December 9, 2002

Financial Accounting Standards Board
401 Merritt 7
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RE: File Reference No. 1125-001
Proposal: Principles-Based Approach to U.S. Standard Setting

I would like to comment on the proposal for a principles-based approach to U.S. standard setting. In particular, I would like to address the following two questions from your proposal:

Do you support the Board’s proposal for a principles-based approach to U.S. standard setting? Will that approach improve the quality and transparency of U.S. financial accounting and reporting?

Will preparers, auditors, the SEC, investors, creditors, and other users of financial information be able to adjust to a principles-based approach to U.S. standard setting? If not, what needs to be done and by whom?

My comments are based on a research study I conducted. The study examined whether accounting standards which rely heavily on the exercise of professional judgment result in less financial reporting comparability and more earnings management than standards which allow relatively less professional judgment to be exercised. The study’s empirical results provide evidence that comparability in financial reporting across firms suffers when standards allow significant exercise of professional judgment by financial statement preparers. The findings also suggest that financial statement preparers are more likely to use professional judgment to manage earnings when standards allow significant exercise of professional judgment than when standards allow less discretion in reporting. In short, the study provides empirical evidence that confirms concerns expressed by several responders to your 2002 FASAC survey. I have attached copies of the two papers I have written based on this study. Both papers are currently under review with journals, but the papers as written may help inform your debate over the principles-based standards proposal.

Much of what I have read recently has framed the debate over standards as a choice between rule-based standards and principles-based standards. I believe that framing the debate in this way
obscures the real issue. In my opinion, the issue should be framed as, "What role should professional judgment play in U.S. accounting standards?" I contend that we know very little about how the professional judgment of financial statement preparers and auditors affects financial reporting. Without such an understanding, it is very difficult to predict how principles-based standards will affect the quality of financial reporting.

In an *Accounting Horizons* article (June 1991), Alister Mason and Michael Gibbins stated, "We are not aware of any systematic studies of the nature and extent of judgments required by U.S. accounting standards, or of how judgments are affected by the quality of guidance in accounting standards" (15). A decade later, the same comment can be made. I am attempting in my research to help fill this void, but I know of little other research that specifically addresses this concern. In my opinion, it is becoming increasingly important to address this deficiency in the literature.

If a principles-based approach is to succeed, accounting standards must explicitly recognize the judgments that standards will require financial statement preparers and auditors to make. In my opinion, it is not enough to simply state a standard's objective and the principles upon which reporting decisions are to be made. That approach will not guarantee improvements in financial reporting quality, and it may lead to less comparability in financial reporting and more earnings management (as my research findings indicate). Stating objectives and principles is a good start, but it is not enough. Accounting standards should identify the specific judgments that will be required to apply the standards. Explicitly recognizing the judgments required by standards could lead to the following improvements in the financial reporting process:

1. The FASB will be better able to design appropriate disclosures that will help users understand the judgments that form the basis for financial reporting decisions. Such disclosures will allow users to assess earnings quality and may provide a deterrent to earnings management activities. Effective disclosures will also improve the ability of users to compare financial reporting across firms.

2. The profession will be better able to improve the judgments made by preparers and auditors. Decision aids, expert systems, and other tools could be designed that help preparers and auditors make sound judgments which lead to reporting that truly represents the underlying economic performance of a company.

Judgment is the hallmark of any profession. The accounting profession should not shy away from the exercise of professional judgment in financial reporting. By that same token, however, the profession must find ways to improve the judgments that preparers and auditors make. If accounting standards provide more guidance about the specific judgments that must be made in the application of standards, the profession will better able to identify ways to improve professional judgment.

Respectfully submitted,

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THE TRADEOFF BETWEEN COMPARABILITY IN FINANCIAL REPORTING
AND THE LEVEL OF PROFESSIONAL JUDGMENT IN ACCOUNTING STANDARDS

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The Tradeoff Between Comparability in Financial Reporting and the Level of Professional Judgment in Accounting Standards

Abstract

The Financial Accounting Standards Board (FASB 2002) recently released a proposal outlining a principles-based approach to standard setting. In the proposal, the FASB expresses concern that comparability in financial reporting could be reduced under principles-based standards because the standards will rely more heavily on the exercise of professional judgment. In a principles-based system, differing professional judgments may lead to similar transactions and events being reported in different ways. This study responds to the FASB’s concern by examining whether the level of professional judgment required in the application of accounting standards affects the comparability of financial reporting across firms.

The hypothesized tradeoff between reporting comparability and the level of professional judgment allowed by accounting standards is tested by examining the financial reporting decisions of 145 financial statement preparers in U.S. corporations. Participants in an experiment make two financial reporting decisions, one guided by an accounting standard requiring a relatively high level of judgment and one by a standard requiring a relatively low level of judgment. The experiment is conducted in an earnings management context which gives participants varying opportunities and incentives to report similar transactions differently, thus providing a more robust test of the study’s hypothesis.

The results support the hypothesis that financial reporting is less comparable when accounting standards rely heavily on the exercise of professional judgment than when standards place fewer demands on professional judgment. This finding was not affected by the participant’s years of experience, management level, gender, or age. However, the results provide some evidence that comparability in financial reporting decisions may improve as financial statement
preparers become more experienced and as they hold higher positions in an organization.

Finally, the results provide some evidence that moral hazard conditions accentuate differences in reporting decisions and, thus, reduce comparability in financial reporting.

Keywords: principles-based accounting standards; individual judgments and decisions; behavioral; conceptual framework; comparability; financial statement preparers; earnings quality.

Data availability: Data are available from the authors.
The Tradeoff Between Comparability in Financial Reporting and the Level of Professional Judgment in Accounting Standards

I. INTRODUCTION

The Financial Accounting Standards Board (FASB 2002) is considering adopting a principles-based approach to standard-setting. While believing that the benefits of the approach will outweigh the costs, the FASB (2002) is also concerned that one cost may be a loss of comparability in financial reporting. The FASB (2002) states:

Preparers and auditors would need to apply professional judgment in more circumstances, while the SEC, investors, creditors, and other users of financial information must accept the consequences of applying professional judgment, including some divergence in practice (9).

If the profession moves toward principles-based standards, will comparability in financial reporting suffer? In contrast to the concern expressed by the FASB, outgoing SEC Chief Accountant Robert Herdman states, “It is my belief that similar transactions in this system of principle-based standards will not be reported in materially different ways, preserving comparability” (Principle-Based Accounting Standards). The contrasting views of the FASB and SEC Chief Accountant Herdman reveal a lack of consensus about the impact that principles-based standards may have on comparability which is clearly a desired and important characteristic of financial reporting. However, both views are assumptions with little or no empirical support.

This study provides input to the debate over principles-based standards by examining whether financial reporting under high-judgment (e.g., principles-based) standards is as comparable as reporting under standards that require less professional judgment. The study is motivated not only by the FASB’s proposal (2002) but also by a long-standing controversy in the accounting profession about the role that professional judgment should play in the application of
accounting standards. The discussion has been normative in nature with few supporting empirical studies. This study is intended to help fill that void.

The study’s results provide evidence that comparability in financial reporting may be reduced under principles-based standards. However, the findings suggest that, even under high-judgment standards, financial statement preparers with more experience and in higher levels of management may be more likely than their less-experienced counterparts to report similar events in similar ways, thus enhancing comparability. The results also provide some evidence that moral hazard conditions may accentuate differences in reporting decisions and reduce comparability.

Given the study’s findings, it may be beneficial for the FASB and the accounting profession to explicitly consider the role that professional judgment will play in a system of principles-based standards. Standards development may require focus on the judgments that will be required of financial statement preparers. By doing so, the profession may identify ways to improve the professional judgment of financial statement preparers and minimize any negative impact that principles-based standards may have on financial reporting comparability.

The authors of SFAC No. 2 note that a principal reason for developing accounting standards is to aid investors and creditors who have difficulty making financial comparisons among enterprises using different accounting methods (FASB 1980, para. 112). That is, accounting standards are developed to ensure that users can compare financial reporting across companies.

SFAC No. 2 defines comparability as the quality of information that enables users to

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identify similarities in and differences between two sets of economic phenomena (FASB 1980).

If an accounting standard relies heavily on the exercise of professional judgment in its application, then financial statement preparers have significant latitude in making reporting decisions. As a result, varying entities may report similar transactions in dissimilar ways because differing accounting judgments lead to different reporting decisions. In such cases, comparability is not achieved because the reported information does not enable users to identify similarities in the transactions across firms.

This study contributes to the accounting literature by helping advance the debate over principles-based standards. By empirically testing the effects of varying levels of professional judgment on the decisions of financial statement preparers, the study helps the profession better understand the relationship between financial reporting comparability and the exercise of professional judgment. This enhanced understanding sheds light on one possible risk if the profession moves toward principles-based standards.

Bamber (1993) observed that research on financial accountants' decision making has been a notable omission in behavioral accounting research. In the decade following Bamber's observation, behavioral research studies have continued to focus on auditor judgments with little attention being given to the judgments of financial statement preparers. This study contributes to the behavioral accounting research stream by focusing on those relatively overlooked, but key, players in the financial reporting process.

The remainder of the paper is organized as follows. In the next section, the relevant literature is reviewed and the study's hypothesis is developed. The paper proceeds with a discussion of the methodology. Finally, the results of the hypothesis tests are presented, and conclusions are discussed.
II. REVIEW OF PRIOR LITERATURE AND HYPOTHESIS DEVELOPMENT

The Role of Professional Judgment in the Application of U.S. Accounting Standards

Various accounting scholars and practitioners have debated the nature of accounting standards. There have been calls for "bright-line" standards, "simple" standards, and "principle-based" standards. Yet, this normative debate has done little to clarify the role professional judgment currently plays in the application of accounting standards, nor has it led to a better understanding of the demands that various types of standards place on the professional judgment of accountants.

Dale Gerboth observes, "Current accounting standards are many and detailed, confining individual judgment to ever-shrinking fringes" (1988, 108). He argues that the emphasis on rules transfers responsibility for fairness in accounting results from the accountant to the rule. As a result, Gerboth claims the profession has developed "a cynical attitude that anything not forbidden by the rules is all right" (1988, 104). Gerboth calls on standard-setters to allow more decisions to be made by practitioners exercising their professional judgment.

While Gerboth claims that detailed standards reduce reliance on professional judgment, Alister Mason and Michael Gibbins (1991) conclude from an examination of eleven accounting standards that even detailed accounting standards require considerable use of judgment. Consequently, they recommend that each accounting standard state its main objectives so that accountants may follow the spirit of the standard in its application.

John Wulff, CFO of Union Carbide Corporation, and Susan Koski-Grafter, Vice President-Technical Activities of the Financial Executives Institute state that standards should be a clear and concise statement of principles to be followed, rather than a detailed list of provisions and bright lines (1998). Similarly, Peter Knutson and Gabrielle Napolitano (1998) note that the
Financial Accounting Policy Committee (FAPC) of the Association for Investment Management and Research (AIMR) generally eschews bright-line accounting standards. The FAPC believes that "such clear delineations invite gaming of the accounting standard" (Knutson and Napolitano 1998, 171).

The above comments and recommendations are consistent with the current calls by outgoing SEC Chair Harvey Pitt (2002) and outgoing SEC Chief Accountant Robert Herdman (2002) for principles-based accounting standards. In recent testimony before Congress, Herdman (2002) states, "An ideal standard is one that is principle-based and requires financial reporting to reflect the economic substance, not the form, of the transaction" (Principle-Based Accounting Standards). He also argues that comparability can be maintained in a system of principles-based standards.

The other side of the standards debate is well represented by former officials of the SEC and the FASB. Walter Schuetze (1991), former SEC Chief Accountant, argues that accounting standards should incorporate "simple bright-line rules" (114) and leave little room for professional judgment. For example, Schuetze suggests that we either capitalize all lease obligations or none of them. He argues that standards which state an objective and leave the implementation to the judgment of financial statement preparers and auditors allow too much flexibility in reporting.

Like Schuetze, former SEC Chair Arthur Levitt (1998) cautions against too much discretion in accounting standards. Levitt (1998) argues that managers have exploited the flexibility in accounting standards in order to manage earnings. While noting that accounting principles must be adaptable to changing circumstances and business innovations, Levitt states that managers have abused the flexibility in standards to engage in what he termed "accounting
hocus-pocus" (1998, 16). To combat the abuse, Levitt calls upon standard-setters to "take action
where current standards and guidance are inadequate" (1998, 18).

Perhaps one of the most prolific writers on the subject is former FASB Chair Dennis
Beresford. In 1993, Beresford commented that general and simple accounting standards were not
possible in today's complex business environment. By 1997, however, Beresford began to
express a slightly different view. Beresford (1997) acknowledges that the FASB is often
criticized for writing cookbook-like rules rather than broader principles that can be applied with
judgment. However, he argues that the FASB has been "pressured for more detailed and complex
standards by the large public accounting firms, regulators such as the SEC, and others who prefer
as much consistency as possible in the application of standards" (Beresford 1997, 84). Further,
he states that the challenge to the FASB "is to find the right balance between standards that will
lead to reasonable comparability in reporting similar economic activities and professional
judgment that almost always must be used" (Beresford 1997, 84).

In a more recent commentary on the issue, Beresford (1999) calls for simple accounting
standards. While Beresford (1999) offers few ideas for how to simplify standards, he argues that
professional judgment "must play a more important role in financial reporting" (67). He calls
upon accountants to accept general principles and apply them in an ethical manner. Beresford
recommends that standards provide accountants with broad guidance in reporting and then
require accountants to use their knowledge and experience in applying those guidelines to
specific situations.

While this debate has yet to be settled, the FASB (2002) has expressed a willingness to
consider a principles-based approach to standard setting. In its recent proposal on principles-
based standards, the FASB (2002) acknowledges that current standards contain rule-driven
implementation guidance, much of which is intended to improve comparability. The problem with this rule-based approach to standards is that it enables firms to engineer or structure transactions in ways that “circumvent the intent and spirit of standards” (FASB 2002, 2). Nelson et al. (2002) provide support for this contention by finding that managers are more apt to engage in transaction structuring when standards are precise or rule-based.

Under principles-based standards, there will be increased reliance on the exercise of professional judgment (FASB 2002). According to the FASB (2002), this poses two potential threats to comparability. First, there may be situations in which there are honest differences in good faith professional judgments, and those differences result in similar events being reported in dissimilar ways across firms. Second, the FASB (2002) acknowledges that principles-based standards may be abused and preparers may not apply the standards in good faith. The increased reliance on professional judgment may provide opportunities for financial statement preparers and corporate managers to justify whatever reporting decisions they desire.

The above literature is representative of the ongoing debate about the role of professional judgment in the application of accounting standards. These normative arguments reflect little consensus and, more importantly, provide little or no empirical evidence on whether professional judgment significantly affects the financial reporting process.

*The Effect of Professional Judgment on the Decisions of Accounting Professionals*

The FASB (2002) argues that comparability may be sacrificed under a system of principles-based standards. Similarly, Beresford (1999) implies that increased levels of professional judgment may lead to less comparability in financial reporting decisions, and Acher (1998) questions whether comparability in reporting demands detailed, rule-oriented standards or whether a framework of principles and the use of judgment can achieve the goal of
comparability. These comments suggest there is a tradeoff between comparability of financial reporting decisions and the level of professional judgment required in the application of accounting standards. No empirical studies test this assertion directly, but a few studies from the auditing and tax domains test similar ideas.

Trompeter (1994) examines whether audit partners are more likely to require accounting treatments that are more conservative than those desired by their clients when generally accepted accounting procedures (GAAP) are more restrictive than when GAAP are less constraining. Audit partners participating in an experiment reviewed three cases with varying levels of constraints provided by relevant GAAP. The study finds that audit partners are more likely to agree with their clients' desired accounting treatments when standards are less constraining. In other words, when GAAP allow a wider range of acceptable treatments, audit partners are more likely to accept aggressive accounting treatments desired by their clients.

Hackenbrack and Nelson (1996) also examine the application of accounting standards by auditors. The authors test two standards that include vague disclosure criteria to see if standards allow auditors to justify aggressive reporting decisions by their clients. Their results show that auditors may, under certain conditions (i.e., when the client does not represent a high-risk engagement), allow clients to adopt aggressive reporting methods. Furthermore, the vagueness of the accounting standards made it possible for the auditors to justify their clients' preferred reporting positions.

In the tax domain, Milliron (1988) finds that ambiguities in tax law affect the decisions of tax accountants. Similarly, Krawczyk (1994) finds that the form of the law (objective versus subjective) affects both the information identified as relevant for decision making as well as the decisions made.
The findings in the above studies demonstrate that reporting decisions are affected by the amount of discretion or judgment that must be exercised in the application of standards. Furthermore, when standards rely more heavily on professional judgment, accounting professionals appear to use the increased discretion to justify desired reporting decisions.

Based on the normative arguments and findings of the above studies, this study tests the following hypothesis (stated in alternative form):

Accounting standards which rely heavily on the exercise of professional judgment result in less comparability in financial reporting decisions than standards which require less professional judgment in their application.

**An Earnings Management Context and Agency Theory**

To better examine whether high judgment standards result in less comparability than low judgment standards, this study is conducted in an earnings management context. This context reflects the current reporting environment in which different financial statement preparers might be motivated to report similar transactions in dissimilar ways. Designing the study to reflect differing incentives and opportunities for earnings management allows the research to test the study’s hypothesis in a variety of environmental settings, which makes the tests of the study’s hypothesis more robust.

Healy and Wahlen (1999) define earnings management as follows:

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (368).

Healy and Wahlen’s definition informs the design of this study by identifying two ways in which earnings are managed and two reasons for managing earnings. Using this definition as a basis, this study’s earnings management context focuses on earnings management that is achieved through the exercise of professional judgment and for the purpose of maximizing compensation.

When managers (agents) manage earnings to maximizing their compensation, they are
acting in their own best interests which may not be in the best interests of the stockholders (principals). Agency theory predicts this self-interested behavior when the goals of the agents and the principals conflict (Eisenhardt 1989). Therefore, this study uses agency theory, specifically the moral hazard construct, to identify the conditions under which financial statement preparers may exploit the discretion in accounting standards to manage earnings.

Tuttle et al. (1997) note that the moral hazard construct is composed of two conditions: (1) an incentive to shirk, and (2) privately held information. Baiman (1982) states that managers have an incentive to shirk when the economic interests of the managers differ from those of the firm. Therefore, when management compensation contracts motivate managers to manage earnings for their own personal gain (Healy and Whalen 1999), agency theory would say that managers have incentive to shirk.

Using the moral hazard construct as a guide, this study's earnings management context is designed to reflect situations in which financial statement preparers may (or may not) have an incentive to shirk and may (or may not) have privately held information. As a result, this context provides a rich environment in which to test the study's hypothesis.

III. METHODOLOGY

Participants

The participants in the study are accountants who work in U.S. corporations and are or have been engaged in financial statement preparation. A total of 145 accountants participated in the study. Participants were recruited through professional organizations and other contacts. Demographics of the participants are presented in the next section.

Selection of the Accounting Standards Used in the Study

To test the effect of varying levels of professional judgment on reporting decisions, the experiment has participants make two financial reporting decisions under two accounting standards that require exercise of different levels of professional judgment. This design is similar to Trompeter (1994) in which participants decide whether to require more conservative
accounting treatments than those desired by their clients in each of three case settings. The three cases differ in the degrees of constraint that GAAP place on the reporting decisions in the cases.

Statement of Financial Accounting Standards (SFAS) No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of* (FASB 1995), is used as an accounting standard that requires a relatively high level of professional judgment.\(^2\) SFAS No. 5, *Accounting for Contingencies* (FASB 1975), is used as an accounting standard that requires a relatively low level of professional judgment.

SFAS No. 121 and SFAS No. 5 were selected for use based on a review of the academic literature and practitioner-targeted journals. The objective of the review was to identify standards which might require differing levels of professional judgment in their application. Prior to using the standards in the study, the level of professional judgment required to apply each standard was measured using a method developed by Mason and Gibbins (1991).

Mason and Gibbins (1991) measure the level of professional judgment required by five Accounting Principles Board (APB) Opinions and six FASB's Statements of Financial Accounting Standards (SFAS) using a method that identifies the number of instances in which professional judgment is required by each of the standards.

Brown (1999) notes that earnings management occurs when managers make choices, judgments, and estimates within the bounds of GAAP to influence earnings. Brown further states that "the wider the range of choices, the more opportunity open to management teams to manage

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\(^2\) SFAS No. 121 was recently superceded by SFAS No. 144. SFAS No. 121 allowed either a best-estimate approach or a probability-weighted approach to be used in developing forecasts of future cash flows. In the Exposure Draft for SFAS No. 144, the FASB proposed requiring the probability-weighted approach. However, after public input, the FASB decided to retain the two alternatives allowed under SFAS No. 121. The case used in this experiment is designed to allow either approach to be used. Furthermore, the asset is not impaired if the best-estimate approach is used. Under the probability-weighted approach, the asset is impaired. Therefore, the participants in the experiment could justify either reporting decision (the asset is impaired or not impaired), making it possible for the participants to manage earnings by their choice of method (i.e., through the exercise of professional judgment).
some would say manipulate – reported earnings to their advantage” (61). The method used by Mason and Gibbins (1991) provides a measure of the amount of choice in GAAP. As a result, the measure should reflect the relative ability of financial statement preparers to manage earnings within the bounds of the standards used in the experiment.

SFAS No. 5 is one of eleven standards that Mason and Gibbins (1991) examine. According to Mason and Gibbins, there are nine instances where SFAS No. 5 requires the application of professional judgment. Of the eleven standards that Mason and Gibbins examine, SFAS No. 5 has the third lowest number of instances of professional judgment. Of the six FASB standards, SFAS No. 5 has the second lowest number of instances requiring professional judgment. On this basis, SFAS No. 5 was selected as a potential example of a standard requiring a relatively low amount of professional judgment.

In contrast, SFAS No. 121 is described by many practitioners and academics\(^3\) as a standard which requires significant amounts of professional judgment in its application. Accordingly, SFAS No. 121 was selected as a potential example of a standard requiring a relatively high degree of professional judgment.

Before using SFAS No. 5 and SFAS No. 121 in this study, the level of professional judgment in each standard was quantified. Three accounting academics independent of the study used the Mason and Gibbins method (1991) to measure the level of judgment required by each standard. The professors reviewed the standards and applied the Mason and Gibbins (1991) approach to count the number of instances in which each standard required the use of professional judgment. SFAS No. 5 was found to require professional judgment an average of 7.8 times while SFAS No. 121 was found to average 28.0 instances of professional judgment.

\(^3\) See, for example, King (1996), Newell and Krueze (1997), and Zucca (1997).
To further explore the level of judgment required by these two standards, a second panel of experts reviewed the instances of professional judgment previously identified using the Mason and Gibbins (1991) method. The panel members rated the relevance (using a five-point scale with endpoints identified as 1 = very little relevance and 5 = very highly relevant) of each judgment to an overall decision that an asset is impaired. This procedure was designed to test whether a limited number of judgments were highly salient in the asset impairment decisions made under each standard. If so, the difference in the number of judgments required by each standard would not be a good proxy for the level of judgment required by the standards.

However, the results indicated that SFAS No. 5 had 5 judgments that were consider by the panel members to be highly relevant (i.e., the mean relevance ratings were 4.0 or above) while SFAS No. 121 had 18 judgments that were rated as highly relevant to an asset impairment decision. While both standards require a series of highly relevant judgments to be made in the decision-making process, SFAS No. 121 requires over three times as many highly relevant judgments as SFAS No. 5 does. These data support the contention that SFAS No. 5 requires a relatively low level of professional judgment while SFAS No. 121 requires a relatively high level of judgment to be exercised.

Both SFAS No. 5 and SFAS No. 121 provide guidance for reporting asset impairments. Prior to the issuance of SFAS No. 121, SFAS No. 5 was the primary accounting standard guiding the reporting of asset impairments. However, the FASB issued SFAS No. 121 specifically to address the reporting of long-lived asset impairments. The similar nature of the decisions made under these two standards strengthens the design of this study. Because the standards guide similar reporting decisions, fundamental differences in the standards are minimized. The primary difference between the two standards is the amount of professional judgment required to apply
them. Therefore, these two standards are believed to provide a good proxy for differing levels of professional judgment in accounting standards.

**Development of the Experimental Instrument**

To test the hypothesis in this study, it is necessary to use a case which incorporates an earnings management context and involves reporting decisions made under both SFAS No. 5 and SFAS No. 121. A review of the literature did not reveal any cases which met these requirements. Therefore, the research extended to developing a new case that incorporated all the necessary elements to meet the research objective. The case provides participants with: (1) background information about a health care software company; (2) information about two financial reporting decisions facing the CFO of the company (one related to a potential impairment of accounts receivable to be informed by SFAS No. 5 and one related to a potential impairment of long-lived assets to be informed by SFAS No. 121); and (3) summaries of SFAS No. 5 and SFAS No. 121. In addition to the case materials, the experimental instrument included introductory instructions, scales for indicating the participant’s reporting decisions, and a post-experiment questionnaire to collect demographic data and manipulation-check data (see Appendix).

The participant is asked to assume the role of CFO of the software company. The two moral hazard conditions (i.e., incentive to shirk and information asymmetry) are represented in

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4 One of the researchers drew upon his experience as a Controller for a health care system to develop the case.

5 An expert panel reviewed the case and identified which of the judgments required by SFAS No. 5 and SFAS No. 121 were represented in the case. A super majority of the panel members agreed that the case included 5 judgments required by SFAS No. 5 and 12 judgments required by SFAS No. 121. Furthermore, all but one of the judgments were rated by panel members as highly relevant to the asset impairment decisions in the case. These results support the contention that the case captures the essential elements of the decision-making processes required by SFAS No. 5 and SFAS No. 121.

6 The experimental instrument was pretested with two large groups of participants: (1) 86 students enrolled in upper division undergraduate or graduate accounting classes at a large southeastern university and (2) 63 accountants attending a CPE session offered by a professional organization. The experimental instrument was also validated with four auditors working in public accounting firms. All four auditors approved of the case realism and reporting decisions, felt the summaries of the accounting standards were accurate and sufficient to guide the reporting decisions, and did not feel compelled to make a particular decision or that a particular response was expected.
the case by: (1) a profit-sharing plan\textsuperscript{7} based on reported income (which comprises a significant portion of the CFO's compensation package) and (2) private information possessed by the CFO and unknown by the CEO. The participants are told that both decisions will have a material impact on the reported income for the company and, in the profit-sharing treatment, a significant impact on the CFO's compensation. The data are designed to make the effects of the decisions on income and compensation similar in magnitude.

\textit{Experimental Procedures}

Participants were randomly assigned to one of four groups: (1) a control group; (2) an information asymmetry treatment group; (3) a profit-sharing plan treatment group; and (4) a moral hazard treatment group.

The experimental materials were distributed by mail. A packet containing a cover letter, the experimental instrument, and a postage-paid reply envelope was mailed to each participant. To minimize the chances of an order effect, one-half of the packets contained cases that presented the long-lived asset impairment issue first and the accounts receivable impairment issue second. The other half of the packets contained cases that presented the accounts receivable impairment issue first and the long-lived asset impairment issue second. Follow-up procedures were used to improve response rates.

\textit{Experimental Task}

As stated previously, participants assume the role of the CFO of the software company described in the case. After reading the background information about the company, the participants read a description of one financial reporting issue facing the CFO and a summary of

\textsuperscript{7} In a review of the earnings management literature, Healy and Wahlen (1999) conclude that earnings management can be motivated by contracting mechanisms such as bonus plans and profit-sharing plans based on reported income. In this study, the incentive to shirk is represented by the economic incentive to manage earnings for the benefit of one's own self interest.
the relevant accounting standard. The participants make the first reporting decision by indicating their likelihood of reporting an expense (loss) on the company’s income statement for the current period. The participants then follow the same procedure for the second reporting issue. After making the second reporting decision, the participants provide demographic and manipulation check data and return the materials to the researcher using the postage-paid return envelope.

Research Design

The study utilizes a mixed design consisting of one within-subjects factor (i.e., the level of professional judgment required by the two standards used) and two between-subjects factors (i.e., information asymmetry and profit-sharing plans). The judgment factor in this study is similar to an independent variable (i.e., “GAAP”) in Trompeter (1994). Trompeter (1994) uses the GAAP factor to represent varying degrees of restrictiveness that GAAP place on the reporting decisions in the study’s three case settings.

Each of the above factors has two levels as follows: (1) the level of professional judgment required by the accounting standard is either high (SFAS No. 121) or low (SFAS No. 5); (2) the CFO has private information about a financial reporting decision which is unknown to the CEO, or all information is known to both the CFO and CEO; (3) the CFO’s compensation plan includes a profit-sharing plan component, or it does not.

The dependent variables are the participants’ reporting decisions under SFAS No. 5 and SFAS No. 121. The decisions are represented by the participants’ likelihood of recording an expense or loss in each of the situations described in the case.

To test the study’s hypothesis, an operational definition of the comparability of reporting decisions is needed. In the discussion of the comparability characteristic, SFAC No. 2 states, “Information about an enterprise gains greatly in usefulness if it can be compared with similar
information about other enterprises and with similar information about the same enterprise for some other period or some other point in time" (FASB 1980, para. 111). SFAC No. 2 further states, “The purpose of comparison is to detect and explain similarities and differences” (FASB 1980, para. 113). Therefore, if two companies facing similar transactions report those transactions in similar ways, financial statement users can easily detect the similarities in the transactions. In other words, the reported information is comparable. In contrast, if the companies report the transactions in dissimilar ways, financial statement users would have difficulties detecting the similarities in the transactions. The reported information would not be comparable.

In this experiment, all participants are facing the same reporting issues. Therefore, comparability is achieved if the participants report those situations in similar ways. Comparability is not achieved if the participants report identical situations in varying ways. Given this, in this study comparability is operationally defined as the variance of the reporting decisions in this study.

Using this operational definition of comparability, the study’s hypothesis is supported if the following statement is true:

\[ S^2_{\text{high}} \div S^2_{\text{low}} > F_{n_{\text{high}}-1, n_{\text{low}}-1, \forall} \]

where:

\[ S^2_{\text{high}} = \text{the variance of the long-lived asset impairment decisions} \]

\[ S^2_{\text{low}} = \text{the variance of the accounts receivable impairment decisions}. \]

As in all designs, the methodology used in this study has strengths and weaknesses. Using an experiment provides a high degree of internal validity because the researcher can strictly control experimental conditions and manipulate the factors of interest. However, external
Validity (i.e., the ability to generalize the study’s findings to other populations and situations) may be compromised by using the experiment methodology. By expecting participants to react to an artificial environment, experiments sometimes lack the realism associated with field studies and other methods conducted in real world settings. As a result, participants may respond in ways that differ from responses obtained in actual settings.

IV. RESULTS

Materials were mailed to 276 accountants in corporations across the United States, and 145 accountants participated in the study. Response rates are presented in Table 1, and Table 2 shows the breakdown of responses by type of company.

Insert Tables 1 and 2 about here

Data from the post-experiment questionnaire were used to determine if the participants have experience in financial statement preparation. The questionnaire asked participants to indicate whether their major job responsibilities are or were in financial accounting and whether they have supervised the preparation of financial statements. Participants were also asked to rate their familiarity with each of the two standards used in the experiment (using a five-point scale with the endpoints identified as “not at all familiar” and “very familiar”) and their comfort level in making each of the reporting decisions (using a five-point scale with the endpoints identified as “not at all comfortable” and “very comfortable”). Based on the participants’ responses to these questions, six participants were determined to not be financial statement preparers. Therefore, their responses were excluded from the statistical analysis.

To qualify for inclusion in the analysis, the participants also had to respond appropriately to three manipulation-check questions. These questions test whether the participant is aware of the CFO’s compensation plan and whether the CFO has private information. Twenty participants
did not pass all three manipulation checks, and their responses were excluded from the statistical analysis. Therefore, the study’s results are based on the responses of the 119 financial statement preparers who passed all manipulation check questions. Of the 119 participants, 78 were males, and 41 were females. Other demographics of the 119 participants are presented in Figures 1, 2, and 3.

Insert Figures 1, 2, and 3 about here

Histograms of the accounts receivable impairment decisions and the long-lived asset impairment decisions (see Figures 4 and 5) reveal differences in the distributions of the responses. The accounts receivable impairment decisions were clustered toward the high end of the scale, indicating that there was some consensus among the financial statement preparers that the account receivable in the case was impaired. In contrast, while many financial statement preparers decided that the long-lived asset in the case was not impaired, the long-lived asset impairment decisions were spread across the scale. This suggests that there was less comparability in the long-lived asset impairment decisions than in the accounts receivable impairment decisions.

Insert Figures 4 and 5 about here

A series of F-tests were used to identify statistically significant differences between the variances of the long-lived asset impairment and accounts receivable impairment decisions of the 119 financial statement preparers. In the first test, the data were pooled across the information asymmetry and profit-sharing plan factors so that the overall variances of the reporting decisions could be compared. This was intended to simulate real world conditions in which multiple accountants, facing varying external influences, make decisions about similar events and transactions. For example, some accountants who make financial reporting decisions may have
profit-sharing plans while others may not, and some accountants may possess private information while others may not. A good test of whether an accounting standard leads to comparability in financial reporting is if accountants make the same financial reporting decisions regardless of external influences unrelated to the accounting issue at hand. The overall means and variances of the decisions are reported in Table 3, and the result of the statistical test is reported in Table 4. Consistent with the study’s hypothesis, the overall variance of the long-lived asset impairment decisions is significantly higher ($F = 2.026, p<.001$) than the overall variance of the accounts receivable impairment decisions. In other words, reporting decisions made under a "high judgment" standard are less comparable than reporting decisions made under a "low judgment" standard.

Insert Tables 3 and 4 about here

Next the variances of the decisions made by each experimental group (i.e., the control group, the information asymmetry treatment group, the profit-sharing plan treatment group, and the moral hazard treatment group) were examined. By testing for differences within groups, it is possible to identify whether moral hazard conditions are associated with differences in the comparability of reporting decisions. The means and variances of the decisions are reported in Table 3, and the results of the F-tests are reported in Table 4. The variances of the reporting decisions are not statistically different for the control group ($F = 1.467, p<.087$) and the profit-sharing plan group ($F = 1.653, p<.097$), but the variances of the reporting decisions within the information asymmetry ($F = 3.327, p<.001$) and moral hazard ($F = 3.235, p<.017$) groups are statistically different. These results suggest that moral hazard conditions are associated with reporting that is less comparable under "high judgment" standards than reporting under “low judgment” standards.
Finally, F-tests were run to determine if any demographic variables affected the responses. Tests comparing the variances of the long-lived asset and accounts receivable decisions were run for each level of the demographic variables: experience, management level, gender, and age. The variances are reported in Table 5, and the results of the F-tests are reported in Table 6. For every level of each demographic variable, the variance of the long-lived asset impairment decisions is higher, and in most cases statistically significantly higher, than the variance of the accounts receivable impairment decision. Thus, the results are consistent with the study’s hypothesis.

V. DISCUSSION AND CONCLUSIONS

This study explored the effect of professional judgment on the financial reporting decisions of financial statement preparers. The results of the study provide significant support for the study’s hypothesis and, thus, provide empirical evidence that the level of professional judgment required in the application of accounting standards affects the comparability of financial reporting decisions. When standards require a relatively high level of professional judgment, reporting decisions become less comparable. That is, there is a greater tendency for financial statement preparers to report similar information in dissimilar ways.

The study’s results for levels of the demographic variables provide some additional insight into the effects of professional judgment on the comparability of reporting decisions. The long-lived asset impairment decisions exhibited statistically significantly higher variances than the accounts receivable impairment decisions for most levels of each demographic variable. That is, reporting decisions made under a high judgment standard are generally less comparable than those made under a low judgment standard, regardless of the preparer’s management level, years of experience, gender, or age. However, the pattern of the variances for each decision provides a
somewhat different perspective. For example, within the management level variable, the CFO participants exhibited the lowest variances for both the long-lived asset impairment decision and the accounts receivable decision. The staff and senior accountant participants exhibited the highest variance for long-lived asset impairment decision and the second highest variance for the accounts receivable impairment decision. The pattern seems to imply that financial statement preparers at higher levels of a business organization are more apt to report similar events in similar ways than are preparers at lower levels of the organization. The results from the experience demographic variable portray a similar story. Thus, comparability in reporting decisions may improve as financial statement preparers become more experienced and as they move into higher levels of management.

The study’s results also provide some evidence supporting the notion that financial statement preparers exploit the professional judgment allowed by accounting standards to engage in earnings management. While this idea is not tested directly in this study, the results show that financial reporting is less comparable with “high judgment” standards than with “low judgment” standards when financial statement preparers possess private information and have an economic incentive to manage earnings. That is not the case, however, when financial statement preparers are not subject to such conditions. This may mean that reporting decisions become less comparable when financial statement preparers manage earnings. In other words, moral hazard conditions may accentuate differences in reporting decisions and, thus, may reduce comparability in financial reporting.

The study shows empirically that there is a tradeoff between comparability in reporting decisions and the level of professional judgment required to apply accounting standards. While the FASB (2002), Beresford (1999), and others have implied that this tradeoff exists, this study
provides empirical evidence supporting that assertion. This finding lends support to the recommendations of Mason and Gibbins (1991), who call upon the profession to recognize explicitly the role of professional judgment in financial reporting, define professional judgment, and include discussions of professional judgment in GAAP. Based on this study’s results, Mason and Gibbins’ recommendations may be even more critical if the FASB adopts a principles-based approach to standard setting. If comparability in financial reporting is to be preserved or perhaps improved under a system of principles-based standards, the profession will need a better understanding of how the judgments of financial statement preparers affect the financial reporting process.
REFERENCES


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Table 5
Variance of the SFAS No. 121 and SFAS No. 5 Reporting Decisions by Level of Demographic Variable

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Figure 1: Management Level of Participants

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<td>CFO</td>
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<td>Controller</td>
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<td>Mgr/Supr</td>
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Figure 2: # of Years of Professional Accounting Experience of Participants

- 5 or less: 10
- 6 - 10: 26
- 11 - 15: 24
- 16 or more: 59
Figure 3: Age of Participants

<table>
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<th># Participants</th>
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Figure 4: Histogram of the Accounts Receivable Impairment Decisions

Std. Dev = 1.30
Mean = 5.9
N = 119.00

BDD
Figure 5: Histogram of the Long-lived Asset Impairment Decisions

Std. Dev = 1.88
Mean = 2.8
N = 119.00
THE RELATIONSHIP BETWEEN EARNINGS MANAGEMENT AND THE EXERCISE OF PROFESSIONAL JUDGMENT

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The Relationship Between Earnings Management and the Exercise of Professional Judgment

Abstract

The Financial Accounting Standards Board ([FASB] 2002a) is examining the feasibility of issuing principles-based standards which would rely heavily on the professional judgment of financial statement preparers and auditors. The FASB (2002a) acknowledges that such standards may lead to abuse, and a member of the Financial Accounting Standards Advisory Council questions whether principles-based standards will result in more aggressive accounting techniques (FASB 2002b). This study responds to these concerns by examining whether there is a relationship between earnings management and the amount of professional judgment that accounting standards allow financial statement preparers to exercise in financial reporting. The study is motivated not only by the FASB’s principles-based standards proposal but also by a long-standing debate about the role that professional judgment should play in the application of accounting standards. The study contributes to the earnings management literature by explicitly studying the role that professional judgment plays in earnings management activities.

Based on agency theory and the earnings management literature, two hypotheses are developed which predict the conditions under which financial statement preparers might exploit the professional judgment allowed in the application of accounting standards in order to manage earnings. The study then tests whether the amount of professional judgment allowed by accounting standards affects earnings management activities of 145 financial statement preparers in corporations located throughout the U.S.

The study’s findings provide support for the contention that financial statement preparers use the professional judgment allowed by U.S. accounting standards to manage earnings. This type of earnings management appears to be more likely when standards allow significant
exercise of professional judgment by financial statement preparers than when standards allow more limited amounts of discretion in reporting. Furthermore, the presence of moral hazard conditions motivated some of the participants in this study to manage earnings.

Keywords: principles-based accounting standards; individual judgments and decisions; moral hazard; financial statement preparers; earnings quality.
The Relationship Between Earnings Management and the Exercise of Professional Judgment

I. INTRODUCTION

The purpose of this study is to examine whether there is a relationship between earnings management activities and the amount of professional judgment that accounting standards allow financial statement preparers to exercise in financial reporting. The study tests whether the potential for earnings management is greater when accounting standards allow high levels of professional judgment to be exercised by financial statement preparers than when standards limit the discretion of financial statement preparers.

The study responds to some of the concerns expressed by the Financial Accounting Standards Board ([FASB] 2002a) in its proposal for principles-based standards. In the proposal, the FASB (2002a) acknowledges that principles-based standards will rely heavily on the exercise of professional judgment by financial statement preparers and auditors. The current chair of the FASB, Robert Herz, notes that principles-based standards will require “preparers, auditors, audit committees, and boards to be willing to exercise professional judgment” (FASB 2002b, 75). Herz also observes that “the generality of standards may leave more room for abuse by preparers and accommodation by auditors” (FASB 2002b, 76). Similarly, Alan Anderson, a member of the Financial Accounting Standards Advisory Council, questions whether principles-based standards will “result in more pressure on preparers to use, and on auditors to accept, aggressive accounting treatments” (FASB 2002b, 66).

The above comments by Herz and Anderson are part of a larger, long-standing debate in the accounting profession about the role that professional judgment should play in the application of accounting standards. Should accounting standards provide detailed rules which limit the influence of professional judgment on reporting decisions, or should standards provide general guidance and rely on the judgment of accounting professionals in their application?

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With its principles-based standards proposal, the FASB seems open to the idea of allowing more professional judgment to be exercised in the financial reporting process. Officials of the Securities and Exchange Commission (SEC) have expressed similar views. In the aftermath of the Enron collapse, outgoing SEC Chair Harvey Pitt (2002) stated that current accounting standards are too prescriptive, and he called upon the profession to adopt principles-based accounting standards. Also, outgoing SEC Chief Accountant Robert Herdman (2002) argued that recent FASB standards have been rule based and commented that "this encourages a check-the-box mentality to financial reporting that eliminates judgments from the application of reporting" (Principle-Based Accounting Standards).

What is not clear in the recent discussion is whether principles-based standards will improve financial reporting and earnings quality. Healy and Whalen (1999) state that earnings can be managed through either transaction structuring or the exercise of professional judgment. The FASB (2002a) states that principles-based standards will reduce transaction structuring because standards will contain fewer specific rules. However, there are concerns that principles-based standards will provide greater opportunities for earnings management through the exercise of professional judgment (FASB 2002a and 2002b).

This study helps inform the debate over principles-based standards by examining the relationship between earnings management activities and the amount of professional judgment that must be exercised in the application of accounting standards. The study finds that "high-judgment" (e.g., principles-based) standards result in more earnings management than "low judgment" standards. Therefore, the study provides empirical evidence validating concerns about the potential abuse of principles-based standards.

The study is intended to enhance the earnings management literature. This research stream has examined the role that contractual incentives and economic wealth play in earnings management, and studies in this stream have predominately employed a capital markets methodology. This study complements the capital markets research by examining the role that professional judgment plays in earnings management and by employing a behavioral research
methodology.

In a review of the earnings management literature, Healy and Wahlen (1999) conclude that the current literature “provides only modest insights for standard-setters” (381). They recommend that future research address a series of questions including identifying which standards are used to manage earnings. This study helps to address that void in the earnings management literature.

The remainder of the paper is organized as follows. In the next section, the relevant literature is reviewed and the study’s hypotheses are developed. The paper proceeds with a discussion of the methodology. Finally, the results of the hypothesis tests are presented, and conclusions are discussed.

II. REVIEW OF PRIOR LITERATURE AND DEVELOPMENT OF HYPOTHESES

Earnings Management

Healy and Wahlen (1999) define earnings management as follows:

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (368).

In this definition, Healy and Wahlen (1999) identify two ways the earnings management may occur: (1) through the exercise of professional judgment in the application of accounting standards and (2) through the structuring of transactions. The definition also identifies two motivations for earnings management: (1) to mislead stakeholders about the underlying economic performance of the firm and (2) to influence contractual outcomes that depend on reported earnings.

The design of this study is influenced by Healy and Wahlen’s definition of earnings management. The study focuses on earnings management that is achieved through the exercise of
professional judgment and for the purpose of influencing contractual outcomes.

Earnings Management and Agency Theory

According to Healy and Wahlen (1999), the earnings management literature provides evidence that management compensation contracts motivate managers to manage earnings in order to maximize their compensation. While such action may be in the best interests of the managers, it may not be in the best interests of the stockholders of the corporation. When this happens, the goals of the managers, acting as agents, may conflict with the goals of the stockholders, or principals. Within the classic definition of shirking, agency theory recognizes this goal conflict and predicts self-interested behavior by the agent (Eisenhardt 1989).

Former SEC Chair Arthur Levitt (1998) argues that financial statement preparers exploit the discretion allowed in accounting standards to manage earnings. The question agency theory helps address is, under what conditions would financial statement preparers choose to do so? In other words, the professional judgment allowed by standards may make it possible for financial statement preparers to manage earnings, but other factors, such as those identified by the moral hazard construct in agency theory, motivate the financial statement preparers to take advantage of the opportunities offered by accounting standards.

Tuttle et al. (1997) note that the moral hazard construct is composed of two conditions: (1) an incentive to shirk, and (2) privately held information. Baiman (1982) states that managers have an incentive to shirk when the economic interests of the managers differ from those of the firm. Therefore, when management compensation contracts motivate managers to manage earnings for their own personal gain (Healy and Whalen 1999), agency theory would say that managers have incentive to shirk.

When agents possess private information and have an incentive to shirk, agency theory
predicts that agents will engage in self-interested behavior (Eisenhardt 1989). In the context of this study, financial statement preparers facing moral hazard conditions would be predicted to engage in self-interested behavior by managing earnings through the exercise of professional judgment in order to increase their own wealth.

Based on agency theory, the following hypothesis (stated in the alternative form) is tested:

H1: Financial statement preparers facing moral hazard conditions exercise their professional judgment to increase reported income above the level reported by financial statement preparers facing similar reporting issues in absence of moral hazard conditions.

Earnings Management and the Level of Professional Judgment in Accounting Standards

Revsine (1991) notes that managers\(^2\) with compensation plans tied to reported earnings have a natural incentive to increase reported profits. In his selective financial misrepresentation hypothesis, Revsine further argues that "managers prefer reporting methods that provide latitude in income determination (e.g., requiring choices among mutually acceptable alternatives) rather than methods that tightly specify statement numbers under given economic conditions" (1991, 19). He claims that managers prefer "loose" financial reporting standards over "tight" standards because loose standards facilitate the shifting of income from one period to another in order to maximize managers' bonuses. Thus, Revsine's (1991) comments suggest that moral hazard conditions have a greater impact on financial reporting decisions when accounting standards require significant exercise of judgment. Thus, the level of judgment in the accounting standard may interact with moral hazard conditions.

Based on Revsine's (1991) financial misrepresentation hypothesis, the following

\(^2\) Revsine refers to managers, shareholders, and auditors in his paper. He does not specifically refer to accountants or financial statement preparers, but his comments apply to anyone with a compensation plan tied to reported earnings.
hypothesis, stated in the alternative form, is tested:

H2: In the situation where accounting standards allow high levels of professional judgment to be exercised, financial statement preparers facing moral hazard conditions will exercise their professional judgment to increase reported income above the level reported by financial statement preparers facing similar situations in absence of moral hazard conditions.

**Summary of Hypotheses**

H1 tests whether moral hazard affects the reporting decisions of financial statement preparers in both of the following situations: when the decision is based on an accounting standard requiring a high level of professional judgment and when the decision is guided by a standard permitting only a low level of judgment. In other words, it tests whether, in the situation of moral hazard, financial statement preparers will use whatever discretion that exists in accounting standards to make reporting decisions that increase the reported income of the entity and, therefore, their own compensation.

H2 tests whether the ability of the financial statement preparers to manage earnings is affected by whether they are using a high or low judgment standard. That is, financial statement preparers will be more apt to manage earnings when accounting standards permit more discretion because they require high levels of professional judgment. In other words, moral hazard conditions are not sufficient conditions for earnings management to occur. Rather, accounting standards must also allow significant professional judgment to be exercised in order for earnings management to occur.

These hypotheses are tested by having each participant make two reporting decisions; one using a high judgment standard, and a second decision using a low judgment standard. This design is similar to Trompeter (1994), which examines whether audit partners are more likely to require accounting treatments that are more conservative than those desired by their clients when generally accepted accounting procedures (GAAP) are more restrictive than when GAAP are less constraining. Participants in Trompeter (1994) make three decisions, one for each case setting. The decisions are guided by three accounting standards which vary in the level of constraint.
placed on the decision.

In the current study, the treatment that differs among the cells of the sample is whether participants have the ability and motivation to bias their reporting decisions to the extent the accounting standards permit. Therefore, the study tests whether moral hazard affects reporting decisions made under high-judgment and low-judgment standards.

III. METHODOLOGY

Participants

The participants in the study are accountants who work in U.S. corporations and are or have been engaged in financial statement preparation. A total of 145 accountants participated in the study. Participants were recruited through professional organizations and other contacts. Demographics of the participants are presented in the next section.

Selection of the Accounting Standards Used in the Study

To test the effect of varying levels of professional judgment on reporting decisions, the experiment has each participant make two financial reporting decisions using two accounting standards that call for different levels of professional judgment. This procedure follows Trompeter (1994), in which participants make decisions in each of three case settings that differ in the degrees of constraint that GAAP place on the decisions in the cases.

Statement of Financial Accounting Standards (SFAS) No. 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of (FASB, 1995)³,

³SFAS No. 121 was recently superceded by SFAS No. 144. SFAS No. 121 allowed either a best-estimate approach or a probability-weighted approach to be used in developing forecasts of future cash flows. In the Exposure Draft for SFAS No. 144, the FASB proposed requiring the probability-weighted approach. However, after public input, the FASB decided to retain the two alternatives allowed under SFAS No. 121. The case used in this experiment is designed to allow either approach to be used. Furthermore, the asset is not impaired if the best-estimate approach is used. Under the probability-weighted approach, the asset is impaired. Therefore, the participants in the experiment could justify either reporting decision (the asset is impaired or not impaired), making it possible for the participants to manage earnings by their choice of method (i.e., through the exercise of professional judgment).
was selected as an accounting standard that requires a relatively high level of professional
judgment, and participants use it to make a long-lived asset impairment decision. SFAS No. 5,
*Accounting for Contingencies* (FASB, 1975), was selected as an accounting standard that
requires a relatively low level of professional judgment, and participants use it to make an
accounts receivable impairment decision.

SFAS No. 121 and SFAS No. 5 were selected for use based on a review of the academic
literature and practitioner-targeted journals. The objective of the review was to identify standards
which might require differing levels of professional judgment in their application. Prior to using
the standards in the study, the level of professional judgment required to apply each standard was

Mason and Gibbins (1991) measure the level of professional judgment required by five
Accounting Principles Board (APB) Opinions and six FASB’s Statements of Financial
Accounting Standards (SFAS) using a method that identifies the number of instances in which
professional judgment is required by each of the standards.

Brown (1999) notes that earnings management occurs when managers make choices,
judgments, and estimates within the bounds of GAAP to influence earnings. Brown further states
that “the wider the range of choices, the more opportunity open to management teams to manage
– some would say manipulate – reported earnings to their advantage” (61). The method used by
Mason and Gibbins (1991) provides a measure of the amount of choice in GAAP. As a result, the
measure should reflect the relative ability of financial statement preparers to manage earnings
within the bounds of the standards used in the experiment.

SFAS No. 5 is one of eleven standards that Mason and Gibbins (1991) examine.
According to Mason and Gibbins, there are nine instances where SFAS No. 5 requires the
application of professional judgment. Of the eleven standards that Mason and Gibbins examine, SFAS No. 5 has the third lowest number of instances of professional judgment. Of the six FASB standards, SFAS No. 5 has the second lowest number of instances requiring professional judgment. On this basis, SFAS No. 5 was selected as a potential example of a standard requiring a relatively low amount of professional judgment.

In contrast, SFAS No. 121 is described by many practitioners and academics⁴ as a standard which requires significant amounts of professional judgment in its application. Accordingly, SFAS No. 121 was selected as a potential example of a standard requiring a relatively high degree of professional judgment.

Before using SFAS No. 5 and SFAS No. 121 in this study, the level of professional judgment in each standard was quantified. Three accounting academics independent of the study used the Mason and Gibbins method (1991) to measure the level of judgment required by each standard. The professors reviewed the standards and applied the Mason and Gibbins (1991) approach to count the number of instances in which each standard required the use of professional judgment. SFAS No. 5 was found to require professional judgment an average of 7.8 times while SFAS No. 121 was found to average 28.0 instances of professional judgment.

To further explore the level of judgment required by these two standards beyond what is reflected in the simple count of the number of judgments required, a second panel of experts reviewed the instances of professional judgment that were previously identified using the Mason and Gibbins (1991) method. The second panel rated the relevance (using a five-point scale with endpoints identified as 1 = very little relevance and 5 = very highly relevant) of each judgment to an overall decision that an asset is impaired. This procedure was designed to test whether a

⁴ See, for example, King (1996), Newell and Krueze (1997), and Zucca (1997).
limited number of judgments were highly salient in the asset impairment decisions made under each standard. If so, the difference in the number of judgments required by each standard would not be a good proxy for the level of judgment required by the standards. However, the results indicated that SFAS No. 5 had 5 judgments that were considered by the panel members to be highly relevant (i.e., the mean relevance ratings were 4.0 or above) while SFAS No. 121 had 18 judgments that were rated as highly relevant to an asset impairment decision. While both standards require a series of highly relevant judgments to be made in the decision-making process, SFAS No. 121 requires over three times as many highly relevant judgments as SFAS No. 5 does. These data support the contention that SFAS No. 5 requires a relatively low level of professional judgment while SFAS No. 121 requires a relatively high level of judgment to be exercised, in terms of both the frequency and the importance of the judgments required.

The FASB issued SFAS No. 121 specifically to address the reporting of long-lived asset impairments, while SFAS No. 5 applies to a broader range of uncertainties. The similar nature of the decisions made under these two standards strengthens the design of this study. Because the standards guide similar decisions about situations with high levels of uncertainty, fundamental differences in the standards are minimized. The primary differences between the two standards are that SFAS No. 121 applies to a very specific asset and requires a greater amount of professional judgment. Therefore, these two standards are believed to provide a good means to measure the effect on reporting decisions of differing levels of professional judgment in accounting standards.

Development of the Experimental Instrument

To test the hypotheses in this study, it is necessary to use a case which incorporates an earnings management context and involves reporting decisions made under both SFAS No. 5 and
SFAS No. 121. A review of the literature did not reveal any cases which met these requirements. Therefore, the research extended to developing a new case that incorporated all the necessary elements to meet the research objective. The case provides each participant with: (1) background information about a health care software company; (2) information about two financial reporting decisions facing the CFO of the company (one related to a potential impairment of accounts receivable to be decided using SFAS No. 5 and one related to a potential impairment of long-lived assets to be decided using SFAS No. 121); and (3) summaries of SFAS No. 5 and SFAS No. 121. In addition to the case materials, the experimental instrument included introductory instructions, scales for indicating the participant's reporting decisions, and a post-experiment questionnaire to collect demographic data and manipulation-check data (see Appendix).

The participant is asked to assume the role of CFO of the software company. The two moral hazard conditions (i.e., incentive to shirk and information asymmetry) are represented in the case by: (1) a profit-sharing plan based on reported income (which comprises a significant

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5 The researcher drew upon his experience as a Controller for a health care system to develop the case.

6 An expert panel reviewed the case and identified which of the judgments required by SFAS No. 5 and SFAS No. 121 were represented in the case. A super-majority of the panel members agreed that the case included 5 judgments required by SFAS No. 5 and 12 judgments required by SFAS No. 121. Furthermore, all but one of the judgments were rated by panel members as highly relevant to the asset impairment decisions in the case. These results support the contention that the case captures the essential elements of the decision-making processes required by SFAS No. 5 and SFAS No. 121.

7 The experimental instrument was pretested with two large groups of participants: (1) 86 students enrolled in upper division undergraduate or graduate accounting classes at a large southeastern university and (2) 63 accountants attending a CPE session offered by a professional organization. The experimental instrument was also validated with four auditors working in public accounting firms. All four auditors approved of the case realism and reporting decisions, felt the summaries of the accounting standards were accurate and sufficient to guide the reporting decisions, and did not feel compelled to make a particular decision or that a particular response was expected.

8 In a review of the earnings management literature, Healy and Wahlen (1999) conclude that earnings management can be motivated by contracting mechanisms such as bonus plans and profit-sharing plans based on reported income. In this study, the incentive to shirk is represented by the economic incentive to manage earnings for the benefit of one's own self interest.
portion of the CFO's compensation package) and (2) private information possessed by the CFO and unknown by the CEO. The participants are told that both decisions will have a material impact on the reported income for the company and, in the profit-sharing treatment, a significant impact on the CFO’s compensation. The data are designed to make the effects of the decisions on income and compensation similar in magnitude.

**Experimental Procedures**

Participants were randomly assigned to one of four groups: (1) a control group; (2) an information asymmetry treatment group; (3) a profit-sharing plan treatment group, and (4) a moral hazard treatment group.

The experimental materials were distributed by mail. A packet containing a cover letter, the experimental instrument, and a postage-paid reply envelope was mailed to each participant. To minimize the chances of an order effect, one-half of the packets contained cases that presented the long-lived asset impairment issue first and the accounts receivable impairment issue second. The other half of the packets contained cases that presented the accounts receivable impairment issue first and the long-lived asset impairment issue second. Follow-up procedures were used to improve response rates.

**Experimental Task**

As stated previously, participants assume the role of the CFO of the software company described in the case. After reading the background information about the company, the participants read a description of one financial reporting issue facing the CFO and a summary of the relevant accounting standard. The participants make the first reporting decision by indicating their likelihood of reporting an expense (loss) on the company’s income statement for the current period. The participants then follow the same procedure for the second reporting issue. After
making the second reporting decision, the participants provide demographic and manipulation check data and return the materials to the researcher using the postage-paid return envelope.

**Research Design**

The study utilizes a mixed design consisting of one within-subjects factor (i.e., the level of professional judgment required by SFAS No. 5 and SFAS No. 121) and two between-subjects factors (i.e., information asymmetry and profit-sharing plans). The judgment factor in this study is similar to an independent variable (i.e., “GAAP”) in Trompeter (1994). Trompeter (1994) uses the GAAP factor to represent varying degrees of restrictiveness that GAAP place on the reporting decisions in the study’s three case settings.

Each of the above factors has two levels as follows: (1) the level of professional judgment required by the accounting standard is either high (SFAS No. 121) or low (SFAS No. 5); (2) the CFO has private information about a financial reporting decision which is unknown to the CEO, or all information is known to both the CFO and CEO; (3) the CFO’s compensation plan includes a profit-sharing plan component, or it does not.

The dependent variables are the participants’ reporting decisions. The participants indicate their likelihood of recording an expense or loss in each of the reporting situations using a 7-point scale with the endpoints labeled “1 = definitely will not report an expense/loss” and “7 = definitely will report an expense/loss”.

The study’s hypotheses are tested with repeated-measures ANOVA and MANOVA procedures using the following model:

\[
I.I.AD_{ijm} - \text{ARD}_{ijm} = \mu + IA_i + PSP_j + IAPSP_{ij} + \varepsilon_{ijm} \quad \text{(Model 1)}
\]

where
LLAD\textsubscript{ijm} = subject m’s long-lived asset impairment decision under information asymmetry condition i and profit-sharing plan condition j

ARD\textsubscript{ijm} = subject m’s accounts receivable impairment decision under information asymmetry condition i and profit-sharing plan condition j

\mu = the grand mean of all observations

IA\textsubscript{i} = the effect of information asymmetry condition i

PSP\textsubscript{j} = the effect of profit-sharing plan condition j

IAPSP\textsubscript{ij} = the interaction effect of information asymmetry condition i and profit-sharing plan condition j

\varepsilon\textsubscript{ijm} = the residual error for subject m’s decision under information asymmetry condition i and profit-sharing plan condition j

H1 is partially supported if there is a significant between-subjects interaction involving the information asymmetry and profit-sharing plan factors. This indicates that moral hazard conditions affect the reporting decisions of financial statement preparers regardless of the level of professional judgment required to apply the standard. For H1 to be fully supported, the moral hazard experimental group must also be less likely to report asset impairments than any of the other experimental groups (i.e., the moral hazard group decisions would result in reporting the highest level of income).

H2 is partially supported if there is a significant within-subjects interaction involving the judgment, information asymmetry, and profit-sharing plan factors. This indicates that the amount of judgment available in an accounting standard affects whether the financial statement preparers in this study manage earnings. For H2 to be fully supported, the interaction must be significant for long-lived asset impairment decisions (which use a high-judgment standard) but not for accounts receivable impairment decisions (which use a low-judgment standard). In addition, the moral hazard experimental group must also be less likely to report long-lived asset impairments than any of the other experimental groups.

Additional tests of the hypotheses use models including demographic variables intended to control for differences in responses associated with the gender, age, experience, and management level of the participants. Such differences have been shown to affect the decisions.
of accountants facing ethical dilemmas. Since the decision to manage earnings can be viewed as an ethical decision, it is important to control for factors which may influence whether the financial statement preparers in this study choose to manage earnings. The gender-modified model is given below as an example of one model that controls for differences in responses due to a demographic variable. The gender-modified model is:

\[
LLAD_{ijkm} \text{ ARD}_{ijkm} = \mu + IA_i + PSP_j + G_k + IAPSP_{ij} + IAG_{ik} + PSPG_{jk} + IAPSPG_{ijk} + \epsilon_{ijkm} \quad \text{(Model 2)}
\]

where

- \(LLAD_{ijkm}\): subject m's long-lived asset impairment decision under information asymmetry condition i and profit-sharing plan condition j
- \(ARD_{ijkm}\): subject m's accounts receivable impairment decision under information asymmetry condition i and profit-sharing plan condition j
- \(\mu\): the grand mean of all observations
- \(IA_i\): the effect of information asymmetry condition i
- \(PSP_j\): the effect of profit-sharing plan condition j
- \(G_k\): the effect of the gender of the participant
- \(IAPSP_{ij}\): the interaction effect of information asymmetry condition i and profit-sharing plan condition j
- \(IAG_{ik}\): the interaction effect of information asymmetry condition i and gender k
- \(PSPG_{jk}\): the interaction effect of profit-sharing plan condition j and gender k
- \(IAPSPG_{ijk}\): the interaction effect of information asymmetry condition i, profit-sharing plan condition j, and gender k
- \(\epsilon_{ijkm}\): the residual error for subject m's decision under information asymmetry condition i, profit-sharing plan condition j, and gender k

As in all designs, the methodology used in this study has strengths and weaknesses. Using an experiment provides a high degree of internal validity because the researcher can strictly control experimental conditions and manipulate the factors of interest. However, external

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validity (i.e., the ability to generalize the study’s findings to other populations and situations) may be weakened by using the experiment methodology. By expecting participants to react to an artificial environment, experiments sometimes lack the realism associated with field studies and other methods conducted in real world settings. As a result, participants may respond in ways that differ from responses obtained in actual settings.

IV. RESULTS

Materials were mailed to 276 accountants in corporations across the United States, and 145 accountants participated in the study. Response rates are presented in Table 1, and Table 2 shows the breakdown of responses by type of company.

Insert Tables 1 and 2 about here

Data from the post-experiment questionnaire were used to determine if the participants have experience in financial statement preparation. The questionnaire asked participants to indicate whether their major job responsibilities are/were in financial accounting and whether they have supervised the preparation of financial statements. Participants were also asked to rate their familiarity with each of the two standards used in the experiment (using a five-point scale with the endpoints identified as “not at all familiar” and “very familiar”) and their comfort level in making each of the reporting decisions (using a five-point scale with the endpoints identified as “not at all comfortable” and “very comfortable”). Based on the participants’ responses to these questions, six participants were determined not to be financial statement preparers. Therefore, their responses were excluded from the statistical analysis.

To qualify for inclusion in the analysis, the participants also had to respond appropriately to three manipulation-check questions. 20 participants did not pass all three manipulation checks, and their responses were excluded from the statistical analysis. Therefore, the study’s results are based on the responses of the 119 financial statement preparers who passed all manipulation check questions. Of the 119 participants, 78 were males, and 41 were females. Other demographics of the 119 participants are presented in Figures 1, 2, and 3.

Insert Figures 1, 2, and 3 about here
Means

The mean long-lived asset impairment decisions and mean accounts receivable impairment decisions by experimental group are given in Table 3.

Insert Table 3 about here

Multivariate Tests

The hypotheses are tested first with MANOVA procedures and using Model 1. These results reveal no significant effects, at the 5% level of significance, based on the Wilks’ Lambda test statistic.

The hypotheses are then tested using the models (see Model 2 above for an example) that control for each of the demographic variables (gender, age, experience, and management level). Tests using the age, experience, and management level models reveal no significant effects. However, tests using the gender-modified model revealed a significant three-way interaction between the profit-sharing plan, information asymmetry, and gender factors, based on the Wilks’ Lambda test statistic (see Table 4). This indicates that the female financial statement preparers responded differently to the profit-sharing plan and information asymmetry treatments than did the male financial statement preparers in this study. These results provide some support for H1, which hypothesizes a significant interaction between the profit-sharing plan and information asymmetry factors. However, H1 does not hypothesize that male and female financial statement preparers would respond differently to the experimental treatments.

Insert Table 4 about here

Univariate Tests

Repeated Measures Analysis of Variance (ANOVA) procedures are first run on Model 1. No significant effects are revealed at the 5% level of significance. However, the interaction
between the information asymmetry factor and the judgment factor (which is composed of the two asset impairment decisions) is significant at the 10% level (F = 3.52, num df = 1, df = 115, p<0.064). Given this interaction, follow-up procedures examining the effect of the information asymmetry factor at each level of the judgment factor are conducted. The follow-up ANOVA procedures do not show a statistically significant main effect for the information asymmetry factor at either level of judgment (i.e., for either the long-lived asset impairment decision or the accounts receivable impairment decision). Similarly, comparisons of the least squares means of the decisions made under conditions of information symmetry and information asymmetry do not reveal any statistically significant differences.

The hypotheses are then tested using the models that control for each of the demographic variables (gender, age, experience, and management level). Tests using the age, experience, and management level models reveal no significant effects. However, tests using the gender model (Model 2) reveal a significant four-way interaction between the judgment, information asymmetry, profit-sharing plan, and gender factors (see Table 5).

Because of the four-way interaction, ANOVA procedures are then run for each level of the judgment factor. The three-way interaction between both moral hazard conditions and gender is significant for the high-judgment (i.e., the long-lived asset impairment) standard but not for the low-judgment (i.e., the accounts receivable impairment) standard. The results of the ANOVA procedures for each level of the judgment factor are reported in Table 6. These results provide some support for H2 because the effect of moral hazard conditions on earnings management activities is different with high-judgment standards than low-judgment standards. However, H2 did not hypothesize that male and female financial statement preparers would respond differently
under moral hazard conditions.

A review of the mean reporting decisions by male and female financial statement preparers provides some additional insight into the findings of this study (see Table 7). Moral hazard conditions appear to make the male financial statement preparers in this study less likely to report long-lived asset impairments; however, such conditions do not appear to affect their accounts receivable impairment reporting decisions. The mean long-lived asset impairment decision for the information asymmetry group is statistically significantly lower \((p < .011)\) than the mean decision of the control group. In addition, the mean long-lived asset impairment decisions for the profit-sharing plan and moral hazard groups are lower than the mean decision of the control group; however, the differences are not statistically significant. These results suggest that male financial statement preparers are less likely to report long-lived asset impairments in the presence of moral hazard conditions. However, a comparison of the mean accounts receivable impairment decisions does not reveal a discernable pattern. This finding provides support for H2, which hypothesizes that moral hazard conditions have a greater impact for high-judgment standards than for low-judgment standards.

The reporting decisions of the female financial statement preparers also provide support for the idea that moral hazard conditions have a greater impact for high-judgment standards than for low judgment standards. However, moral hazard conditions do not appear to have the expected effect on the long-lived asset impairment decisions of the female financial statement preparers. The mean long-lived asset impairment decisions of the information asymmetry group \((p < .032)\) and the profit-sharing plan group \((p < .081)\) are statistically significantly higher than the mean decision of the control group. The mean long-lived asset impairment decision for the
moral hazard group is also higher than the long-lived asset impairment decision of the control group; however, the difference is not statistically significant. Therefore, moral hazard conditions appear to make female financial statement preparers more likely to report long-lived asset impairments.

Repeated measures ANOVA procedures also reveal a significant between-subjects interaction involving both moral hazard conditions and gender (see Table 6). This result provides some support for H1 because moral hazard conditions are associated with differing likelihoods of reporting asset impairments. However, the interaction with the gender factor was not hypothesized. These findings are consistent with the findings of the multivariate analyses.

V. DISCUSSION AND CONCLUSIONS

This study’s findings provide some support for both of the study’s hypotheses and particularly for the hypothesis that earnings are more likely to be managed when standards allow significant exercise of professional judgment than when accounting standards allow financial statement preparers more limited discretion. Interpreting the results of the study is difficult because of differences, which appear to be related to gender, in the decisions of the financial statement preparers who participated in this study. The gender of the financial statement preparer appears to affect how the person responds to moral hazard conditions, which, in turn, leads to differing asset impairment decisions. No attempt is made here to explain this phenomenon because gender may be a proxy for other factors which were not captured or controlled in the experiment.

Despite the difficulty in interpreting the study’s findings, the results shed light on the relationship between the exercise of professional judgment and earnings management. The study
contributes to the earnings management literature by providing empirical evidence of a link between the exercise of professional judgment and earnings management. The study’s findings demonstrate that when accounting standards rely heavily on the exercise of professional judgment, there is increased potential for financial statement preparers to manage earnings. Thus, the study helps fill a void in the earnings management literature by identifying that high-judgment standards are particularly amenable to earnings management.

The study’s findings provide a caution to standard-setters as the profession moves toward principles-based standards. The study confirms a speculation by FASB Chair Robert Herz and others that principle-based standards may be abused. Based on this study’s results, it appears that such standards may result in new earnings management opportunities as financial statement preparers exercise their judgment in the application of these standards.

If the profession adopts principles-based standards, increased attention will need to be paid to the role that professional judgment plays in the application of accounting standards. As FASB board member Edward Trott states, “The issue for the Board is how to write standards that help get good solid judgments being made” (FASB 2002b, 78).
REFERENCES


Table 1
Survey Response Rates
By Source of Contact

<table>
<thead>
<tr>
<th>Source</th>
<th>Number Mailed</th>
<th>Number Responses</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMA (Chapter and Listserve)</td>
<td>72</td>
<td>58</td>
<td>81%</td>
</tr>
<tr>
<td>FICPA (Direct Mail Solicitation)</td>
<td>126</td>
<td>39</td>
<td>31%</td>
</tr>
<tr>
<td>Personal Contacts</td>
<td>78</td>
<td>48</td>
<td>62%</td>
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<tr>
<td>Total</td>
<td>276</td>
<td>145</td>
<td>53%</td>
</tr>
<tr>
<td>Company Type</td>
<td>Number Responses</td>
<td>% of Responses</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>83</td>
<td>57%</td>
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<tr>
<td>Healthcare</td>
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<td></td>
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<td>Real Estate &amp; Construction</td>
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<tr>
<td>Technology</td>
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</tr>
<tr>
<td>Entertainment</td>
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<td>6%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td>14%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>145</td>
<td>100%</td>
<td></td>
</tr>
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</table>
Table 3
Mean Reporting Decisions by Experimental Group
1 = definitely will not report an expense/loss
7 = definitely will report an expense/loss

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>n</th>
<th>Long-lived asset impairment decision</th>
<th>Accounts receivable impairment decision</th>
</tr>
</thead>
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<tr>
<td>Control</td>
<td>30</td>
<td>2.933</td>
<td>5.733</td>
</tr>
<tr>
<td>Info. asymmetry</td>
<td>31</td>
<td>2.548</td>
<td>6.258</td>
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<tr>
<td>Profit-sharing</td>
<td>25</td>
<td>3.200</td>
<td>5.760</td>
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<tr>
<td>Moral hazard</td>
<td>33</td>
<td>2.697</td>
<td>5.848</td>
</tr>
<tr>
<td>Effect</td>
<td>Wilks' Lambda Value</td>
<td>F-Value</td>
<td>DF (num)</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Profit-sharing plan</td>
<td>0.9832</td>
<td>0.94</td>
<td>2</td>
</tr>
<tr>
<td>Info. asymmetry</td>
<td>0.9825</td>
<td>0.98</td>
<td>2</td>
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<tr>
<td>Gender</td>
<td>0.9908</td>
<td>0.51</td>
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<td>Profit-sharing plan x info. asymmetry</td>
<td>0.9820</td>
<td>1.01</td>
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<tr>
<td>Gender x profit-sharing plan</td>
<td>0.9877</td>
<td>0.68</td>
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</tr>
<tr>
<td>Gender x info. asymmetry</td>
<td>0.9857</td>
<td>0.80</td>
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</tr>
<tr>
<td>Gender x profit-sharing plan x info. asymmetry</td>
<td>0.9213</td>
<td>4.70</td>
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</table>
Table 5
Repeated Measures Analysis of Variance
Using Model 2 (Gender-Modified Model)
n = 119

Between-Subjects Effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>df</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-value</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit-sharing plan</td>
<td>1</td>
<td>0.0689</td>
<td>0.0689</td>
<td>0.02</td>
<td>0.876</td>
</tr>
<tr>
<td>Information asymmetry</td>
<td>1</td>
<td>0.0293</td>
<td>0.0293</td>
<td>0.01</td>
<td>0.919</td>
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<tr>
<td>Gender</td>
<td>1</td>
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<td>1.9899</td>
<td>0.72</td>
<td>0.399</td>
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<tr>
<td>Profit-sharing plan x Info. asymmetry</td>
<td>1</td>
<td>5.5571</td>
<td>5.5571</td>
<td>2.01</td>
<td>0.160</td>
</tr>
<tr>
<td>Gender x Profit-sharing plan</td>
<td>1</td>
<td>0.4133</td>
<td>0.4133</td>
<td>0.15</td>
<td>0.700</td>
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<tr>
<td>Gender x Info. asymmetry</td>
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<td>2.1394</td>
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<td>0.382</td>
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<tr>
<td>Gender x Profit-sharing plan x Info. asymmetry</td>
<td>1</td>
<td>20.3390</td>
<td>20.3390</td>
<td>7.34</td>
<td>0.008</td>
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<tr>
<td>Error</td>
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<td>307.5979</td>
<td>2.7712</td>
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</tbody>
</table>

Within-Subjects Effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>df</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-value</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judge</td>
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<td>491.0975</td>
<td>491.0975</td>
<td>215.97</td>
<td>0.001</td>
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<tr>
<td>Judge x Profit-sharing plan</td>
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<td>4.1362</td>
<td>1.82</td>
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<tr>
<td>Judge x Info. asymmetry</td>
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<td>3.8422</td>
<td>3.8422</td>
<td>1.69</td>
<td>0.197</td>
</tr>
<tr>
<td>Judge x Gender</td>
<td>1</td>
<td>1.4361</td>
<td>1.4361</td>
<td>0.63</td>
<td>0.429</td>
</tr>
<tr>
<td>Judge x Profit-sharing plan x Info. asymmetry</td>
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<td>0.1898</td>
<td>0.1898</td>
<td>0.08</td>
<td>0.773</td>
</tr>
<tr>
<td>Judge x Gender x Profit-sharing plan</td>
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<td>3.1384</td>
<td>1.38</td>
<td>0.243</td>
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<tr>
<td>Judge x Gender x Info. asymmetry</td>
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<td>2.9743</td>
<td>1.31</td>
<td>0.255</td>
</tr>
<tr>
<td>Judge x Gender x Profit-sharing plan x Info. asymmetry</td>
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<td>11.3547</td>
<td>11.3547</td>
<td>4.99</td>
<td>0.028</td>
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<tr>
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<td>252.4104</td>
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</table>
## Table 6
### Analysis of Variance for Each Level of the Judgment Factor
#### Using Model 2 (Gender-Modified Model)

*n = 119*

### Long-lived asset impairment (high judgment) decisions

<table>
<thead>
<tr>
<th>Effect</th>
<th>Df</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-value</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit-sharing plan</td>
<td>1</td>
<td>2.6362</td>
<td>2.6362</td>
<td>0.80</td>
<td>0.374</td>
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<tr>
<td>Information asymmetry</td>
<td>1</td>
<td>1.6000</td>
<td>1.6000</td>
<td>0.48</td>
<td>0.489</td>
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<tr>
<td>Gender</td>
<td>1</td>
<td>3.4034</td>
<td>3.4034</td>
<td>1.03</td>
<td>0.313</td>
</tr>
<tr>
<td>Profit-sharing plan x Info. asymmetry</td>
<td>1</td>
<td>3.9004</td>
<td>3.9004</td>
<td>1.18</td>
<td>0.280</td>
</tr>
<tr>
<td>Gender x Profit-sharing plan</td>
<td>1</td>
<td>2.9148</td>
<td>2.9148</td>
<td>0.88</td>
<td>0.350</td>
</tr>
<tr>
<td>Gender x Info. asymmetry</td>
<td>1</td>
<td>5.0795</td>
<td>5.0795</td>
<td>1.54</td>
<td>0.218</td>
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<tr>
<td>Gender x Profit-sharing plan x Info. asymmetry</td>
<td>1</td>
<td>31.0436</td>
<td>31.0436</td>
<td>9.39</td>
<td>0.003</td>
</tr>
<tr>
<td>Error</td>
<td>111</td>
<td>366.8564</td>
<td>3.3050</td>
<td>-</td>
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</tr>
</tbody>
</table>

### Accounts receivable impairment (low judgment) decisions

<table>
<thead>
<tr>
<th>Effect</th>
<th>Df</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-value</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit-sharing plan</td>
<td>1</td>
<td>1.5688</td>
<td>1.5688</td>
<td>0.90</td>
<td>0.345</td>
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<tr>
<td>Info. asymmetry</td>
<td>1</td>
<td>2.2716</td>
<td>2.2716</td>
<td>1.31</td>
<td>0.256</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>0.0225</td>
<td>0.0225</td>
<td>0.01</td>
<td>0.910</td>
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<tr>
<td>Profit-sharing plan x Info. asymmetry</td>
<td>1</td>
<td>1.8465</td>
<td>1.8465</td>
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<td>0.306</td>
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<tr>
<td>Gender x Profit-sharing plan</td>
<td>1</td>
<td>0.6369</td>
<td>0.6369</td>
<td>0.37</td>
<td>0.547</td>
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<tr>
<td>Gender x Info. asymmetry</td>
<td>1</td>
<td>0.0343</td>
<td>0.0343</td>
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<td>0.889</td>
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<tr>
<td>Gender x Profit-sharing plan x Info. asymmetry</td>
<td>1</td>
<td>0.6500</td>
<td>0.6500</td>
<td>0.37</td>
<td>0.543</td>
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<tr>
<td>Error</td>
<td>111</td>
<td>193.1519</td>
<td>1.7401</td>
<td>-</td>
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</table>
Table 7
Mean Reporting Decisions by Gender
1 = definitely will not report an expense/loss
7 = definitely will report an expense/loss

* = statistically significantly different than the control group mean at the 5% level
** = statistically significantly different than the control group mean at the 10% level

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>n</th>
<th>Long-lived asset impairment decision</th>
<th>Accounts receivable impairment decision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male preparers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>21</td>
<td>3.381</td>
<td>5.714</td>
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<tr>
<td>Info. asymmetry</td>
<td>20</td>
<td>2.000*</td>
<td>6.150</td>
</tr>
<tr>
<td>Profit-sharing</td>
<td>15</td>
<td>2.667</td>
<td>5.733</td>
</tr>
<tr>
<td>Moral hazard</td>
<td>22</td>
<td>2.682</td>
<td>5.955</td>
</tr>
<tr>
<td><strong>Female preparers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>9</td>
<td>1.889</td>
<td>5.778</td>
</tr>
<tr>
<td>Info. Asymmetry</td>
<td>11</td>
<td>3.545**</td>
<td>6.455</td>
</tr>
<tr>
<td>Profit-sharing</td>
<td>10</td>
<td>4.000*</td>
<td>5.800</td>
</tr>
<tr>
<td>Moral hazard</td>
<td>11</td>
<td>2.727</td>
<td>5.636</td>
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</table>
Figure 1: Management Level of Participants

<table>
<thead>
<tr>
<th>Current Title</th>
<th># Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pres/VP</td>
<td>16</td>
</tr>
<tr>
<td>CFO</td>
<td>15</td>
</tr>
<tr>
<td>Controller</td>
<td>34</td>
</tr>
<tr>
<td>Mgr/Supr</td>
<td>32</td>
</tr>
<tr>
<td>Senior/Staff</td>
<td>22</td>
</tr>
</tbody>
</table>
Figure 2: # of Years of Professional Accounting Experience of Participants

<table>
<thead>
<tr>
<th>Years</th>
<th># Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>10</td>
</tr>
<tr>
<td>6 - 10</td>
<td>26</td>
</tr>
<tr>
<td>11 - 15</td>
<td>24</td>
</tr>
<tr>
<td>16 or more</td>
<td>59</td>
</tr>
</tbody>
</table>
Figure 3: Age of Participants

<table>
<thead>
<tr>
<th>Age</th>
<th># Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 or less</td>
<td>19</td>
</tr>
<tr>
<td>31 - 40</td>
<td>45</td>
</tr>
<tr>
<td>41 - 50</td>
<td>35</td>
</tr>
<tr>
<td>50 or more</td>
<td>20</td>
</tr>
</tbody>
</table>