compensation, client fee pressure, and non-audit services. Engagement risk generally has the effect of reducing the external auditors’ reliance decisions, but there is a natural conflict when auditors are facing a need for audit efficiency. This line of research leads the current study into the development of the hypotheses examined.

CHAPTER 3

DEVELOPMENT OF THEORY AND HYPOTHESES

This chapter describes relevant theory and develops the formal hypotheses to be tested. Section 3.1 through Section 3.5 describes the theory leading to each hypothesis. Lastly, Section 3.6 contains a brief summary.

3.1 Motivated Reasoning Theory

People rely on cognitive processes and representations to arrive at their desired conclusions; however, motivation plays a role in determining which of these will be used in a given situation. I define motivation as having a wish, desire, or preference that concerns the outcome of a given reasoning task (Kunda 1990). It is the process of reasoning such as forming impressions, determining one's beliefs and attitudes, evaluating evidence, and making decisions. This type of motivated reasoning falls into two major categories: (1) reasoning driven by accuracy goals or (2) reasoning driven by directional goals (Kruglanski 1980; Kruglanski & Ajzen 1983; Kruglanski & Klar 1987; see also Chaiken, Liberman, & Eagly 1989; Pyszczynski & Greenberg 1987; Lodge & Taber 2000). Both types of goals affect reasoning by influencing the choice of beliefs and strategies applied to a given problem. Accuracy goals lead to the use of those beliefs and strategies that are considered most appropriate, whereas directional goals lead to the use of those that are considered most likely to yield the desired conclusion. This study examines reasoning under directional goals.

Kunda (1990) proposed that people motivated to arrive at a particular conclusion attempt to be rational and construct a justification for their desired conclusion that would persuade a dispassionate observer. The biasing role of goals is thus constrained by one's ability to construct a justification for the desired conclusion. There is the assumption that directional goals may

influence which beliefs and rules are accessed and applied on a given occasion. Thus, this assumption seems reasonable because there is considerable evidence that individuals access different beliefs and rules on different occasions. Individuals endorse different attitudes (Salancik & Conway 1975; Snyder 1982), express different self-concepts (Fazio, Effrein, & Falender 1981), make different social judgments (Higgins & King 1981), and use different statistical rules (Kunda & Nisbett 1986; Nisbett, Krantz, Jepson, & Kunda 1983).

Prior research in accounting suggests that auditors have directional goals. For example, Farmer et al. (1987) conducted an experiment using auditors with varying levels of experience to choose whether to agree with a client's decision to use an accounting approach for which there was no clear precedent. The study found that the threat of a loss of the client led to more aggressive reporting, but the threat of a lawsuit discouraged aggressive reporting. Lord (1992) and Roberts and Cargile (1994) found similar results. Finally, Hackenbrack and Nelson (1996) found that auditors tend to make the reporting decisions favored by the incentives they face. Specifically, auditors preferred aggressive reporting when engagement risk was moderate or low, but preferred conservative reporting when engagement risk was high.

The effect of directional goals on auditors' evidence evaluation affects auditors' decisions throughout the audit process. In the planning phase, the auditor searches for, and evaluates, information and terminates this search when sufficient information has been gathered to generate a final assessment. The auditors' final assessment is then used to make a reporting decision. Prior research provides evidence that directional goals influence an individuals' initial assessment of a neutral attribute situation (Russo et al. 1996) or when less balanced information is provided (Russo et al. 1998). Blay (2005) examined independence threats from litigation risk using a going concern situation. Auditors with high threats to their independence evaluated their

clients as more likely to survive, both initially and as they proceeded to evaluate new information. Auditors facing high litigation risk evaluated clients as less likely to survive at the completion of the evidence evaluation process. Kadous et al. (2003) examined the gap between an aggressive method that a client prefers and the most appropriate method. They found that when there is ambiguity in the method choice, auditors used directional goals to make their choice decisions.

3.2 Engagement Risk

Engagement risk influences auditor behavior and is one of the leading risks facing the audit profession (Lowe et al. 2002). Auditors must consider engagement risk throughout the audit process (i.e. from client acceptance/retention to issuance of the audit reports on an integrated audit), and the effect of engagement risk on evidence gathering choices is potentially influenced by auditor incentives. For example, auditors have been found to allow more aggressive reporting by clients when engagement risk is low (Hackenbrack and Nelson 1996).

As discussed in Chapter 2, prior audit research demonstrates that engagement risk influences auditors' decision-making behavior (e.g., Knapp 1985; Walo 1995, Hackenbrack and Nelson 1996; Johnstone 2000) and is an aspect of the overall audit environment (Bell et al. 2000; POB 2000). More specifically, research has shown that when auditors are faced with higher engagement risk, they respond by requiring conservative reporting and justify their choices with conservative interpretation of accounting standards (Hackenbrack and Nelson 1996).

One possible reason for this behavior is that auditors, many times, are blamed when investors and creditors suffer financial losses (Stice 1991). When faced with relatively high levels of engagement risk, auditors typically increase audit fees, planned audit hours, and evidence requirements (Simunic 1980; Pratt and Stice 1994; Houston et al 1999), particularly in

areas involving a great deal of subjective judgment such as accounting estimates and accruals (Lys and Watts 1994). Engagement risk focuses auditors' attention on making accurate decisions (Palmrose 1988; Stice 1991) and auditors are less willing to accept errors in financial statements as engagement risk increases (Chang and Hwang 2003; Farmer et al. 1987). Given the litigious environment in which the audit profession operates, auditors are acutely aware that they must be prepared to defend their decisions to jurors should the need arise (Lowe and Reckers 2000). Staw (1980) refers to this phenomenon as prospective rationality, where decisions are made with foresight knowledge that decisions may need to be defended in the future. Auditors will attempt to identify the most defensible course of action (Tetlock 1985; Messier and Quilliam 1992).

Because the effect of engagement risk can be driven by varying incentives, Gibbins (1984) proposed that when auditors are faced with uncertainty or risk, they tend to focus on the potential negative consequences of each decision option because the penalties for error are more significant than the rewards for positive results. Emby and Gibbins (1988) suggest that auditors will also require more justification in situations with an element of risk due to an increased concern over negative consequences. When engagement risk is high, auditors are more likely to conduct audit work themselves rather than rely on the internal audit's work. Based on the previous arguments, I propose the first hypothesis:

H₁: As engagement risk increases, auditors' reliance on the internal audit function will decrease.

3.3 Riskiness of the Audit Tests

As discussed previously, specifically with engagement risk, the risk associated with an audit test should also affect the auditors' reliance decisions. Under AS5, the auditor is required to use a risk-based approach based on a series of risk factors. As the riskiness of the test

increases, the likelihood that the external auditor will perform the test increases. This leads to the following hypothesis:

H₂: As the riskiness of the test increases, auditors' reliance on the internal audit function will decrease.

3.4 The Interaction of Engagement Risk, Focus of the Inspection Process, and Riskiness of the Test

Audit firms face pressures from numerous sources (i.e. clients, regulators, markets) to increase both the effectiveness and efficiency of their audits (Lowe et al. 2002). AS5 states that the auditor is solely responsible for obtaining sufficient competent evidence to support his or her opinions on an integrated audit. However, the PCAOB has cautioned auditors that repeating work performed by competent professionals within the entity (i.e. internal auditors) would unnecessarily increase audit costs without producing a corresponding increase in audit quality. Therefore, auditors are responsible for minimizing redundancy by relying on the internal audit function where appropriate while still ensuring high audit quality. In such situations, auditors should attempt to hold effectiveness constant while increasing efficiency. The PCAOB, through its inspection process, found that auditors did not fully utilize the internal audit function. For example, the inspectors noted that many auditors duplicated internal auditors work in lower-risk areas (PCAOB Release 2007-004).

Based on the 2005 inspections, the PCAOB found that auditors lacked efficiency in using the internal audit function to the extent permitted by AS2 (PCAOB Release 104-2006-105). In response, the PCAOB announced that it would focus its 2006 inspections on whether auditors achieved cost-saving efficiencies in audits and its inspectors would check to see whether auditors took full advantage of the opportunities to use the internal audit function, such as the company's internal audit staff (SEC Release 2006-75). Conclusions from the 2006 inspection reports

revealed that progress was made in improving the efficiency of audits of ICFR, but that auditors could have increased their use of the internal audit function even more (PCAOB Release 2007-004).

As discussed previously, AS5 allows the auditor to apply professional judgment in determining the extent to which they will use the internal audit function. The PCAOB's report on the first-year implementation of AS5 showed that the inspectors observed instances "where the extent of the auditor's use of the internal audit function to reduce the auditor's own work was greater than was appropriate under AS5 considering the level of risk associated with the control being tested" (PCAOB Release 2009-006, p.6). In addition the inspectors observed numerous instances "where the extent of the auditors' retesting of the internal audit function was seemingly unrelated to the risk involved (PCAOB Release 2009-006 p. 6). Thus, the PCAOB observed auditors over-and under-relying on the internal audit function.

Prior research suggests that audit quality is a function of the amount and extent of audit procedures performed (Dopuch and Simunic 1982). Felix et al. (2001) demonstrated that reliance on the internal audit function decreased the annual external audit fee, which is one of the factors motivating the PCAOB to increase the reliance on the internal audit function.

Psychology research suggests that when individuals know the views of their audience prior to forming an opinion, they adopt the position that they expect will gain favor with the person to whom they are accountable (see Lerner and Tetlock 1999 and Messier and Quilliam 1992 for reviews). When the PCAOB places an emphasis on increased efficiency, auditors can reduce audit hours by relying more on the internal audit function. If the PCAOB (by way of AS5, inspections, and other pronouncements) puts pressure on auditors to increase efficiency, this is likely to affect the auditors' decision to rely on the internal audit function.

Auditors' incentives can be influenced by engagement risk and the riskiness of the tests. While I have predicted a main effect for engagement risk and the riskiness of the tests, I expect that engagement risk, the riskiness of the test, and the focus of the PCAOB inspection process will interact in a predicted manner and result in a three-way interaction. More specifically, I expect that the interaction between engagement risk and focus of the inspection will differ depending on the level of the riskiness of the test.

Under motivated reasoning theory, decision makers with directionally motivated goals evaluate information consistent with a desired conclusion, so long as the conclusion is justifiable (Kunda 1990; Pyszczynski and Greenberg 1987). This holds particularly true when a preference exists prior to the decision stage (Russo et al. 1996). The PCAOB is seeking a balanced approach for the conduct of an integrated audit (i.e. hold effectiveness constant while increasing efficiency) while auditors face increased engagement risk. Brown et al. (1999) suggest that when auditors know the preferences of powerful others, auditors may have difficulty disentangling the preferences of powerful others from their own beliefs.

Auditors should evaluate all relevant information in the evaluation process and should not be influenced to adjust the evaluation process by potential pressures (e.g. Beckmann and Gollwitzer 1987). For example, auditors faced with increased engagement risk are less likely to rely on the internal audit function while pressure from the PCAOB to lower the cost of their audits should lead to higher reliance on the internal audit function. These two pressures are not likely to be significant when the riskiness of the test is low. However, when the riskiness of the test is high, auditors are faced with balancing the competing pressures of engagement risk and the focus of the PCAOB's inspection process. Thus, when the riskiness of the test is high, the auditors' reliance decisions will vary based on which pressure they believe to be more powerful

[engagement risk (risk of litigation) or the PCAOB (risk of sanctions)]. I predict when the riskiness of the test is low, the PCAOB pressure will prevail, but when the riskiness of the test is high, I expect the risk of litigation to prevail.

This leads to the following hypotheses:

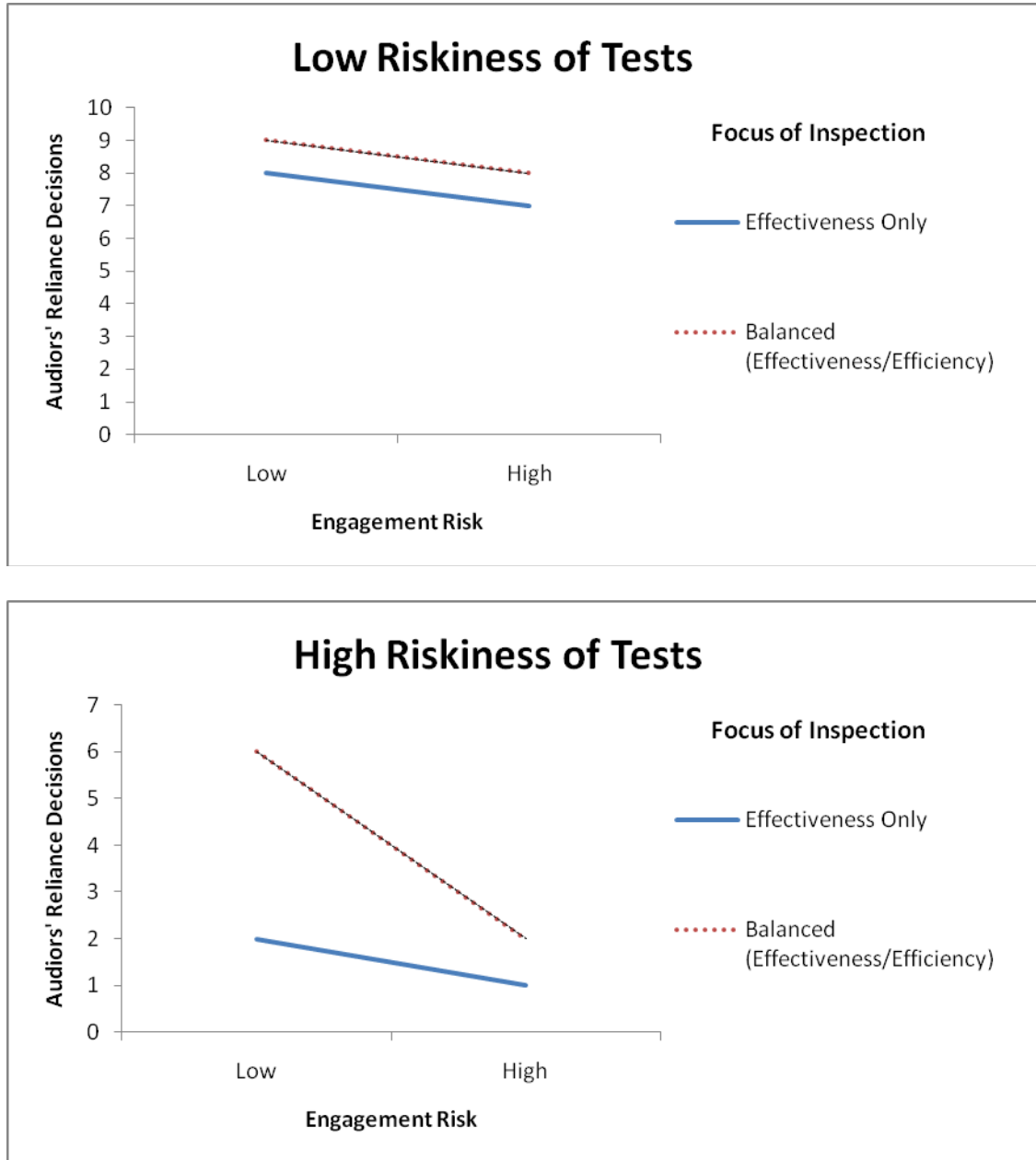
H_{3a}: When the riskiness of the test is low, auditors' reliance on the internal audit function will be higher when the focus of the PCAOB inspection process includes both a focus of effectiveness and efficiency regardless of the level of engagement risk.

H_{3b}: When the riskiness of the test is high, auditors' reliance on the internal audit function will be higher when the focus of the PCAOB inspection process includes both a focus of effectiveness and efficiency but only when engagement risk is low. There will be no difference between the auditors' reliance on the internal audit function when the focus of the PCAOB inspection process is between effectiveness only or includes both effectiveness and efficiency when engagement risk is high.

Thus, H_{3a} predicts that when the riskiness of the test is low, the balanced condition (includes both the effectiveness and efficiency focus) of the PCAOB focus will dominate the auditors' reliance decisions. However, in H_{3b}, where the riskiness of the test is high, the auditors' reliance decision will be higher in the balanced condition only when engagement risk is low.

Figure 3.1 shows the predicted interaction across each level of the riskiness of the audit tests.

Figure 3.1: Riskiness of the Test



3.5 Type of Audit Tests: Tests of Controls versus Substantive Procedures

Prior research has shown that auditors rely on the internal auditors' work only to the extent that they can assess the competence, objectivity, and performance of the internal audit function (Brown 1983). Ward's (1979) research found that "external auditors rely upon internal

auditors more in connection with internal controls than for direct assistance in performing audit procedures.” Ward (1979) and Ward and Robertson (1980) examined the nature of the internal auditors’ work used by external auditors. They found that external auditors relied on internal auditors to a greater extent in connection with test of controls versus substantive testing. Margheim (1986) examined both compliance tests and substantive tests and found that the auditors’ reliance decisions were impacted similarly based on the changes within the three factors (competence, objectivity, and performance), and not the type of tests. Whittington and Margheim (1993) found similar results except in the consideration of materiality. They found that in the low materiality setting, external auditors assigned more work to the internal auditors in using test of controls (69%) than using substantive testing (55%). They concluded that “even at a low materiality levels the participant felt that the external auditor had an obligation to directly perform much of the substantive work, but were very willing to let the internal auditors perform a large majority of the tests of controls work.” This implies that the size of an account balance or transaction matters when external auditors test internal controls but not in the performance of substantive testing. However, Mills (1996) examined the effect of cognitive style on the external auditors’ reliance decisions and found no difference between test of controls and the substantive procedures and the other factors examined.

The Institute of Internal Auditors (IIA) advocates an internal control focus when it defines the scope of internal auditing: "The scope of internal auditing should encompass the examination and evaluation of the adequacy and effectiveness of the organization's system of internal control and the quality of performance in carrying out assigned responsibilities" (IIA

1992).¹⁹ Hence; external auditors have more opportunities to rely on internal auditors' work when performing tests of controls versus substantive testing.

Prior to SOX, auditors made decisions between tests of controls and substantive procedures purely on cost/benefit grounds (AU Section 319.44; O'Keefe et al. 1994). Auditors could set control risk at high and collect only substantive evidence if it was more efficient to do so. With the passage of SOX, external auditors' tests of controls have increased because they need more evidence on controls in order to issue a report on ICFR. Under AS5, auditors are required to perform tests of controls; and risk assessment underlies this process, including the selection of the controls to test, and the determination of the audit evidence necessary (AS5, paragraph 10). Based on prior research and changes to audit regulation related to internal control, the external auditors' reliance on the internal audit function should be higher for tests of controls versus substantive procedures.

This leads to the following hypothesis:

H₄: Auditors' reliance on the internal audit function will be higher for test of controls than substantive procedure.

3.6 Summary of Chapter 3

Drawing on motivated reasoning theory, I examine the different pressures that effect auditors' evidence gathering on the internal audit function. I hypothesize that as engagement risk or the riskiness of the test increases, auditors' reliance on the internal audit function will decrease. I predict there will be a three-way interaction between engagement risk, the focus of the PCAOB's inspection process, and the riskiness of the test. Lastly, I predict that the type of test (test of controls v. substantive procedures) should impact the auditors' reliance decision on

¹⁹ Current IIA standards under in section 2100-Nature of Work define "the internal audit activity must evaluate and contribute to the improvement of governance, risk management, and control processes using a systematic and disciplined approach."

the internal audit function. Chapter 4 describes the experimental procedure employed to test the hypothesized effects.

CHAPTER 4 METHODOLOGY

This chapter presents an overview of the experimental research method used. Section 4.1 describes experimental participants while section 4.2 describes the experimental design. Section 4.3 describes the Case Materials. Section 4.4 describes the experimental procedures while Section 4.5 describes the hypotheses testing procedures. Section 4.6 concludes with a brief summary.

4.1 Participants

My choice of participants for the study was based on detailed discussions with two partners from a major public accounting firm.²⁰ The partners indicated that the *final* decision on the extent of the reliance on the internal audit function for an integrated audit rests with the audit partner and manager. However, they indicated that the in-charge auditor (senior associate) would participate in the process leading up to the final decision on the extent of the use of the internal audit function (also see, Glover et al. 2008). Thus, I requested that the participating firms provide auditors ranging from senior associate to partner to participate in this study.

Seventy-six external auditors participated in this experiment from three major public accounting firms. Five participants were deleted because four failed one or more of the manipulation checks and one did not take the task seriously.²¹ Thus, the final sample consists of 71 auditors (6 partners, 5 senior managers, 20 managers, and 40 senior associates). Table 4.1 contains a summary of relevant demographic data. All participants stated that they have previously worked on an integrated audit. The average auditing experience is 6.17 years overall with the experience by rank shown in Table 4.1. Thus, the sample represented an experienced

²⁰ These two partners also assisted with the development of the case materials.

²¹ See section 5.1 for a discussion of the manipulation checks.

group of auditors. All participants are CPAs, one participant has a CIA (certified internal auditor) and 2 participants have a CFE (certified fraud examiner). In total, 55.7 % of the participants have a master degree.

Table 4.1: Participants' Descriptive Statistics

	Partner Mean (Std. Dev.) [Median] N=6	Senior Manager Mean (Std. Dev.) [Median] N=5	Manager Mean (Std. Dev.) [Median] N=20	Senior Mean (Std. Dev.) [Median] N=40	Total Mean (Std. Dev.) [Median] N=71
Years of Auditing Experience	19.83 (3.710) [19.50]	10.60 (1.342) [10.00]	6.25 (1.803) [6.00]	3.53 (1.062) [3.00]	6.17 (4.899) [5.00]
Years in Current Position	5.83 (4.119) [4.00]	3.40 (.894) [4.00]	1.7 (.801) [2.00]	1.98 (.974) [2.00]	2.32 (1.811) [2.00]
Percentage of Work on Integrated Audits	39.17 (36.251) [30]	77 (16.432) [80]	61.5 (23.062) [75]	51.75 (26.879) [50]	55.21 (27.024) [60]
No. of Assessment of the reliance on the Internal Audit Function	22.5 (14.748) [20]	9.2 (7.120) [10]	4.50 (3.411) [3]	2.45 (3.967) [1]	5.20 (7.850) [2]
Other Demographic Data					
No. of Industries represented by Participants	5	4	8	6	9
No. of Participants with experience with integrated audits	6	5	18	39	68
No. of Participants that have been a Reviewee for peer or practice review	6	4	13	8	31
No. of Participants that have been a Reviewer for peer or practice review	5	3	0	1	9
CPA	6	5	20	40	71
CIA	0	0	2	0	2
Education Level- Masters	2	2	12	25	41

4.2 Experimental Design

4.2.1 Independent Variables

I employ a full 2 x 2 x 2 x 2 mixed-factor design with Engagement Risk (ER) and Focus of the PCAOB Inspection (FOCUS) as between-subjects factors and Riskiness of the Test (RiskT) and the Type of Test (TT) as repeated measures.

ER is manipulated at two levels (high and low) and is varied by manipulating information pertaining to engagement characteristics.²² For the *high* risk condition, participants were told that although initial sales were encouraging; the company was narrowly in compliance with restrictive debt covenants from which waivers had been obtained in the past. Also, management bonuses were tied to sales targets and the client had recently met those sales targets. Key financial ratios for the current year were below industry average as they were in the previous year. The company had been an audit client of the firm for the past two years. The firm had assessed engagement risk as “High.” For the *low* risk condition, participants were told that initial sales were encouraging and the company had no concerns about meeting its restrictive debt covenants. Also, management bonuses were tied to sales targets and the client had easily met their sales targets. Key financial ratios for the current year were above industry average as were as they were in the previous year. The company had been an audit client of the firm for the past twelve years. The firm had assessed engagement risk as “Low.”

The FOCUS factor was manipulated at two levels: an effectiveness level and a balanced level. The *effectiveness* level served as the control level. Participants were told that the firm was scheduled for its annual inspection by the PCAOB and because of the nature of their firm’s clients, the PCAOB would use an effectiveness approach when conducting their inspection of the

²² The high and low conditions for engagement risk were developed based on the Hackenbrack and Nelson (1996) case.

firm's integrated audits. Thus, the PCAOB inspection team would focus on how effective the firm's audits were in terms of assessing whether the significant risk areas had been properly evaluated, concluded upon, and documented. The *balanced* level of this factor indicated that their firm was scheduled for its annual inspection by the PCAOB and that because of the nature of their firm's clients, the PCAOB would use a balanced approach when conducting their inspection of the firm's integrated audits. Thus, the PCAOB inspection team would focus on how effective the firm's audits were in terms of assessing whether the significant risk areas had been properly evaluated, concluded upon, and documented. In addition, the PCAOB inspectors would focus on whether the audits had been conducted in an efficient manner, including how the internal audit function would be used in the audit of ICFR. Table 4.2 depicts the between-subject factors in the study.

TABLE 4.2. Experimental Design for Between-Subjects Factors

	Focus of the PCAOB Inspection Process	
Engagement Risk	Effectiveness	Balanced
Low	\bar{x}^a	\bar{x}^b
High	\bar{x}^d	\bar{x}^c

RiskT and TT are tested as repeated measures. RiskT was examined at two levels: high and low riskiness. There were also two levels of TT: tests of controls and substantive procedures. In developing the materials, I used four tests of controls and four substantive procedures with

two of each of these procedures determined to be high risk and two to be low risk.²³ Table 4.3 presents the within-subjects factors.

TABLE 4.3 Experimental Design for the Within-Subject Factors

	Riskiness of the Tests	
Type of Tests	Low Risk	High Risk
Test of Controls	\bar{x}^1	\bar{x}^2
Substantive Procedures	\bar{x}^4	\bar{x}^3

This 2 x 2 design can be depicted in *each* cell of Table 4.2.

4.2.2 Dependent Variables

Participants were asked to make planned reliance decisions on the internal audit function for the four tests of controls and four substantive procedures on an 11 point scale ranging from no reliance (0) to moderate reliance (5) to extensive reliance (10). I developed four dependent variables for each participant by using the average responses in each of the cells contained in Table 4.3 for the within-subject variables. For example, \bar{x}^1 was determined by taking the mean for the two low risk tests of controls, \bar{x}^2 was determined by taking the mean for the two high risk tests of controls, and so on.

4.3 Case Materials

The experimental case was developed using materials from SOX, PCAOB website, PCAOB inspection reports, AS5, Hackenbrack and Nelson's case (1996), Margheim's case (1986) and several studies dealing with the reliance on the internal audit function. I started by

²³ The two partners noted above assisted in developing the appropriate terminology for each of the independent variables (also see development of case materials in section 4.3).

providing a preliminary draft of the materials to one of the partners mentioned above for comments. Several rounds of revisions and discussions were conducted with this partner. To validate the instrument once a final draft was developed, I had two different audit partners from the same firm and one from another public accounting firm examine the instrument and its variables for realism and to ensure that it captured the data that I was intending to measure and manipulate. Before finalization of the instrument, two of the three partners participated in a conference call and recommended final adjustments to the instruments.

The materials were extensively pilot tested. First, thirty Master of Accounting students paper tested the instrument for understandability and clarity. Second, ten auditors from a number of sources completed the instrument. Finally, 16 subjects from one major accounting firm completed the instrument to ensure that the variables were capturing what the experiment was attempting to examine and that the manipulations were effective. For the second and third rounds, each subject provided feedback by email or discussed the instrument with me.

The final case materials first presented the participants with the background information about SOX, the PCAOB inspection process, and major changes that occurred with the issuance of AS5 that affected the use of the internal audit function. The description included the responsibilities of the PCAOB and their ability to impose sanctions. It also described the inspection process and it stated that the Board sets its own rules, standards, and inspection approach. The background information then introduced the participants to the two approaches that the board could utilize in the inspection process. The case then provided a general definition of both approaches in the background information and later in the case it gave case specific information about which approach in was being used by the Board. At this point, each participant was given the following descriptions of the two approaches: When using the

effectiveness approach, the PCAOB inspectors would focus on whether sufficient appropriate evidence had been obtained to afford a reasonable basis for an opinion regarding the financial statements under examination. When using the balanced approach, the PCAOB inspectors would focus on effectiveness, but also consider the efficiency of those audits. Lastly, in the background information, the materials described the guidance for auditors in regards to using the internal audit function.

The case materials next provided the participants with the company overview, description of its revenue process, its internal audit function, and the manipulated level (effectiveness or balanced) of the PCAOB inspection process.

The company overview stated that the hypothetical company was a leading developer of digital laser imaging technologies. The description was based on a real company that was selected for a PCAOB inspection in 2006. The independent variable for engagement risk was introduced to the participants in the company overview and was included in the brief description of the hypothetical company. It included the specific engagement risk manipulation information that was adapted from Hackenbrack and Nelson (1996).

Next, the materials provided a description of the revenue process²⁴ that was based on Margheim's (1986) and Whittington & Margheim (1993) audit program case, but adapted to the hypothetical company. Major factors included that accounts receivable have been and continue to be material, past confirmation efforts have been effective with good response rates, the composition of receivables is relatively unchanged from past audits, material audit adjustments are recorded occasionally for receivable balance misstatements, and no discrepancies were

²⁴The revenue process was used because it poses a significant audit risk to auditors and is normally considered a high risk area. In Statement on Auditing Standards No. 99: Consideration of Fraud in a Financial Statement Audit (SAS99), the revenue process is an area described as a significant risk area.

identified in any of the three current year quarterly reviews. This description was identical for all participants.

The case then described that the internal audit department employs 25 personnel with a director, 4 managers, 5 senior auditors and 15 staff auditors (Mills, 1996). Each of the personnel had at least a CPA or a CIA certification (Brown, 1983; Messier & Schneider, 1988), each has at least a bachelors degree (Gibbs & Schroeder, 1980; Messier & Schneider, 1988), the internal auditor function has an average of 3 years experience with a range of 1 to 20 years experience (Messier & Schneider, 1988), and the internal audit reports their findings directly to the chairman of the audit committee (Gibbs & Schroeder, 1980; Brown, 1983; Schneider, 1984; Messier & Schneider, 1988). Lastly, the description stated that the audit team has found the internal audit function to be competent and objective. It also states that the internal audit function has been relied upon in the prior years. This description is the same for all instruments.

Next, the case introduced the second independent variable, the PCAOB inspection process. Participants were given case specific information on either the effectiveness or balanced approach to the PCAOB inspection process.

After reading the background information and case materials, participants were asked to provide their reliance decisions on four tests of controls and four substantive procedures. These tests and procedures were based on Margheim (1986) and Whittington & Margheim (1993) audit program case²⁵ and half were high risk and half were low risk which allowed the auditors to make reliance decisions in both high and low risk areas.

Case questions and manipulation checks followed. Participants were asked five questions about the case. Two were about the engagement risk manipulation, one was about the PCAOB's

²⁵ Three partners from two firms assessed whether the procedures were high or low risk and also modified the procedures for clarity and realism.

focus of inspection manipulation, one asked about the likelihood of that the engagement would be selected for a PCAOB inspection, and the last was to rate the internal audit function.

The next section asked participants to rate the riskiness of the test of controls and audit procedures that they had previously evaluated for the reliance on the work of the internal audit function. Riskiness was assessed in terms of the assertion(s) being tested along a continuum from low to high risk using an 11 point scale ranging from low riskiness (0) to moderate riskiness (5) to high riskiness (10). These assessments served as a manipulation check on the riskiness of the audit procedures.

Lastly, participants completed a post-experimental questionnaire. This was used to account for individual and firm differences among participants. Completion of the instrument took approximately 20 minutes. The experimental instrument is contained in Appendix A.

4.4 Experimental Procedure

Participants received an email giving a very brief description of the task and a link to a website. Once the participants accessed the website, participants were provided with a brief explanation of the nature of the task. They were then provided an informed consent. Once consented, each participant was randomly assigned to one of eight sets of instruments (2 different orders for the test of controls and audit procedures presented) based upon the last two digits of their social security number. Upon completion, responses were downloaded and removed from website as required by the University's consent procedures.

4.5 Hypotheses Testing Procedures

I first ran the full $2 \times 2 \times 2 \times 2$ mixed-factor design. H_1 predicts as engagement risk increases, auditors' reliance on the internal audit function will decrease. Hence, to test H_1 , I examine the main effect for ER in the full model. H_2 predicts a main effect on the riskiness of

the test; thus to test H₂, I examine the main effect for RiskT in the full model. Overall, H_{3a} and H_{3b} predict a three-way interaction: ER x FOCUS x RiskT and I examine this in the full model.

Table 4.4 2 x 2 x 2 mixed design model for H₃

RiskT	ER	Focus	
		Effectiveness	Balanced
Low	Low	\bar{x}_A	\bar{x}_B
	High	\bar{x}_C	\bar{x}_D
High	Low	\bar{x}_E	\bar{x}_F
	High	\bar{x}_G	\bar{x}_H

To examine H_{3a} & H_{3b}, I refer to Table 4.4. H_{3a} predicts when the riskiness of the test is low, auditors' reliance on the internal audit function will be higher in the balanced condition of the focus of the PCAOB inspection regardless of the level of engagement risk. Thus, I test whether $\bar{x}_A + \bar{x}_D = \bar{x}_B + \bar{x}_C$. H_{3b} predicts when the riskiness of the test is high, auditors' reliance on the internal audit function will be higher in the balanced condition, but only when engagement risk is low and there will not be a difference when engagement risk is high. I test whether $\bar{x}_E + \bar{x}_G < \bar{x}_F + \bar{x}_H$. Lastly, H₄ predicts that auditors' reliance decisions will be higher for tests of controls versus substantive procedures; hence, to test H₄, I examine the main effect for TT in the full model.

Additional analyses are also conducted to evaluate other significant interactions that occur in the full model and related to TT. I test these interactions by computing simple effects tests for each interaction. I also ran all models separately using only test of controls and only substantive procedures.

Lastly, I tested for the following covariates: (1) experience effects (seniors versus managers/partners), (2) firm effects across the three firms (3 levels), (3) professional certification (CPA versus no certification), (4) if participant had been a reviewer (reviewer versus have not

been a reviewer) or a reviewee (reviewee or have not been a reviewee) under the peer reviews, (5) educational level (undergraduate versus master's degree), (6) involved in an integrated audit (involved or have not been involved in an integrated audit), and (7) experience with integrated audits (used the percentage of time spent on integrated audits). None of these covariates were significant in any of the analyses.

4.6 Summary of Chapter 4

Chapter 4 describes the experimental method employed to test the hypotheses set forth in Chapter 3. In the experiment, participants were presented with a hypothetical company and asked to make planned reliance decisions on the internal audit function. Using a full 2 x 2 x 2 x 2 mixed model, participants were assigned to one of four manipulations. Chapter 5 presents descriptive information regarding the data collected via the experiment and describes the statistical techniques employed to test hypotheses 1 through 5.

CHAPTER 5 RESULTS

Chapter 5 describes the results of testing the research hypotheses. Data collection procedures are described in Chapter 4. Section 5.1 presents the manipulation checks and Section 5.2 presents the descriptive statistics. Section 5.3 describes the overall full model. Section 5.4 through Section 5.7 presents results from hypotheses testing and Section 5.8 provides additional analysis. Finally, Section 5.9 concludes Chapter 5 with a brief summary.

5.1 Manipulation Checks

I conducted a number of manipulation checks. First, each participant was asked to indicate whether SunTek's engagement risk was high or low based on the information that they received. Seventy-five of the 76 participants properly responded to this question (99 percent). I also used a second manipulation check for engagement risk. I asked the participants to report the length in years of their firm's audit relationship with SunTek, Inc. In the high risk condition the firm's tenure was two years while it was twelve years in the low risk condition. Participants were asked to select the length of the firm's tenure using three ranges (1-5 years, 5-10 years, 10-15 years). Five participants choose the incorrect range: four were in the low engagement risk condition while only one was in the high engagement risk condition. There was only one participant who failed both engagement risk manipulation checks. This participant was eliminated from the study.

Second, each participant was asked to indicate whether the focus of the PCAOB inspection process included in the materials was an effectiveness approach or a balanced approach. Seventy-three of the 76 participants correctly responded to this manipulation check (96 percent). The three participants who responded incorrectly were eliminated from the study.

Third, one participant answered all answers by marking the extreme left throughout the entire instrument including all questions and demographics, so it appears this participant did not take the task seriously and was eliminated. Thus, seventy-one (of 76) participants were included in the study. The five participants were eliminated for the following reasons: one participant failed both engagement risk manipulations, three participants failed the PCAOB focus manipulation, and one subject did not take the task seriously.²⁶

Finally, I tested the manipulation of the riskiness of the tests as follows. I asked the participants to rate the riskiness of each of the four tests of controls and four substantive procedures using an 11 point scale ranging from low riskiness (0) to moderate riskiness (5) to high riskiness (10). Riskiness was stated in terms of the assertion(s) being tested. I calculated the mean for the two low risk tests of controls and the mean for the two high risk tests of controls; and performed the same calculation for the two levels of riskiness for the substantive procedures. I then compared the means within each type of test. For the tests of controls, the two high risk tests of controls were judged significantly more risky than the two low risk tests of controls (mean = 6.24 v. 4.24; $t=8.46$; $p<0.000$). Similarly, for substantive procedures, the two high risk substantive procedures were judged more risky than the two low risk substantive procedures (mean = 7.21 v. 4.40; $t=9.59$; $p<0.000$). Thus, the manipulation was successful for riskiness of the types of tests.

I also asked two other questions about the materials. First, I asked the participants how likely that the SunTek engagement would be selected by the PCAOB for inspection. Likelihood was measured along a continuum from not likely to highly likely using an 11 point scale ranging from not likely (0) to highly likely (10). The average rating was 6.77 across all participants. This

²⁶ The exclusion of responses of the participants failing at least one manipulation check for engagement risk produced similar results for all hypotheses testing. The inclusion of all responses of the participants who were eliminated produced similar results for all hypotheses testing.

is significantly higher than the midpoint of the scale ($t\text{-test} = 6.67, p = .000$); indicating that the participants believed it was likely that the SunTek engagement would be selected by the PCAOB for inspection. Second, I asked the participants to rate the competence and the objectivity of SunTek's internal audit function. The rating was measured along a continuum from low to high using an 11 point scale ranging from low (0) to moderate (5) to high (10). The average rating across all participants was 9.94. This is significantly higher than the midpoint of the scale ($t\text{-test} = 29.69; p = .000$); indicating that the participants believed the internal audit function was competent and objective.

5.2 Descriptive Statistics

Table 5.1 contains the descriptive statistics for auditors' reliance decisions across the two levels of engagement risk. Remember that the dependent variables were calculated as the mean for the high and low condition by each type of test. Thirty-seven participants were in the low engagement risk condition whereas 34 participants were in the high engagement risk condition. The overall means of the auditors' reliance measure for low engagement risk were 6.30 vs. 4.44 for the high engagement risk condition. When comparing the means between high and low engagement risk, auditors' reliance is significantly lower for the high condition than for the low condition ($F = 24.61; p=.000$).

Table 5.1 Descriptive Statistics for Auditors' Reliance Decisions by Engagement Risk

ER		TC _{Low}	TC _{High}	ST _{Low}	ST _{High}	Total
Low	Mean	8.18	5.42	4.47	7.15	6.30
	Std. Deviation	(1.65)	(1.88)	(2.59)	(2.01)	(2.03)
	N	37	37	37	37	37
High	Mean	5.84	4.32	2.89	4.78	4.44
	Std. Deviation	(2.29)	(1.87)	(1.41)	(1.58)	(1.79)
	N	34	34	34	34	34
Total	Mean	7.06	4.89	3.69	6.01	5.41
	Std. Deviation	(2.29)	(1.94)	(2.25)	(2.16)	(2.16)
	N	71	71	71	71	71

Variable Definitions:

ER = Engagement Risk

Low = low engagement risk

High = high engagement risk

TC_{Low} = average means of the two low risk tests of controls responses

TC_{High} = average means of the two high risk tests of controls responses

ST_{Low} = average means of the two low risk substantive tests responses

ST_{High} = average means of the two high risk substantive tests responses

Table 5.2 contains the descriptive statistics for auditors' reliance decisions across the two levels for the focus of the PCAOB inspection process. Thirty-one participants were in the Effectiveness Focus condition whereas 40 participants were in the Balanced Focus condition. The overall means of the auditors' reliance measure for effectiveness condition were 4.47 vs. 6.14 for the balanced condition. When comparing the means between effectiveness condition and the balanced conditions, auditors' reliance on the internal audit function is significantly lower for the effectiveness condition than for the balanced condition ($F = 13.81$; $p=.000$).

Table 5.2 Descriptive Statistics for Auditors' Reliance Decisions by Focus of PCAOB Inspection

FOCUS		TC _{Low}	TC _{High}	ST _{Low}	ST _{High}	Total
Effectiveness	Mean	6.00	3.55	2.44	5.90	4.47
	Std. Deviation	(2.38)	(1.40)	(1.45)	(2.00)	(1.81)
	N	31	31	31	31	31
Balanced	Mean	7.88	5.94	4.66	6.10	6.14
	Std. Deviation	(1.88)	(1.64)	(2.29)	(2.30)	(2.03)
	N	40	40	40	40	40
Total	Mean	7.06	4.89	3.69	6.01	5.41
	Std. Deviation	(2.29)	(1.94)	(2.25)	(2.16)	(2.16)
	N	71	71	71	71	71

Variable Definitions:

FOCUS = focus of the PCAOB Inspection Process

Effectiveness = focus is on effectiveness

Balanced = focus is on a balance between effectiveness/efficiency

TC_{Low} = average means of the two low risk tests of controls responses

TC_{High} = average means of the two high risk tests of controls responses

ST_{Low} = average means of the two low risk substantive tests responses

ST_{High} = average means of the two high risk substantive tests responses

Table 5.3 contains the descriptive statistics for the auditors' reliance decisions by each type, and riskiness, of test. The mean for tests of controls (TC) (5.98) is significantly higher than the mean for substantive tests (ST) (4.85) (t-test = 5.76, p = .000), indicating that the auditors relied more on the internal audit function when testing controls. The means of the auditors' reliance measure for TC_{high} vs. TC_{Low} were 4.89 vs. 7.06 (t-test = 9.05; p=.000). The means of the auditors' reliance measure for ST_{high} vs. ST_{Low} were 3.69 vs. 6.01 (t-test = 7.81; p=.000). This shows that the auditors' reliance decisions were significantly higher for the low risk tests versus the high risk tests.

Table 5.3 Descriptive Statistics of Auditors' Reliance Decisions by the Type and Riskiness of the Test

	N	Minimum	Maximum	Mean	Std. Deviation
TC1	71	1.0	11.0	7.10	2.61
TC2	71	1.0	11.0	7.01	2.54
TC _{Low}	71	1.0	11.0	7.06	2.29
TC3	71	1.0	11.0	4.94	2.08
TC4	71	1.0	11.0	4.85	2.51
TC _{High}	71	1.0	9.0	4.89	1.94
Overall TC	142	1.0	11.0	5.98	1.87
ST1	71	1.0	10.0	4.68	2.21
ST2	71	1.0	11.0	7.35	2.96
ST _{Low}	71	1.0	10.5	6.01	2.16
ST3	71	1.0	11.0	3.62	2.84
ST4	71	1.0	9.0	3.76	2.30
ST _{High}	71	1.0	9.0	3.69	2.25
Overall ST	142	1.0	10.5	4.85	1.81

Variable Definitions:

TC_{Low} = average means of the two low risk tests of controls responses $((TC1 + TC2) / 2)$

TC_{High} = average means of the two high risk tests of controls responses $((TC3 + TC4) / 2)$

Overall TC = average means between TC_{Low} and TC_{High}

ST_{Low} = average means of the two low risk substantive tests responses $((ST1 + ST2) / 2)$

ST_{High} = average means of the two high risk substantive tests responses $((ST3 + ST4) / 2)$

Overall ST = average means between ST_{Low} and ST_{High}

5.3 Test of the Overall Model

Prior to testing the research hypotheses, I perform a repeated measures ANOVA for the full model with Engagement Risk (ER) and Focus of the PCOAB Inspection (FOCUS) as between-subjects factors, and Riskiness of the Test (RiskT) and the Type of Test (TT) as repeated measures factors, and all interaction effects. The results are presented in Table 5.4.

Table 5.4: Test of the Full Model^a

	Sum of Squares	df	Mean Squares	F	p-values*
Intercept	7738.45	1	7738.45	1486.96	.000
Between Subjects					
ER	212.43	1	212.43	40.82	.000
FOCUS	167.80	1	167.80	32.24	.000
ER * FOCUS	.43	1	.43	.08	.774
Error	348.68	67	5.20		
Within Subjects					
RiskT	378.38	1	378.38	170.69	.000
ER * RiskT	24.42	1	24.42	11.01	.001
FOCUS * RiskT	30.29	1	30.29	13.67	.000
ER * FOCUS * RiskT	13.92	1	13.92	6.28	.008
Error (RiskT)	148.52	67	2.22		
TT	83.80	1	83.80	35.32	.000
ER * TT	1.00	1	1.00	.42	.518
FOCUS * TT	16.21	1	16.21	6.83	.011
ER * FOCUS * TT	13.35	1	13.35	5.62	.021
Error (TT)	158.98	67	2.37		
RiskT * TT	1.32	1	1.32	.63	.429
ER * RiskT * TT	.59	1	.59	.29	.595
FOCUS * RiskT * TT	9.52	1	9.52	4.58	.036
ER * FOCUS * RiskT * TT	.50	1	.50	.24	.627
Error (RiskT*TT)	139.32	67	2.08		

^aThe dependent variable is the external auditors' reliance on the internal audit function on an 11 point scale ranging from no reliance (0) to moderate reliance (5) to extensive reliance (10) for each of the relevant tests. Refer back to Section 4.2.2

*p-values are one-tailed if hypothesized in a direction, and two-tailed otherwise.

Variable Definitions:

ER = Engagement Risk was tested at two levels: low or high

FOCUS = Focus of the PCAOB Inspection was tested at two levels: effectiveness focus or balanced focus

RiskT = Riskiness of the Test was tested at two levels: low or high

TT = Type of Test was tested at two types: tests of controls or substantive procedures

Table 5.5 presents the least square (adjusted) means for the 2 x 2 x 2 mixed design model used to examine the hypotheses 1-3.

Table 5.5 Least Square Means for the Test of Three Factors (Engagement Risk, Focus of the Inspection and the Riskiness of the test)

RiskT	ER	Focus			
		Effectiveness		Balanced	
Low	Low	\bar{x}_A	7.35*	\bar{x}_B	7.87*
	High	\bar{x}_C	4.64*	\bar{x}_D	5.90*
High	Low	\bar{x}_E	3.32*	\bar{x}_F	6.06*
	High	\bar{x}_G	2.69*	\bar{x}_H	4.37*

*Least square (adjusted) means for auditors' reliance decisions across the two types of tests from the overall model.

Variable Definitions:

ER = Engagement Risk was tested at two levels: low or high

FOCUS = Focus of the PCAOB Inspection was tested at two levels: effectiveness focus or balanced focus

RiskT = Riskiness of the Test was tested at two levels: low or high

TT = Type of Test was tested at two types: tests of controls or substantive procedures

5.4 Hypothesis 1 – The Effect of ER

H₁ predicts as engagement risk increases, auditors' reliance on the internal audit function will decrease. As Table 5.4 shows, there is a significant main effect for ER (F = 40.82; p = 000). As predicted, the adjusted mean for low ER condition (6.15) is higher than the mean for the high ER condition (4.40). Thus H₁ is supported. Additionally, H₁ suggests an ordinal relationship from Table 4.4 as follows: $\bar{x}_A > \bar{x}_C$, $\bar{x}_B > \bar{x}_D$, $\bar{x}_E > \bar{x}_G$, and $\bar{x}_F > \bar{x}_H$. As shown in Table 5.5, the adjusted means results are all in the predicted direction: 7.35 > 4.64, 7.87 > 5.90, 3.32 > 2.69, and 6.06 > 4.37.

5.5 Hypothesis 2 – The Effect of RiskT

H₂ predicts that the lower the riskiness of the test, the more reliance the auditors will place on the internal audit function. Table 5.4 shows a significant main effect for RiskT (F = 170.69; p = 0.00). As predicted, the adjusted mean for the low riskiness tests (6.44) is higher than the mean for the high riskiness tests (4.11). Thus, H₂ is supported. Additionally, H₂

suggests an ordinal relationship from Table 4.4 as follows: $\bar{x}_A > \bar{x}_E$, $\bar{x}_B > \bar{x}_F$, $\bar{x}_C > \bar{x}_G$, and $\bar{x}_D > \bar{x}_H$. As seen in Table 5.5, the adjusted means results are all in the predicted direction: $7.35 > 3.32$, $7.87 > 6.06$, $4.64 > 2.69$, and $5.90 > 4.37$.

5.6 Hypothesis 3 – The Interaction of Engagement Risk, Focus of the Inspection Process and Riskiness of the Test

As noted in Table 5.4, there are significant main effects for ER, RiskT and three significant interactions that contain RiskT that are significant: ER x RiskT ($F=11.01$; $p=.001$), Focus x RiskT ($F=13.67$; $p=.000$), and ER x FOCUS x RiskT ($F = 6.28$; $p = 0.008$).²⁷ It is the significant ER x FOCUS x RiskT that is relevant for H_{3a} and H_{3b}.

H_{3a} predicts that when RiskT is low, auditors' reliance on the internal audit function will be higher in the balanced FOCUS condition regardless of the level of engagement risk. This suggests that the ER x FOCUS interaction will not be significant and that FOCUS will be significant across both levels of ER. Figure 5.3 (Panel A) plots the adjusted means when RiskT is low.²⁸ The effect of ER x FOCUS is insignificant ($F = 1.02$; $p = .316$) and FOCUS is significant and in the correct direction (adjusted means for balance focus = 6.89 v. effectiveness focus = 6.00; $F = 6.00$; $p = .017$). Follow up tests show that while the effect of FOCUS is significantly positive when ER is High (adjusted means for balanced focus = 5.90 v. 4.64 in the effectiveness focus; $t=2.47$; $p=.019$), the effect of FOCUS is not significant (although in the correct direction) when ER is Low (adjusted means for balanced focus = 7.87 v. 7.35 for the effectiveness focus; $t = 1.01$; $p=.320$). Thus, H_{3a} is partially supported. My findings for H_{3a} shows that when the riskiness of the tests is low and engagement is low that external auditors rely equally on the internal audit function regardless of the focus of the PCAOB inspection, but when engagement

²⁷ There are other interaction terms that are significant (ER x FOCUS x TT and FOCUS x RiskT x TT). However, these terms relate to TT and H₄, not H_{3a} or H_{3b}. These effects are discussed later.

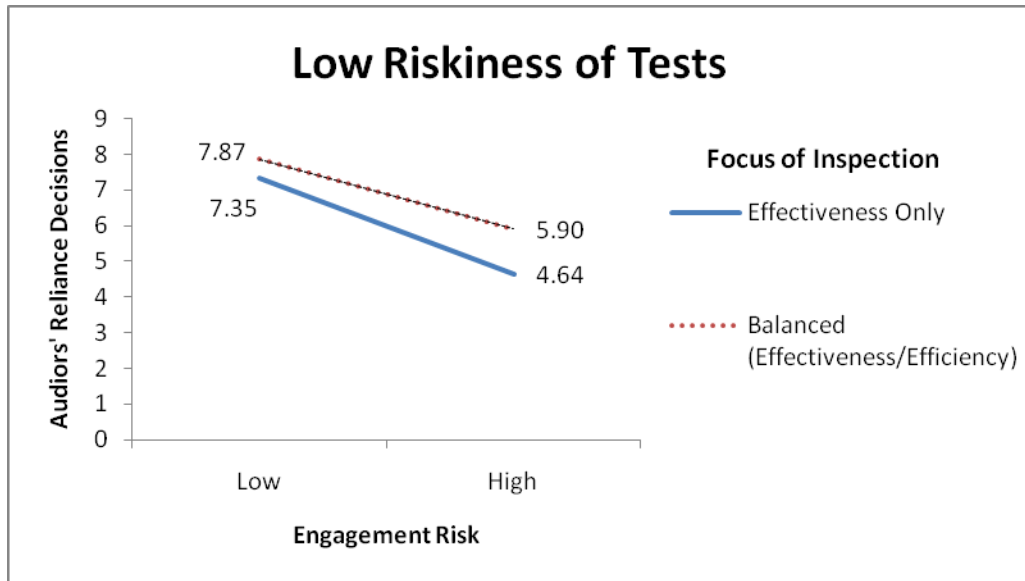
²⁸ The full results for this test and similar ones are not tabulated.

risk is high, the external auditors rely more on the internal audit function when the focus of the PCAOB inspection process is balanced.

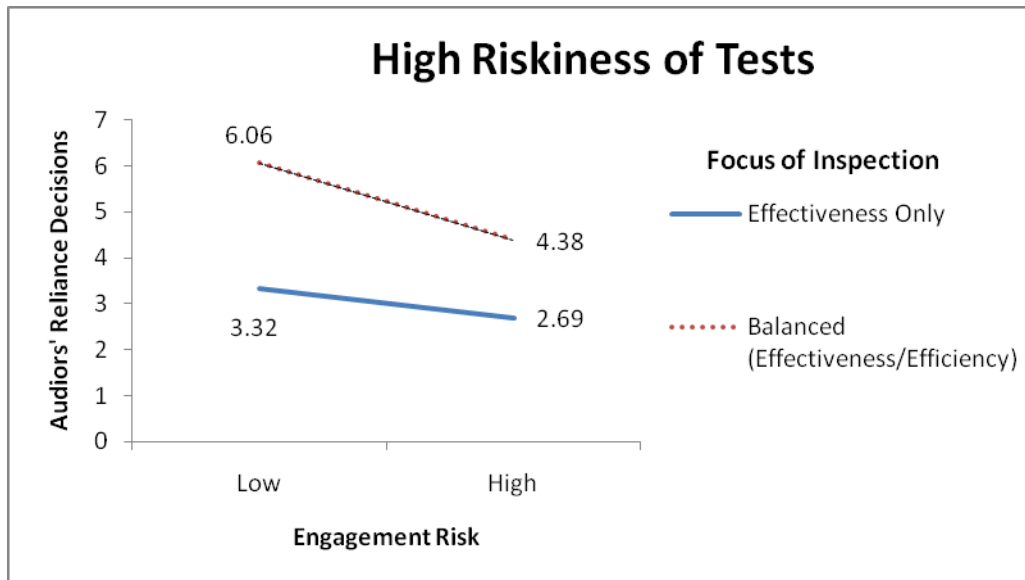
H_{3b} predicts that when the riskiness of the test is high, the auditors' reliance on the internal audit function will be higher in the balanced focus condition but only when engagement risk is low. When engagement risk is high, there will be no difference between the auditors' reliance on the internal audit function across the two focuses of the PCAOB inspection process. This suggests that the ER x FOCUS interaction will be significant and that the effect of FOCUS will only be significant when ER is low. Figure 5.3 (Panel B) plots the means. The effect of ER x FOCUS is significant ($F = 3.25$; $p = .038$, one-tailed). However, the effect of FOCUS overall is also significant (adjusted means for balance condition = 5.22 v. 3.00 in the effectiveness condition; $F = 61.02$; $p = .000$). Follow up tests show that the effect of FOCUS is significant when ER is Low (adjusted means for balanced focus = 6.06 v. 3.32 in the effectiveness focus; $t = 5.85$; $p = .000$) and when ER is High (adjusted means for balanced focus = 4.38 v. 2.69 in the effectiveness focus; $t = 5.55$; $p = .000$). Thus, H_{3b} is partially supported. Thus, my findings for H_{3b} hold when ER is low but not when ER is high. Overall, the results for H_{3b} indicate that when the riskiness of the tests is high that auditors rely on the internal audit function more when the focus of the PCAOB inspection process is balanced regardless of the level of engagement risk.

Figure 5.3: Two-way interaction for Riskiness of the Tests

Panel A



Panel B



5.7 Hypothesis 4 – Type of Tests

H₄ predicts that auditors' reliance on the internal audit function will be greater for tests of controls than for substantive procedures. Table 5.4 shows a significant main effect for TT (F=35.316, p = 000). As predicted, the adjusted mean for test of controls (5.98) is higher than the adjusted mean for substantive procedures (4.85) (t-test = 5.76; p = .000). Thus, H₄ is supported. However, there are three significant interaction terms that contain TT and potentially moderate the main effect: FOCUS x TT (F = 6.830; p = .011), ER x FOCUS x TT (F=5.624, p=.021), and FOCUS x RiskT x TT (F = 4.8; p = .36). Thus, I conduct post hoc analysis.²⁹

I first analyze the three way interaction ER x FOCUS x TT by conducting simple effects tests of the interaction of ER x FOCUS by each level of TT. Under both TT conditions, the interaction of ER x FOCUS was not significant (TC: F = 1.26; p = .266; SP: F = 2.32; p =.133). Figure 5.4 (Panel A) plots the means for TC. For the tests of controls condition, the balanced focus always dominates the effectiveness focus. For low engagement risk, the mean in the balanced condition (7.48) is significantly higher than in the effectiveness condition (5.80) (F=15.82; p=.000). When engagement risk is high, the mean for the balanced condition (6.21) is significantly higher than the mean in the effectiveness condition (3.81) (F=24.37; p=.000). When using test of controls, I find that the external auditors rely significantly more on the internal audit function when the PCAOB inspection focus is balanced compared to an effectiveness focus regardless of the level of engagement risk.

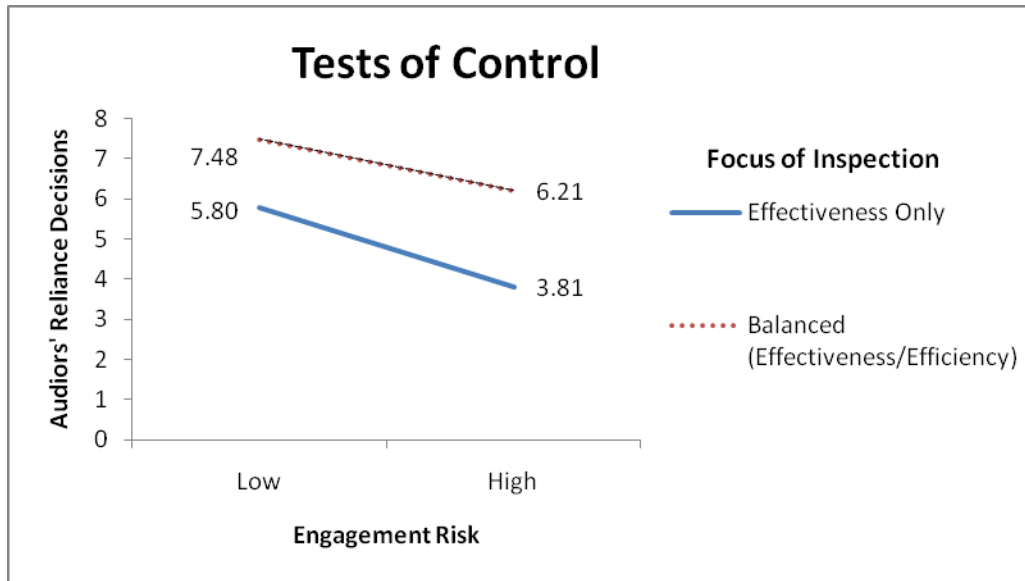
Figure 5.4 (Panel B) plots the means for the substantive procedures condition. In the substantive procedures condition, focus of the PCAOB inspection did not have the same impact on the auditors' reliance decisions as in the test of controls. For low engagement risk, the mean

²⁹ I also split the full model and examined the dependent variables for each type of test separately. The results were qualitatively the same.

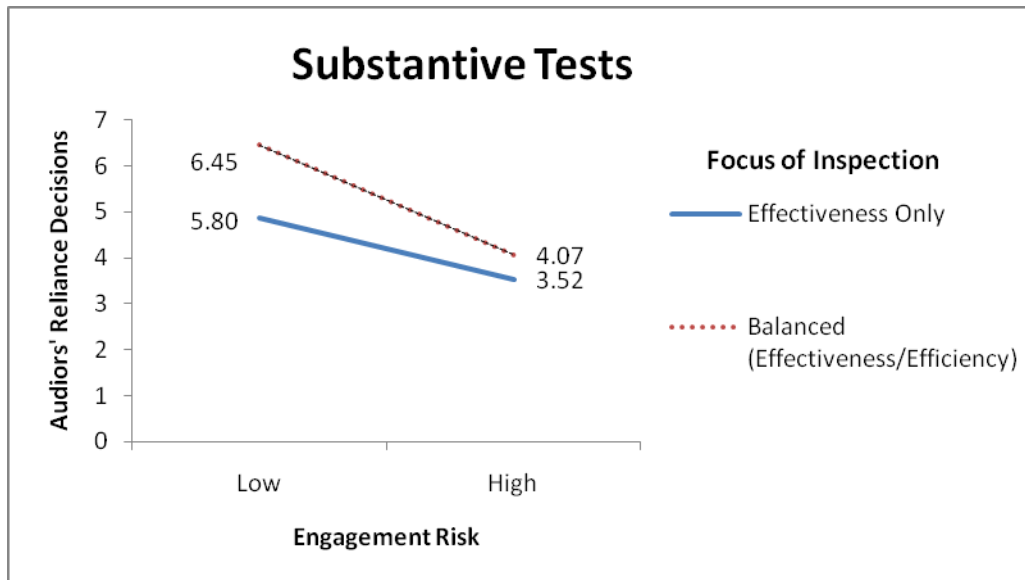
in the balanced condition (6.45) is moderately significant compared to the effectiveness condition (4.87) ($F = 8.63$; $p = .06$). In the high engagement risk condition, the mean in the balanced condition (4.07) is not significantly different than the mean in the effectiveness condition (3.52) ($F = 1.92$; $p = .175$). Thus, when considering reliance on the internal audit function to perform substantive procedures, auditors' reliance decisions depend on the level of engagement risk and not the focus of the inspection as in the tests of controls.

Figure 5.4: Two-way interaction for Type of the Tests

Panel A



Panel B



Next, I examine the significant three-way interaction between FOCUS x RiskT x TT by conducting simple effects tests of the interaction of FOCUS x RiskT by each level of TT. For tests of control condition, the interaction of FOCUS x RiskT was not significant ($F = 1.14$; $p = .289$), but it was significant for substantive procedures ($F = 13.50$; $p = .000$).

Figure 5.5 (Panel A) plots the adjusted means. For the test of controls condition, the low RiskT condition always dominates the high RiskT condition. In the balanced condition, the mean in the low RiskT condition (6.00) is significantly greater than the mean in the high RiskT condition (3.55) ($F=38.90$; $p=.000$). Similarly, in the effectiveness condition, the mean for the low RiskT condition (7.88) is significantly greater than the mean in the high RiskT condition (5.94) ($F=43.35$; $p=.000$). Auditors' reliance decisions for tests of controls are always higher when the riskiness of the test is low regardless of the focus of the PCAOB inspection.

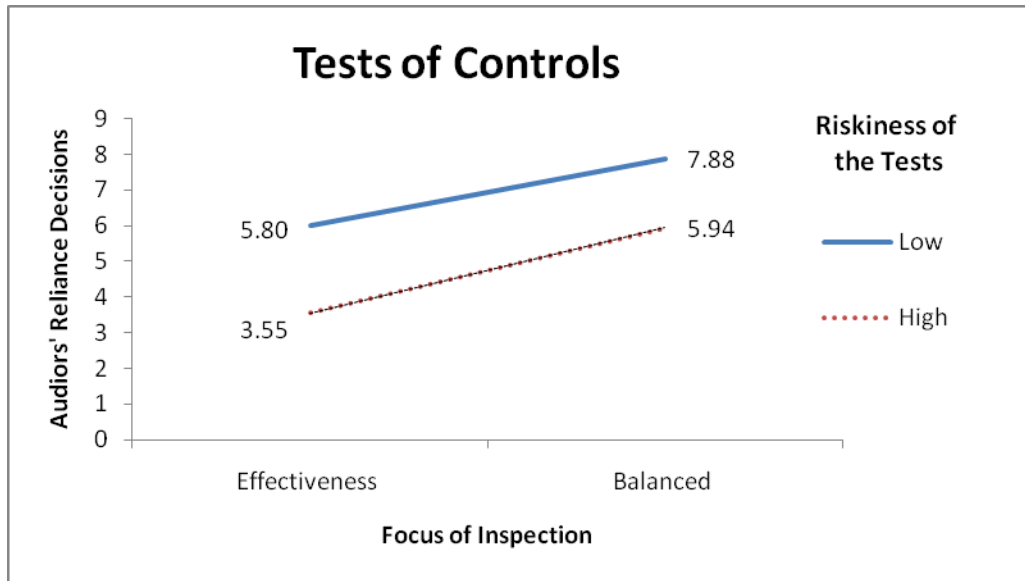
Figure 5.5 (Panel B) plots the means for the substantive procedures condition. In the balanced condition, the mean in the low RiskT condition (5.90) is significantly greater than the mean in the high RiskT condition (2.44) ($F=81.65$; $p=.000$). In the effectiveness condition, the mean for the low RiskT condition (6.10) was significantly greater than the mean in the high RiskT condition (4.66) ($F=13.95$; $p=.001$). Again, it appears that the riskiness of the test dominates in both the balanced and effectiveness focus conditions for substantive procedures. I next examine the riskiness of the tests across focus conditions, the means for the low RiskT condition between the effectiveness condition (5.90) and the balanced condition (6.10) was not significantly different ($F = .14$; $p = .707$). However, the means in the high RiskT condition between effectiveness condition (2.44) and balanced condition (4.66) were significantly different ($F = 22.38$; $p = .000$). Thus, when using substantive tests, I find that the auditors' reliance decisions when the riskiness of the test is low were not impacted by the focus of the inspection, but were impacted when the riskiness of the test is high. In the high RiskT condition, the auditors relied more on the internal audit function when the focus of the PCAOB inspection process was balanced.

To summarize, H₄ predicted there would be a difference between the auditors' reliance decisions on the test of controls and the substantive procedures. This was supported. However, the presence of interaction terms moderated this finding. Post hoc analysis showed that when planning test of controls, auditors' reliance on the internal audit function was always greater when the riskiness of the test was low, engagement risk was low, and the focus of the PCAOB inspection process was balanced. However, the auditors' reliance decisions when planning substantive procedures shows the following. First, when considering reliance on the internal audit function to perform substantive procedures, auditors' reliance decisions depend on the level of engagement risk and not the focus of the inspection. Second, when riskiness of the substantive test is low, the auditors' reliance on the internal audit function was not impacted by the focus of the PCAOB inspection process. Third, when the riskiness of the substantive test was high, the auditors relied more on the internal audit function when the focus of the PCAOB's inspection process was balanced.

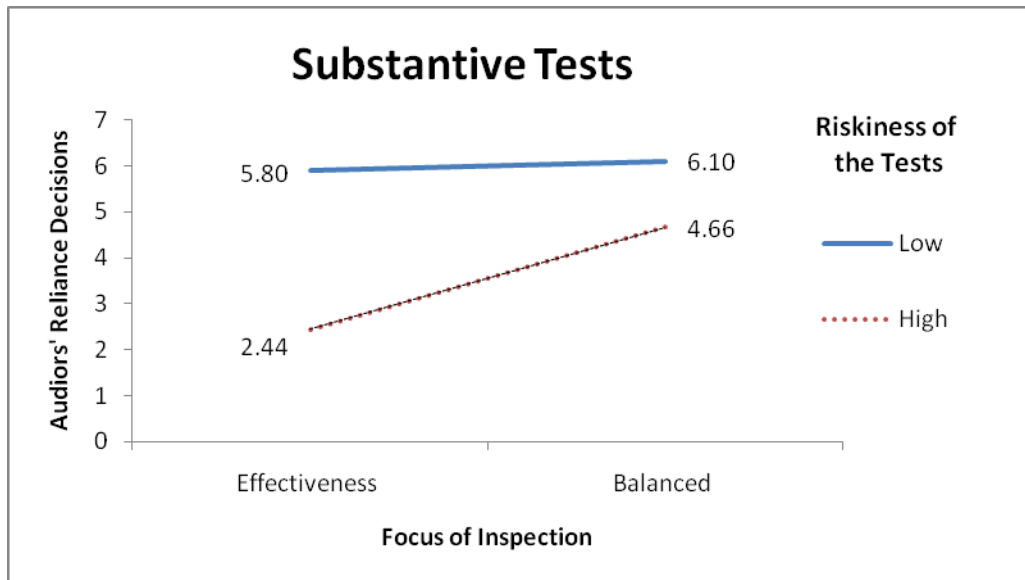
Section 5.2 through 5.7 provides support that engagement risk, focus of the inspection, riskiness of the test, and the type of test impact auditors' reliance decisions on the internal audit function. The impact of each depended on the conditions the auditor faced when making their reliance decisions.

Figure 5.5: Two-way interaction for Type of Tests

Panel A



Panel B



5.8 Conclusions

Chapter 5 describes the statistical analysis performed to test Hypotheses 1 through 4. Hypothesis 1 predicts that as engagement risk increases, auditors' reliance decisions on the internal audit function will decrease. I find support for my hypothesis. Hypothesis 2 predicts

that the lower the riskiness of the test, the more reliance the auditors will place on the internal audit function and I find support for this prediction. Hypotheses 3a and 3b predict a three-way interaction between engagement risk, focus of the inspection, and the riskiness of the test. I find partial support for these two hypotheses. Lastly, Hypothesis 4 predicts that auditors' reliance on the internal audit function should differ based on the type of test that is being used. I do find support for this prediction. I find that auditors' reliance on the internal audit function is greater for tests of controls than for substantive procedures. I also find that when planning test of controls, auditors' reliance decisions are greater when the riskiness of the test and engagement risk are low and the focus of the PCAOB inspection process is a more balanced approach. However; when planning substantive procedures, auditors' reliance decisions depend on the engagement risk level and not the focus of the inspection. When riskiness of the substantive test is low, the auditors' reliance decisions are not impacted by the focus of the inspection. When the riskiness of the substantive test was high, auditors' reliance decisions are greater under the balanced focus of inspection versus the effectiveness focus. Chapter 6 concludes this dissertation with a discussion of results, contributions, limitation, and avenues for future research.

CHAPTER 6 CONCLUSION

The purpose of this dissertation is to investigate how auditors' reliance decisions on the internal audit function will be affected by the competing pressures from different inspection focuses, varying levels of engagement risk, and the level of risk associated with an audit test. This chapter concludes this dissertation with a summary of results in Section 6.1, a discussion of the contributions in Section 6.2, and an evaluation of the limitations and suggestions for future research in Section 6.3.

6.1 Summary of Results

My findings suggest that auditors' reliance decisions on the internal audit function are impacted by different inspection focuses, varying levels of engagement risk, and the level of the risk associated with the audit test. I examined two differing PCAOB inspection focuses (one on effectiveness only and one on a more balanced approach between effectiveness and efficiency); two different engagement risk levels (low and high); two levels of the riskiness of the tests (low and high); and two types of tests (tests of controls and substantive procedures).

Overall, I find that as engagement risk and/or riskiness of the test increased, auditors' reliance decisions decreased, but the interesting finding is how auditors' reliance decisions were affected by the interaction between engagement risk, PCAOB inspection focus, and riskiness of the test. When riskiness of the tests is low and engagement risk is high, the external auditors rely more on the internal audit function when the focus of the PCAOB inspection process is balanced. However, when engagement risk is low, the external auditors rely equally on the internal audit function regardless of the focus of the PCAOB inspection. When the riskiness of the tests is high, I find that the external auditors also rely significantly more on the internal audit function

when the PCAOB inspection focus is balanced compared to an effectiveness focus regardless of the level of engagement risk. Lastly, I find that there is a difference between the auditors' reliance decisions on the test of controls and the substantive procedures. Overall, auditors' rely more on the internal audit function for tests of controls than substantive procedures. Some interesting differences, however, were identified. When using test of controls, external auditors rely more on the internal audit function when the focus of the inspection is a more balanced approach, the riskiness of the test and engagement risk are low as compared to when the focus of inspection is effectiveness only, or the riskiness of the test and engagement risk are high. External auditors' reliance decisions on the internal audit function, when using substantive procedures, depend on the engagement risk level and not the focus of the inspection. When the riskiness of the substantive test is low, the focus of the inspection does not have an impact on the auditors' reliance decision. When riskiness of the substantive test is high, auditors' reliance in the balanced focus of inspection is higher than the effectiveness focus.

6.2 Contributions

This dissertation has important implications for auditors, regulators, academics and other interested stakeholders. First, it extends the research on the PCAOB's inspection process and how it influences auditors' reliance decisions on the work of others (i.e., the internal audit function). Thus, this study extends the internal audit literature by examining how the inspection process by the PCAOB affects auditors' reliance decisions on the internal auditor function (Gramling 1999, Felix et al. 2001, Felix et al. 2005). Under the balanced focus of the inspection, auditors' rely more on the internal audit function than under an effectiveness focus across differing levels of engagement risk and riskiness of tests. Second, policy setters for external auditors may wish to consider the focus they are using for their inspections, the selection process

for audit inspections, and its impact on external auditors reliance decisions. AS5 allows the external auditor to rely more on the work of others when conducting an audit of ICFR. My findings suggest that auditors' rely more on the internal audit function when using tests of controls than substantive procedures. Possible unintended consequences from this regulatory change is that even under higher engagement risk and higher riskiness of tests, auditors' may rely more on the internal audit function when faced with the balanced inspection focus versus the effectiveness inspection focus. Third, auditors face increased pressure to maintain a high level of effectiveness while increasing the efficiency of their audits. My findings suggest that auditors under high levels of engagement risk still relied more on the internal audit function under the balanced inspection focus versus the effectiveness inspection focus, but the riskiness of the tests also impacted the level of the auditors' reliance. Lastly, this study extends the research on how engagement risk influences auditors' decision-making behavior (e.g., Knapp 1985; Walo 1995; Hackenbrack & Nelson 1996; Johnstone 2000) by examining engagement risk under the new regulatory pressures of the PCAOB inspection process.

6.3 Limitations and Suggestions for Future Research

Experiments abstract from the real world and sacrifice some external validity (Bonner 1999). To mitigate external validity issues, I performed a thorough experimental analysis. Nonetheless, this dissertation has several limitations. First, results are generalizable only to the extent that experimental participants are representative of the population of external auditors that make reliance decisions on the internal audit function. Second, I focused my research on only two levels of the focus for the PCAOB inspection process. Future research should look at other possibilities. Third, engagement risk was set at the extremes (either high or low). In the real world, auditors face a continuum of engagement risk levels. Future research should investigate

how the levels of the engagement risk interact with the level of the focus of the PCAOB. Fourth, I was limited to choosing only eight procedures for auditors to make reliance decisions. The results may not hold for other audit procedures or tests.

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APPENDIX A EXPERIMENTAL MATERIALS

The following pages show the computer screen appearance for the entire experimental instrument for Case 1 where the manipulation for engagement risk was low and the PCAOB inspection focus was on effectiveness. The manipulations that were used in Case 2 through 4 for the Suntek Case are included after the final page of Case 1.

Welcome!

Dear Participant:

Thank you for participating in this study. We are interested in your expertise in the use of the work of the internal audit function on an integrated audit of both the audit of internal control over financial reporting and audit of financial statements. More specifically, we need your help in examining how an internal audit function may impact your audit work effort.

This study involves two parts and it should take approximately 20 minutes to complete.

Instructions:

Part I. You will be presented with some background and case information about SunTek Inc., an audit client. Based on the information provided, you will be asked several questions related to planning the audit of its December 31, 2008 financial statements. Please respond to all questions in the order in which they are presented and base your judgments only on the information provided.

Part II. Please complete the post-survey demographic questionnaire. This will provide us with additional information needed to complete our research.

Please read the Participant Consent Form on the next screen that is required by our universities. It would be greatly appreciated if you would complete the survey within one week.

Thank you for your time and effort. Your assistance is greatly appreciated.

Sincerely,

Julie Petherbridge
PhD Student
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Informed Consent Form

I. Purpose:

You are invited to participate in a research study. The purpose of the study is to investigate auditors' decision on the use of the work of the internal audit function on an integrated audit of both the audit of internal control over financial reporting and audit of financial statements. You are invited to participate because you are senior or manager of any public accounting firm. A total of 90-120 participants will be recruited for this study. Participation will require approximately 20 minutes of your time.

II. Procedures:

If you decide to participate, you will be presented with some background and case information about a fictional company, which is an audit client. Based on the information provided, you will be asked several questions related to planning the audit of its December 31, 2008 financial statements. Each of your answers is recorded by marking a check box. At the end of the survey, you will be asked to complete a post-survey questionnaire. This provides additional information to complete the research.

III. Risks:

In this study, you will not have any more risks than you would in a normal day of life.

IV. Benefits:

Participation in this study may not benefit you personally. Overall, we hope to gain information about auditors' reliance decisions on the work of others.

V. Voluntary Participation and Withdrawal:

Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:

We will keep your records private to the extent allowed by law. We will use a study number rather than your name on study records. Only the principal investigators will have access to the information you provide. It will be stored on a non-networked computer and password protected. Your response will be received by the website. There is always the possibility of someone accessing the website. Once the document and data has been downloaded, your data will be removed from the website. Other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. Neither you nor your firm will be identified personally.

VII. Contact Persons:

Call or email Bill Messier (678 386-8634 or bill.messier@unlv.edu) or Julie Petherbridge (404 610-6006 or petherbrid_j@mercer.edu) if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404 413-3513 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Subject:

Completing the case materials affirms your consent to participate in this study.

Survey Instrument

*** 1. Please indicate the last 2-digits of your social security number (This information is strictly being used to randomize the group of participants).**

00-11

12-24

25-37

38-50

51-62

63-74

75-86

87-99

Background

The Sarbanes-Oxley Act (SOX) was passed in 2002. The Act established the Public Company Accounting Oversight Board (PCAOB) that is responsible for oversight of the integrated financial statement audits of publicly-traded corporations. As part of its oversight responsibilities, the PCAOB issues auditing standards that provide guidance concerning auditor ethics and independence; supervision; hiring and development of audit personnel; and client acceptance and continuation. The PCAOB is also responsible for inspecting auditing firms to ensure their compliance with SOX regulations and professional auditing standards. The PCAOB can impose sanctions on accounting firms, including civil penalties and suspensions from auditing public companies. The PCAOB may refer these matters to the SEC and the Department of Justice for further legal action if it believes such action is needed.

The Board conducts a continuing program of inspections to assess the degree of compliance of each registered public accounting firm and associated persons of that firm with SOX, the rules of the Board, the rules of the Commission, or professional standards, in connection with its performance of audits, issuance of audit reports, and related matters involving issuers. Board inspections are designed to identify and address weaknesses and deficiencies related to how a firm conducts audits based on the Board's approach. To achieve that goal, Board inspections include reviews of certain aspects of selected audits performed by the firm and reviews of other matters related to the firm's quality control system.

The Board sets its own rules for the inspection process. The Board currently uses either (1) an effectiveness approach or (2) a balanced approach. When the effectiveness approach is used, the PCAOB inspectors focus on whether sufficient appropriate evidence has been obtained to afford a reasonable basis for an opinion regarding the financial statements under examination. When the balanced approach is used, the PCAOB inspectors focus on effectiveness, but also consider the efficiency of those audits. The Board identifies deficiencies in the selected audits, and it alerts the firm to the deficiencies through its written report. If, through subsequent inspections or other processes, the Board finds that the firm failed to take appropriate action, such a failure can be grounds for a board disciplinary sanction.

One of the major changes that occurred with the issuance of Auditing Standard No. 5 (AS5) was the extent to which the external auditor can rely on the work of others (e.g., internal auditors). AS5 provides the following guidance:

The auditor should evaluate the extent to which he or she will use the work of others to reduce the work the auditor might otherwise perform himself or herself. This applies in an integrated audit of the financial statements and internal control over financial reporting. For purposes of the audit of internal control, however, the auditor may use the work performed by, or receive direct assistance from, internal auditors, company personnel (in addition to internal auditors), and third parties working under the direction of management or the audit committee that provides evidence about the effectiveness of internal control over financial reporting. In an integrated audit of internal control over financial reporting and the financial statements, the auditor also may use this work to obtain evidence supporting the auditor's assessment of control risk for purposes of the audit of the financial statements. The extent to which the auditor may use the work of others in an audit of internal control also depends on the risk associated with the control being tested. As the risk associated with a control increases, the need for the auditor to perform his or her own work on the control increases.

SunTek Case

Company Overview:

SunTek Inc. is a leading developer of digital laser imaging and chemistry-free plate technologies for the printing and graphic arts industries. SunTek is a large publicly traded company. SunTek developed and recently began selling an innovative new product. The company started selling the product in October of the prior year. Initial sales were encouraging and the company has no concerns about meeting its restrictive debt covenants. Also, management bonuses are tied to sales targets and the client easily met these sales targets. Key financial ratios for the current year are above industry average as were the prior year ratios. The company has been an audit client of the firm for the past 12 years.

Engagement risk is defined as the risk that the audit firm is exposed to loss or injury from litigation, adverse publicity, or other events arising in connection with the integrated audited financial statements (AU 312.02). Your firm has assessed engagement risk on SunTek as "LOW."

Revenue Process:

Because of your experience with similar clients in the past, you have been asked to serve as the senior on the SunTek audit. One of your tasks will be to evaluate the revenue cycle and determine whether you can rely on the work of the internal audit function to perform selected audit procedures.

SunTek markets its products through 30 graphic arts dealers worldwide. SunTek's Lasertel subsidiary provides laser diodes crucial to the design of the company's digital imaging systems, and supplies the optoelectronic parts to other customers. The company, which has more than 20,000 customers worldwide, gets about two-thirds of sales from North America.

Accounts receivable have been and continue to be material to SunTek's balance sheet. Past confirmation efforts have been effective with good response rates. The composition of receivables is relatively unchanged from past audits. On occasion, material audit adjustments have been recorded for receivable balance misstatements. No discrepancies with SunTek's accounts receivables were identified in any of the three quarterly reviews conducted earlier this year.

SunTek Case continued

Internal Audit Function:

The company's internal audit department employs 25 personnel: a director, 4 managers, 5 senior auditors and 15 staff auditors. The audit team's evaluation has concluded that there are internal audit activities relevant to the integrated audit and that it is cost efficient to consider the internal auditors' work. All of the members of the internal audit (IA) function have bachelor degrees in accounting and are either CPAs or CIAs. The members of the IA function have an average of 3 years of audit experience with a range of 1 to 20 years. The IA department reports directly to the chairman of the audit committee. The audit team has determined that the internal audit function is competent and objective. Your firm has relied on the internal audit function in prior years.

PCAOB Inspection:

Your firm is scheduled for its annual inspection by the PCAOB. Because of the nature of your firm's clients, the PCAOB will use an EFFECTIVENESS approach when conducting their inspection of the firm's integrated audits. Thus, the PCAOB inspection team will focus on how effective the firm's audits are in terms of assessing whether the significant risk areas have been properly evaluated, concluded upon, and documented.

At this time it is uncertain as to whether the SunTek audit will be selected for review by the PCAOB.

The following substantive tests for accounts receivable are scheduled to be...

1. Prepare an analysis of activity in the Allowance for Doubtful Accounts and reconcile with related bad debt expense and general ledger; investigate suspicious write-offs; confirm selected charged-off accounts. (Valuation)

To what extent would you rely on the work of the internal audit function to perform this audit procedure on an integrated audit?

	No Reliance					Moderate Reliance						Extensive Reliance
Reliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Determine the mathematical accuracy of monthly supporting accounts receivable schedules and reconcile totals to the general ledger. (Accuracy, Completeness)

To what extent would you rely on the work of the internal audit function to perform this audit procedure on an integrated audit?

	No Reliance					Moderate Reliance						Extensive Reliance
Reliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Inquire of management regarding the existence of pledged receivables and investigate receivables from related parties. (Valuation, Presentation & Disclosure)

To what extent would you rely on the work of the internal audit function to perform this audit procedure on an integrated audit?

	No Reliance					Moderate Reliance						Extensive Reliance
Reliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Determine the Adequacy of Allowance for Doubtful Accounts by identifying past-due accounts selected from aging schedule not paid subsequent to balance sheet date; investigate the credit standing and ability to pay for such past-due accounts to determine collectibility. (Existence, Valuation)

To what extent would you rely on the work of the internal audit function to perform this audit procedure on an integrated audit?

	No Reliance					Moderate Reliance					Extensive Reliance
Reliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part II: Case Questions

1. How did your firm rate SunTek Inc.'s engagement risk level?

Low

High

2. How likely do you think the SunTek engagement will be selected by the PCAOB for inspection?

Likelihood

Not Likely

Highly Likely

3. The PCAOB can use either an effectiveness approach or a balanced approach. Based on the case information that you read, what approach will the PCAOB use for your firm's audit?

Effectiveness Approach

Balanced Approach

4. What is the length in years of your firm's audit relationship with SunTek, Inc.?

1-5 Years

5-10 Years

10-15 Years

5. How would you rate the competence and the objectivity of SunTek's internal audit function?

Rating

Low

Moderate

High

Risk Evaluation

On the next two pages you will be asked to rate the riskiness of the test of controls and audit procedures that you previously evaluated for the reliance on the work of the internal audit function. These ratings should be considered independent of the ratings for the reliance decision. In rating the test of controls and audit procedures, you should consider their riskiness in terms of the assertion(s) being tested for SunTek along a continuum from low to high risk.

Audit Procedures Questions: Tests of Controls

1. Test company procedures concerning whether revenue is properly recognized under GAAP.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

2. Test to ascertain if company write-off procedures are reasonable and are being properly followed.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

3. Test that the company's policies are being followed in the separation of functions between credit, sales, shipping, billing and accounts receivable departments.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

4. Test procedures related to accuracy and completeness of the customer invoicing process (automated and manual). The procedures include the use of prenumbered invoices, reports used by management for processing exceptions and procedures in place for effective review and monitoring of the invoicing process.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

Audit Procedure Questions: Substantive Tests

1. Prepare an analysis of activity in the Allowance for Doubtful Accounts and reconcile with related bad debt expense and general ledger; investigate suspicious write-offs; confirm selected charged-off accounts.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

2. Determine the mathematical accuracy of monthly supporting accounts receivable schedules and reconcile total to the general ledger.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

3. Inquire of management regarding the existence of pledged receivables and investigate receivables from related parties.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

4. Determination of Adequacy of Allowance for Doubtful Accounts by identifying past-due accounts selected from aging schedule not paid subsequent to balance sheet date; investigate credit standing and ability to pay for such past-due accounts to determine collectibility.

How would you rate the riskiness of this procedure?

Riskiness

Low Moderate High

*** 5. If you are satisfied with your responses to the case questions, please check "yes" and then click "Next" at the bottom of the page to proceed to the demographics page.**

yes

9. Have you ever been a reviewee for peer or practice review?

Yes

No

10. Have you ever been the reviewer for peer or practice review?

Yes

No

11. Your professional designations:

CPA

CMA

CIA

Other (please specify)

12. Your current level of education:

PhD

Masters

Undergraduate

Manipulation between different instruments:

Engagement Risk (High):

Company Overview:

SunTek Inc. is a leading developer of digital laser imaging and chemistry-free plate technologies for the printing and graphic arts industries. SunTek is a large publicly traded company. SunTek developed and recently began selling an innovative new product. The company started selling the product in October of the prior year. Although initial sales were encouraging, the company was narrowly in compliance with restrictive debt covenants from which waivers had been obtained in the past. Also, management bonuses are tied to sales targets and the client just did meet these sales targets. Key financial ratios for the current year are below industry average as were the prior year ratios. The company has been an audit client of the firm for the past two years.

Engagement risk is defined as the risk that the audit firm is exposed to loss or injury from litigation, adverse publicity, or other events arising in connection with the integrated audited financial statements (AU 312.02). Your firm has assessed engagement risk as “HIGH.”

PCAOB inspection focus (Balanced):

PCAOB Inspection:

Your firm is scheduled for its annual inspection by the PCAOB. Because of the nature of your firm’s clients, the PCAOB will use a BALANCED approach when conducting their inspection of the firm’s integrated audits. Thus, the PCAOB inspection team will concentrate its efforts to assess whether the significant risk areas have been properly evaluated, concluded upon, and documented. The PCAOB inspectors will also focus on use of the work of others (i.e., internal audit function) related to the audit of internal control over financial reporting. This change is intended to lead to a more efficient audit of internal control over financial reporting.

At this time it is uncertain that the SunTek audit will be selected for review by the PCAOB.