

**EFFECTS OF PRINCIPLES VS. RULES BASED ACCOUNTING STANDARDS AND
EXPANDED AUDITOR REPORTING ON INVESTORS' PERCEPTIONS OF
MANAGEMENT'S REPORTING CREDIBILITY**

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and
State University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
General Business, Accounting

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March 20, 2013

Blacksburg, VA

Keywords: Accounting Standard Type, Audit Reporting, Audit Disclosures, Management
Reporting Credibility

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ABSTRACT

The purpose of this study is to investigate how the effects of principles vs. rules based accounting standards and a potential change in the audit reporting model will affect investors' perceptions of management's reporting credibility. The Securities and Exchange Commission is currently considering the adoption of International Financial Reporting Standards, which is considered to be a set of principles based accounting standards. Whereas, U.S. Generally Accepted Accounting Principles are considered rules based. Additionally, the Public Company Accounting Oversight Board is considering a possible change to the existing audit reporting model. The audit reporting change currently under consideration would require the use of additional emphasis of matter paragraphs within the audit report to discuss areas of higher risk in the financial statements. A sample of 196 nonprofessional investors completed an on-line 2 X 2 between subjects experiment that manipulated accounting standard type and level of auditor reporting. Participants assessed direct and indirect measures of reporting credibility, obtained the experimental manipulations, and provided revised credibility assessments. Changes in credibility served as the dependent variable. The results suggest that expanded auditor reporting resulted in lower perceptions of management's reporting credibility. Additionally, the effects of expanded auditor reporting appear stronger under rules based accounting standards. No main effects, however, of accounting standard type were observed. These results contribute to the existing literature on accounting standard type, the information content of audit reports, and reporting credibility.

DEDICATION

This dissertation is dedicated to Tammy Ozlanski, Chester & Herbert, Margaret and Daniel Ozlanski, and Jerry Habegger. To my high school sweetheart and wife Tammy, you are truly an amazing person, and words cannot describe how I lucky I am to be able to share my life with you. I am constantly asking the question “What did I ever do to deserve you?” Together, we truly are the “big door prize,” and it is tremendous to reflect on the fact that we have made life a “single skip for joy.” Because of each other, “life is good”. To my faithful golden retrievers Chester & Herbert you truly are man’s best friend (albeit second to Tammy). You were always willing to let me take a break from working and tend to your needs. Thank you for being so selfless and for making sure that my side of the bed was always warm. To my parents Margaret and Daniel Ozlanski, thank you for dressing me in bow ties at a very young age ... perhaps that affected my career trajectory. Your unconditional love and support enabled me to chase my dreams, regardless of how lofty they may have seemed. You always ensured I had whatever I need to succeed, and I am forever indebted to you. To Jerry Habegger, thank you for constant guidance while at Susquehanna University and beyond. You had a significant effect on my decision to enter the academy. I will never forget that afternoon at BJ’s Ribs on Main St. in Selinsgrove when you told me that it was not a matter of if I am going to get my PhD ... but a matter of when. That is advice that I never forgot.

ACKNOWLEDGEMENTS

I owe a tremendous amount of gratitude to Dr. Bowe Hansen for the overwhelming generosity he provided with his time, support, insight, and encouragement. Your willingness to become so actively involved with my dissertation, especially during your first year at Virginia Tech, is a testament to your commitment to helping others reach their fullest potential. With your unwavering guidance, I was able to transform an initial idea into a final dissertation. I am undoubtedly a much better person for having the opportunity to work so closely with you. I also owe much appreciation to the members of committee for their invaluable feedback, insight and encouragement: Dr. Larry Killough, Dr. Sheryl Ball, Dr. John Brozovsky, and Dr. Greg Jenkins. Each of you helped me to improve this study, and I will always have your mentoring with me as embark on my academic career.

There are many additional members of the Accounting and Information Systems Department whose efforts enabled me to complete my dissertation. I appreciate Dr. Reza Barkhi's assistance in finding resources and participants for this project. I owe gratitude to Dr. Robert Brown, Dr. Larry Killough, and Dr. Greg Jenkins for their generosity with helping me recruit students to complete pilot studies of my experiment. I would like to thank Dr. Bryan Cloyd, Dr. Sudip Bhattacharjee, and Dr. Jack Maher for the training in your respective accounting seminars that prepared for this endeavor. I also thank Dr. Jack Maher and Dr. Steve Sheetz for the research collaboration which provided invaluable insight and for all of the continued encouragement and insight. Additionally, I express my tremendous appreciation to Kathy Caldwell, Phyllis Neece, and Arnita Perfater for their support during my four years in the program. Their work is often "behind the scenes," but it is no less important. Their seemingly endless candy bowl in the department office helped propel me through some long afternoons.

I would like to thank my fellow Ph.D. students, especially my classmates Owen Brown, Eric Negangard, and Jon Pyzoha, for the support and guidance during the program. I cannot imagine doing this without you, and you helped create many memories that I will forever cherish. I especially thank Jon Pyzoha for being my officemate, tolerating my eccentricities, and always providing unwavering encouragement. I also express my gratitude to the Ph.D. students that preceded me in the program and were always willing to provide invaluable insights and perspectives throughout my studies.

I would like to thank the faculty from the Psychology and Educational Psychology departments who graciously included me their classes: Dr. Danny Axsom, Dr. Peter Doolittle, Dr. Roseanne Foti, Dr. Kate McConnell, and Dr. Deborah Tatar. I appreciate each of you sharing your discipline with me and helping me to understand how your research findings can inform and compliment accounting research. I also thank Dr. Kevin Carlson and Dr. Maury Nussbaum for their tutelage in experimental design and statistical methods.

I would like to thank the generous donors who provided financial support throughout my studies. I appreciate the support of the Virginia Tech Department of Accounting and Information Systems provided through the William S. Gay Scholarship, John E. Peterson, Jr. & Mary Jane C. Peterson Ph.D. Fellowship, Johnny R. Johnson Memorial Scholarship, and the Virginia Society of Certified Public Accountants Educational Grant. I also appreciate the generosity of the Virginia Tech Department of Accounting and Information Systems and the Virginia Tech ACIS 2012 PhD Student Summer Research Grant.

Finally, I owe much gratitude to my family and friends for your unconditional love support and encouragement. Without you, none of this would have been possible.

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1. INTRODUCTION

Significant changes to the US accounting and auditing regulations are currently under consideration by the Securities and Exchange Commission (SEC) and Public Company Accounting Oversight Board (PCAOB). The SEC is considering a possible transition to International Financial Reporting Standards (IFRS), which is generally held to be a set of principles based accounting standards, while existing US GAAP is considered to be rules based.¹ One of the criticisms of IFRS is that its lack of rules may provide increased earnings management opportunities. Concurrently, the PCAOB is finalizing its proposed changes to the audit reporting model, which could potentially require the auditor to comment on areas of companies' financial statements that are subject to higher levels of management judgment or increased risk of material misstatement. Both changes may affect a company's ability to manage earnings, which may then impact investors' perceived credibility of financial reporting. Therefore, this study investigates how investors' perceptions of management's reporting credibility are affected by expanded auditor reporting and by the use of principles vs. rules based accounting standards. It also considers the potential interactive effect of accounting and auditing standards.

The SEC's most recent proposal regarding the potential adoption of IFRS in the United States is referred to as "condorsement". Condorsement does not advocate an explicit adoption of the international standards, but it also does not dissuade adoption (Lamoreaux 2011). Specifically, it indicates that FASB could review and endorse new IFRS standards on an individual basis, and this review process would be completed in conjunction with the US GAAP and IFRS convergence project. Support for the adoption of IFRS in the US is increasing. The

¹ The most recent report from the SEC (2012) does not provide a timeline for the possible transition to IFRS for US companies.

AICPA (2011a) and a majority of CPAs (AICPA 2011b) support allowing voluntary adoption of IFRS by US public companies, while the SEC continues to deliberate its final ruling on the potential of US adoption of IFRS..

One common criticism of IFRS is a lack of “bright lines” in the implementation guidance included in the standards, relative to the implementation guidance included in US GAAP. Critics suggest that the lack of such detailed guidance could result in greater discretion and subjectivity in the application of these standards, and it may provide additional opportunities for companies to manage earnings. This could lead to a decrease in the quality of financial statements, which could cause a decrease in investors’ perceptions of management’s reporting credibility. Recent evidence suggests that principles based accounting standards are associated with increased difficulty with assessing the correctness of the application of accounting standards (Kadous and Mercer 2011, 2012) and an increased propensity for shareholders to bring litigation against management (Cornell et al. 2011; Donelson et al. 2012).

The PCAOB is concurrently considering possible changes to the audit reporting model. If enacted, this could be one of the most significant revisions to the audit reporting model since the 1980s². One of the potential changes currently under consideration is a requirement for the auditor to include emphasis of matter paragraphs in the audit report (PCAOB 2011). Currently, these paragraphs are generally added to the audit report when there is a lack of consistency in the application of an accounting principle between fiscal years or when there is a substantial doubt about the entity’s ability to continue to exist as a going concern (AICPA 1988). The proposed changes to the audit report would require the auditor to include emphasis of matter paragraphs

² Even though the Sarbanes-Oxley Act of 2002 required auditors to opine on the effectiveness of a company’s internal controls, it did not significantly alter the form and content of the audit report on the company’s financial statements (PCAOB 2011).

that discuss areas of the company's financial statements which are determined by the auditor to be subject to increased management judgment or risk of material misstatement.

These additional paragraphs could increase the salience of risks associated with management's financial statements, which is consistent with research examining the information content of going concern audit reports (Chen and Church 1996; Holder-Webb and Wilkins 2000; Menon and Williams 2010) and internal control weakness disclosures (Schneider and Church 2008; Lopez et al. 2009; Ashbaugh-Skaife et al. 2009; Costello and Wittenberg-Moerman 2011). This evidence suggests that the paragraphs could reduce reporting credibility if they effectively communicate additional risks to financial statement users. I label this possibility the "salience" hypothesis. Alternatively, such emphasis of matter paragraphs could serve as an additional form of accountability pressures (Tetlock 1983). As a result, management should exert additional effort to ensure the correctness of the items specifically addressed in these emphasis of matter paragraphs because these items may be subject to greater audit effort. Investors should recognize the increased accountability pressures placed on management as a result of the increased auditor reporting, and this could increase the perceived credibility of the company's management reporting. I label this possibility the "accountability" hypothesis.

Additionally, experimental evidence suggests that the appropriate application of principles based accounting standards is dependent on strong audit committees (Ng and Tan 2003; Agoglia et al. 2011) and effective auditors (Jamal and Tan 2010). Recent archival evidence also suggests that the successful implementation of principles based accounting standards is dependent on the existence of strong regulatory enforcement (Holthausen 2009; Ball et al. 2003), and the benefits of the mandatory adoption of IFRS are dependent on institutional features that promote high quality, transparent financial reporting (Daske et al. 2008; Byard et al.

2011; Khurana and Michas 2011; Yu 2010). Since a change to the auditing standards is also a change to the financial reporting regulatory environment, reporting credibility is also expected to be affected by an interaction between accounting and auditing standards.

Therefore, this study considers three research questions:

RQ1: How are investors' perceptions of management's reporting credibility affected by accounting standard type (e.g. principles vs. rules based accounting standards)?

RQ2: How are investors' perceptions of management's reporting credibility affected by a change in the audit reporting model?

RQ3: Do the effects of a change in the audit reporting model differ in strength based on the type of accounting standard used to prepare financial reporting?

These questions were addressed with a 2 X 2 between subjects experiment because archival data are not yet available to consider how changes in accounting standards type and audit reporting correspond with investors' perceptions. The experimental task manipulates the type of accounting standard used by the company and the level of auditor reporting. A sample of 196 nonprofessional investors completed an on-line investment case, based on Mercer (2005). Participants reviewed relevant background information, evaluated the credibility of management's financial reporting, and provided an initial assessment of stock price. The participants then received a press release including the results for the current quarter indicating the firm experienced a small, positive forecast and was also preparing for a seasoned equity offering³. Then, they obtained the manipulations of accounting standard and audit reporting. The principles vs. rules based manipulation indicates that the implementation guidance for the relevant accounting standard for revenue recognition includes either "bright-lines" or qualitative

³ This information was provided to all participants to ensure that the presence of management's incentives is held constant across each of the experimental cells and that all participants have reason to doubt the credibility of management's reporting.

factors intended to capture the economic substance of transactions (Cornell et al. 2011; Kadous and Mercer 2011, 2012). The second manipulation is the presence or absence of a required emphasis of matter paragraph in the audit report which accompanies the prior year financial statements. The paragraph specifically relates to the company's accounting policies for revenue recognition to parallel the accounting standard manipulations, and it is based on guidance from the Center for Audit Quality (CAQ) (2011). Then, participants provided a revised assessment of management's reporting credibility and stock price. The dependent variables are the differences in the credibility assessments (e.g. Mercer 2005) and the magnitude of stock price revisions (e.g. Brown-Liburd et al. 2012; Brazel et al. 2012; Lopez et al. 2009). Participants also assessed attributes of the company's financial reporting and information environment, consistent with Lopez et al. (2009). Next, participants received an earnings announcement for the following quarter, and they assessed their likelihood of relying on management's reporting to form future earnings forecasts. This assessment was made to validate that revisions in perceived reporting credibility have economic consequences (Mercer 2005). Finally, participants answered manipulation check questions and demographic questions. The results of the study suggest that the use of the additional emphasis of matter paragraphs decreases reporting credibility. This supports the salience hypothesis that the proposed change in auditing standards would increase the salience of risks associated with management's financial statements.

This study contributes to the literature in several ways. First, it extends previous research on going concern audit reports (Chen and Church 1996; Holder-Webb and Wilkins 2000; Menon and Williams 2010) and internal control weakness disclosures (Ashbaugh-Skaife et al. 2009; Costello and Wittenberg-Moerman 2011). Second, the results fulfill the need for research examining the effects of changes to the audit reporting model on investors' decisions (Church et

al. 2008; Gray et al. 2011; Audit Quality Forum 2007). Although no direct effects of accounting standard type were observed, my study extends the existing research which examines the effects of accounting standard type on litigation decisions (Kadous and Mercer 2011, 2012; Cornell et al. 2011; Donelson et al. 2012) and SEC enforcement actions (Mergenthaler 2009) subsequent to restatements. I contribute to this literature by investigating the influence of principles vs. rules based characteristics of accounting standards on less egregious forms of earnings management than restatements. Finally, the results extend Mercer (2005) who previously examined how a company's disclosure policy affects investors' perceptions.

Further, the results from this study will inform regulatory agencies about the potential impact of significant changes to accounting standards and audit reporting requirements that are currently under consideration. These results suggest that the inclusion of the additional emphasis of matter paragraphs effectively communicate risks to financial statement users, which is one of the motivations for the proposed change to the auditing standard (PCAOB 2011). This data also provides some evidence on the interaction between accounting and auditing standards. Specifically, it suggests that the use of expanded auditor reporting lowers reporting credibility only when rules based accounting standards are used for preparing financial reporting. Additionally, the results do not suggest that principles based accounting standards are associated with lower perceived credibility, given the presence of an incentive to manage earnings. This should be of interest to the SEC as it continues to consider the adoption of IFRS in the US.

The remainder of the paper is organized as follows: Chapter Two provides a summary of the existing literature from accounting, psychology and other relevant domains, and it develops the specific hypotheses for examination. Chapter Three describes the research methodology, the experimental instrument, and the variables of interests. Chapter Four details the data analysis

from preliminary descriptive statistics to tests of hypotheses and supplemental analyses. Chapter Five concludes the paper with a discussion of the findings and contributions, identification of limitations, and suggestions for future research.

2. BACKGROUND AND RELATED LITERATURE

This chapter provides a summary of the literature relevant to the research questions addressed in this study. It then develops the formal hypotheses tested in this paper.

2.1 Literature Review and Hypothesis Development

This paper draws on topics from the accounting and psychology literatures to develop hypotheses regarding the effects of principles vs. rules based accounting standards and expanded auditor reporting on investors' perceptions of management's reporting credibility. First, I define management's reporting credibility and articulate why accounting standard type and expanded audit reporting could affect perceived reporting credibility. Then, I explain why perceived reporting credibility may be lower under principles based accounting standards and why reporting credibility may be affected by a change in the audit reporting model. Finally, I integrate research on both accounting standard type and audit reporting to predict that the strength of the effects of expanded auditor reporting may differ by accounting standard type.

2.1.1 Management's Reporting Credibility

I seek to provide evidence about the effects of two potential regulatory changes in the financial reporting environment on investors' perceptions of management's reporting credibility. Previous research considers the effects of management's disclosure policy on investors' perceptions of management's reporting credibility (Mercer 2005). Building on Hovland et al. (1953) and Giffin (1967), Mercer (2005, 275) defines management's reporting credibility as "investor's beliefs about management's trustworthiness and competence in financial disclosures." I use this same definition when investigating management's reporting credibility. Previous research suggests that reporting credibility affects a firm's ability to communicate information to investors (Williams 1996; Mercer 2004) and investors' use of subsequent

management reporting and disclosures (Mercer 2005; Hirst et al. 1999; Williams 1996). Two significant changes, under consideration, to the accounting and auditing regulatory environment include the possible adoption of IFRS and the potential required use of emphasis of matter paragraphs in the audit report. Since investors' perceptions of managements' credibility affect their processing of information and decision making (Mercer 2005; Hirst et al. 1999; Williams 1996), it is important to consider how changes in accounting standards and audit reporting affect these perceptions.

2.1.2. Implications of Agency Theory

Agency theory helps explain why these two changes may affect investors' perceptions of management's reporting credibility. The theory suggests that because of the existence of information asymmetry between managers and shareholders, managers will act in their own self-interests, which could potentially conflict with shareholder interests. To compensate for this problem, shareholders implement incentive structures to align management and shareholder goals. Accounting information is part of the incentive structure because it enables stakeholders to evaluate management against established performance standards (Eisenhardt 1989). Since principles based accounting standards have less implementation guidance than rules based accounting standards, it is possible that the lack of specificity in the accounting standards could make it less costly for managers to engage in earnings management to meet incentives thereby shifting wealth from shareholders. This could result in a decrease in investors' perceptions of management's reporting credibility. The expanded auditor reporting may further decrease reporting credibility because it could effectively highlight areas within the financial statements subject to greater risk of misstatement. Alternatively, it may act as a source of increased accountability for management to exert additional resources to ensure the correctness of the

items specifically addressed in the emphasis of matter paragraphs. These accountability pressures may increase investors' perceptions of management's reporting credibility.

2.1.3 Effects of accounting standard type

IFRS is commonly considered to be a set of principles based accounting standards, while US GAAP is considered to be rules based. The distinction between principles and rules based accounting standards is often based on the amount of implementation guidance provided by the respective standard setting bodies⁴ (Nelson 2003). The intent of IFRS is to provide flexibility so the underlying economics of a company's transactions can be captured in its accounting system. IFRS typically includes much less implementation guidance than US GAAP, and it generally does not contain "bright lines," which are strict rules that determine the accounting treatment for specific transactions. These rules should constrain accruals based earnings management (Ewert and Wagenhofer 2005), and one of the objections to the potential adoption of IFRS in the US is that the lack of these "bright lines" could lead to greater opportunities for earnings management. If the flexibility of accounting standards increases the possibility that earnings management could occur, the perceived credibility of management's reporting should decrease.

In order to understand how investors will perceive management's reporting credibility under principles based accounting standards, it is important to first consider how management's financial reporting decisions are affected by greater flexibility in accounting standards. Agoglia et al. (2011) and Psaros and Trotman (2004) suggest that managers are more likely to propose

⁴ I refer to the two types of accounting standards as principles vs. rules based, which is consistent with recent research (Jamal and Tan 2010; Agoglia et al. 2011; Cohen et al. 2011; Peytcheva and Wright 2011; Segovia et al. 2009). Nelson (2003) suggests that both US GAAP and IFRS are based on an underlying set of principles. The difference, however, is attributed to the depth and breadth of implementation guidance accompanying individual accounting pronouncements. Accounting standards that have a greater amount of implementation guidance or "bright lines" could be considered more-precise standards. Less-precise standards are accompanied by lesser amounts of implementation guidance and often lack "bright lines." Although some researchers utilize this alternative categorization (Cornell et al. 2011; Kadous and Mercer 2011, 2012; Psaros and Trotman 2004), I will describe accounting standards as principles vs. rules based for parsimony.

accounting treatments which more accurately reflect the underlying economics of a transaction when using a principles based accounting standard that lacks specific implementation guidance. In both studies, participants propose more conservative accounting treatments under principles based accounting standards. These results are consistent with Maines (2007) who suggests that aggressive accounting treatments may be more difficult to justify with less precise accounting standards because of the absence of detailed implementation guidance. This difficulty in justifying aggressive accounting treatments may cause management to utilize more conservative accounting practices. However, these studies do not consider the effects of enforcement mechanisms or incentives to manage earnings on the decisions of financial statement preparers.

Jamal and Tan (2010) consider the effects of accounting standard and enforcement strength of the company's auditor on proposed accounting decisions by financial statement preparers. They find that under principles based accounting standards, managers will propose capital lease (i.e. conservative) accounting only when the auditor is committed to capturing the underlying economics of the transaction⁵. Capital lease accounting is less likely when the auditor is committed to meeting the rules of the standard or pleasing the client. Therefore, the adoption of principles based accounting standards may not always result in higher quality accounting outcomes. This suggests that the impact of adopting principles based accounting standards is dependent on the monitoring mechanisms in place and the incentives to manipulate earnings. Similarly, evidence examining the adoption of IFRS in Europe which indicates that the

⁵ Although not discussed by Jamal and Tan (2010), it is important to consider the external validity of their auditor manipulation. Survey evidence gathered in a pre-Sarbanes Oxley environment suggests that auditors are less likely to propose audit adjustments for aggressive accounting practices if the transactions are structured to comply with the rules of precise accounting standards (Nelson et al. 2002). However, Ball (2009) provides evidence of instances in which audit firms were penalized for ignoring the economic substance of transactions and only considering whether the transactions meet the rules of the precise accounting standards. It is possible, but not clear, that the auditor manipulations included in Jamal and Tan (2010) are representative of the current auditing environment in the United States.

accounting quality under IFRS is dependent on the strength of regulatory enforcement regimes (Holthausen 2009; Daske et al. 2008). Collectively, these results suggest that the successful implementation of principles based accounting standards is dependent on strong monitoring mechanisms.

One of these monitoring mechanisms within the financial reporting process is the company's audit firm. Therefore, it is important to also consider how principles based accounting standards affect the decisions of auditors. Recent experimental evidence examines auditors' evaluations of management's lease accounting treatment. The results suggest that principles based accounting standards result in auditors supporting less aggressive financial reporting (Cohen et al. 2011; Peytcheva and Wright 2011). Segovia et al. (2009) provide similar evidence for auditors' evaluations of a client's impairment assessment when the client would prefer to accelerate expense recognition. These recent studies, however, hold constant the auditor's incentives to adopt the preferred reporting position of the client. Earlier evidence suggests that flexibility in accounting standards may allow auditors to adopt client preferred positions, given the presence of incentives to please the client (Hackenbrack and Nelson 1996; Mayhew et al. 2001). Ng and Tan (2003) also note that it might be more difficult for auditors to constrain earnings management if the accounting rules contain less guidance. In summary, auditor decisions tend to improve financial reporting under principles based accounting standards without manipulation of incentives (Cohen et al. 2011; Peytcheva and Wright 2011; Segovia et al. 2009), but contrasting evidence suggests that under certain conditions auditors may exploit the flexibility of principles based standards (Hackenbrack and Nelson 1996; Mayhew et al. 2001). Therefore, the results suggest that, under certain conditions, auditors may accept lower quality financial reporting decisions of management with principles based accounting standards.

An additional monitoring mechanism is the legal system. If an aggressive accounting treatment violates “bright lines” in rules based standards, jurors are more likely to deliver a verdict against the auditor, when compared to the same aggressive accounting treatment presented without “bright lines” (Kadous and Mercer 2011, 2012). This implies that jurors rely on the substance of accounting rules to assess the correctness of financial reporting decisions and auditors’ responsibility for accounting restatements. These results are consistent with Donelson et al. (2012), who suggest that it is more difficult to prove that an accounting misstatement was intentional when the accounting standard is principles based because it is possible that the accounting misstatement was a mistake due to the complexity of the underlying transactions. If jurors have greater difficulty assessing the appropriateness of accounting treatments (Kadous and Mercer 2011, 2012) under principles based accounting standards, investors may not be able to rely on the legal system as a monitoring mechanism. Additionally, it may be difficult for investors to directly assess the quality of financial reporting under principles based accounting standards. This could lead to a decrease in perceived reporting credibility.

The previously discussed experimental evidence suggests that principles based accounting standards may allow for additional opportunities for earnings management. In addition, monitoring mechanisms are an integral factor for the appropriate application of accounting standards by management, and a primary monitor of management is the company’s auditor. Evidence suggests, however, that the decisions of auditors may decline under principles based accounting standards, which diminishes their monitoring power (Hackenbrack and Nelson 1996; Mayhew et al. 2001; Ng and Tan 2003). Further, jurors have a more difficult time assessing the correctness of the application of accounting standards under principles based accounting (Kadous and Mercer 2011, 2012). This evidence suggests that jurors may also be less

effective monitors under principles based accounting standards. Collectively, this evidence suggests that monitoring is likely to be weaker under principles based standards, leading to more earnings management opportunities. Therefore, based on experimental evidence, investors' perceptions of management's reporting credibility are expected to be lower under principles based accounting standards, especially when there is an incentive of managers to manipulate earnings .

Existing archival evidence also speaks indirectly to the effects of principles based accounting standards on investors' perceptions and decisions. For example, evidence suggests that investors favored the adoption of IFRS by the European Union (EU) in 2005 (Armstrong et al. 2010). The results, however, do not provide direct evidence about US investors' perceptions of the possible adoption of IFRS, and Armstrong et al. (2010) do not evaluate the role of management credibility in their tests. Additional evidence examines the behavior of financial statement users. For example, analyst forecast errors decreased following mandatory adoption (Byard et al. 2011; Horton et al. 2012). Foreign analyst following of companies in the EU also increased, and the forecast errors of foreign analysts simultaneously decreased (Tan et al. 2011). Further evidence suggests that the mandatory adoption of IFRS affects the behavior of investors. US investors increased their portfolio holdings of foreign stocks after adoption (Khurana and Michas 2011), and complimentary evidence suggests that IFRS adoption is generally associated with increased foreign investment in EU companies (Amiram 2012). Foreign holdings in mutual funds also increased after the mandatory adoption of IFRS (Yu 2010; DeFond et al. 2011). Finally, Landsman et al. (2012) suggest that the information content of annual earnings announcements increased for EU firms subject to mandatory adoption, relative to firms in European countries that did not adopt IFRS. Sun et al. (2011) examines earnings quality

attributes of cross-listed firms that mandatorily adopted IFRS and suggest that these firms have higher earnings quality than matched cross-listed firms that did not adopt. Collectively, this evidence suggests that the mandatory adoption of IFRS in Europe was viewed favorably by the users of financial statement information, but it is important to consider why these conclusions may not generalize to US investors.

Many of the firms included in the samples of mandatory adoption studies utilized principles based or lower quality accounting standards prior to the adoption of IFRS. If the US adopted IFRS, it would result in a shift from rules based to principles based accounting standards, and both standards are already considered to be high quality. Survey data from CFA Institute members and sell-side analysts provide insight into the perceptions of financial instrument risk disclosures under IFRS. The evidence suggests that less than half of the respondents are satisfied with the information content and quality of the disclosures (CFA Institute 2011). This evidence only relates to one aspect of disclosures required by IFRS, and it does not address perceptions of the underlying accounting quality. It also does not consider users' perceptions of IFRS relative to similar disclosures under US GAAP. Therefore, the effects of principles based accounting standards on US investors' perceptions remain an empirical question.

Ewert and Wagenhofer (2005) present an analytic model suggesting that an increase in the specificity (i.e. implementation guidance or rules) of accounting standards should be associated with higher earning quality, which would be measured by lower earnings variability and higher association between reported earnings and stock price revisions. They caution, however, that a decrease in accounting earnings management could be substituted with an increase in real earnings management. Preliminary archival evidence considers the application of

this model by investigating the effects of the SEC's decision to discontinue the requirement of foreign companies listed on US exchanges to reconcile their income and equity balances to US GAAP. Evidence suggests that the reconciliation did not provide additional information to investors because its elimination was not associated with any negative impact on the sample firms' market liquidity and information asymmetry (Kim et al. 2011). Kim et al. (2011) also provide evidence suggesting that there was no negative effect on firms' cost of capital, analyst forecast errors and dispersion, levels of institutional ownership, and timing of equity market reactions to the firms' 20-F filings. Jiang et al. (2010) provide corroborating evidence which suggests that these reconciliations were not associated with additional market measures such as abnormal trading volume, abnormal return volatility, and changes in the bid-ask spread. Both of these studies suggest that the elimination of the IFRS to US GAAP reconciliation did not result in a decrease of relevant information about the firms' value available to investors. It also suggests that investors may not have revised their credibility assessment of management's reporting.

However, the research of Jiang et al. (2010) and Kim et al. (2011) investigate investor behaviors surrounding the filing of 20-F, which can occur up to 6 months after the end of the company's fiscal year. Related research examines the effects of the elimination of the reconciliation requirement on investor behavior at the actual earnings announcement. Hansen et al. (2012) suggest that the elimination of the reconciliation requirement is not, on average, associated with significant changes in earnings attributes and information content. However, the consideration of firm level reporting incentives suggests that earnings attributes significantly improved after the elimination for firms with strong reporting incentives. The evidence suggests that the removal of the reconciliation did not affect the information content of 20-F

announcements, but it is associated with a change in the information content of earnings for firms with strong reporting incentives. Changes in the information environment for firms may result in a change in investors' perceptions. These conclusions, however, are based on a relatively small sample of firms. In addition, the samples are comprised of foreign firms that are listed on US exchanges, so the results may not generalize to US firms.

Recent experimental evidence also speaks indirectly to the impact of principles based standards on investors' perception of managements' credibility. Bailey and Sawers (2012) provide experimental evidence suggesting that, under principles based accounting standards, individuals with low trust in our financial reporting system allocate more investment capital to a company that utilizes accounting methods to increase earnings⁶. This suggests that investors may have a more difficult time accessing the underlying economics of a firm under principles based standards. Additional evidence is provided by Cornell et al. (2011), who consider the propensity of investors to litigate following an accounting restatement and a large decrease in the company's stock price. They find that investors perceive that management has greater flexibility to engage in earnings management under principles based accounting standards. This flexibility also increases the participants' perceptions that management acted in self-interested behavior. This increases the blame that investors assign to management for the restatement and related negative events, which include a significant decline in stock price and termination of employees of a manufacturing facility in an economically depressed area (Cornell et al. 2011).

Donelson et al. (2012) provide consistent evidence using archival data. They investigate a sample of firms that faced and resolved securities class action lawsuits because of alleged

⁶ Bailey and Sawers (2012) test for differences in demographic attributes between the high trust and low trust groups. The two groups did not differ by gender, number of accounting classes taken, investment analysis experience, number of buy/sell transactions, and time to complete the materials. This suggests that levels of trust are not associated with certain attributes of investor expertise.

GAAP violations. The results suggest that if there is not an admitted accounting violation, plaintiffs are more likely to target companies with litigation when the alleged violation was of a principles based area of GAAP. Litigation is less likely when an admitted or alleged accounting violation is of a rules based accounting standard. These results about the propensity to litigate (Cornell et al. 2011; Donelson et al. 2012), however, only examine accounting restatements which are severe forms of earnings management. Investors' perceptions of less egregious forms of earnings management still remain an empirical question (Mergenthaler 2009).

The previously discussed evidence suggests that the presence of incentives to manage earnings and the use of principles based accounting standards could result in more aggressive decisions by players in the financial reporting process. For example, management may propose more aggressive accounting treatments (Jamal and Tan 2010), and auditors may be more likely to accept management's aggressive recommendations (Hackenbrack and Nelson 1996; Mayhew et al. 2001). In addition, under principles based standards, investors may be more likely to engage in litigation (Cornell et al. 2011; Donelson et al. 2012), but jurors may be less likely to deliver unfavorable verdicts against auditors (Kadous and Mercer 2011, 2012). Further, under principles based accounting standards, investors are more likely to make inefficient investment allocations (Bailey and Sawers 2012). Collectively, this could lead to a decrease in perceived credibility of management's reporting when there is an incentive for managers to manipulation earnings. Therefore, I propose the following hypothesis:

H1: Given the presence of incentives to manipulate earnings, management's reporting will be perceived to be less credible in a principles based accounting system, than in a rules based accounting system.

2.1.4 Effects of expanded auditor reporting

The PCAOB is also considering changes to the existing audit reporting model; one of the proposed changes is the addition of required emphasis of matter paragraphs in the audit reports of public companies. If enacted, these paragraphs would provide commentary from the auditor about areas of the company's financial statements which the auditor determines to be subject to greater levels of management judgment or to increased risk of material misstatements (PCAOB 2011). Current auditing standards state that emphasis of matter paragraphs should be included in a company's audit report when there is substantial doubt about its ability to continue to exist as a going concern or when there is a lack of consistency in the application of accounting principles between fiscal years (AICPA 1988). The intent of the proposed, expanded use of these paragraphs is to convey information to financial statements users to improve their decisions (PCAOB 2011). Soltani (2000) suggests that similar emphasis of matter paragraphs required by French auditing regulations provide useful information to French investors⁷. However, the information content of the proposed emphasis of matter paragraphs for US investors remains an empirical question. Behavioral theories offer two competing hypotheses regarding the effect that this change in the reporting model could have on investors' perception of management's credibility. I label these the "salience" hypothesis and the "accountability" hypothesis and discuss each in turn.

Previous research investigating the information content of disclosures in the audit report suggests that additional paragraphs in the audit report make information more salient to financial statement users. For example, companies that file for bankruptcy experience less severe negative returns around the bankruptcy filing date if they receive a going concern audit report than firms

⁷ The PCAOB (2011) specifically refers to the existing French audit reporting model in its Concept Release of the potential revisions to the audit reporting model.

that did not (Chen and Church 1996; Holder-Webb and Wilkins 2000). This implies that the going concern audit reports provide advanced warning to the market that firms are financially distressed.

Prior to the issuance of SAS 59 in 1988, going concern audit reports were qualified audit opinions, which indicated that financial statements were not materially stated in accordance with GAAP. Market reactions to bankruptcy announcements for firms that received a going concern audit report were less negative once the Auditing Standards Board amended the audit reporting model such that the going concern opinion was no longer a qualified report (Holder-Webb and Wilkins 2000). Once the audit reports were changed to indicate that the company's financial statements were fairly and materially stated in accordance with GAAP, investors had more confidence in the quality of the firms' financial reporting, even though companies may not be financially viable. Additionally, market reactions to going concern audit reports become more pronounced if the audit report specifically mentions the firm's difficulty in obtaining financing as the reason for the going concern report (Menon and Williams 2010). This evidence supports the conclusion that changes in the auditing standards, audit report type, and commentary included in audit reports convey useful information to investors. It is also consistent with conclusions of qualitative research completed by Gray et al. (2011) who conducted focus groups to investigate financial statement stakeholders' perceptions and use of audit reports. Collectively, this implies that the inclusion of the required emphasis of matter paragraphs discussing riskier areas of the company's financial statements may also provide useful information to investors.

A second change to the audit reporting model that provided useful information to financial statement users is the requirement, under the Sarbanes-Oxley Act of 2002, of auditors

to issue an opinion on the effectiveness of the internal controls of public companies. The presence of a material weakness in a firm's internal controls, indicated by an adverse internal control opinion, suggests it is reasonably possible that an internal control deficiency or combination of deficiencies would fail to prevent or detect a material misstatement in the company's financial statements (PCAOB 2007). Although a material weakness does not imply that a material misstatement occurred, it increases the probability that such a misstatement could occur. Research examining the information content of these internal control audit reports suggests that loan officers assign higher risk ratings to companies that receive an adverse internal control report, and they are less likely to extend credit to these firms (Schneider and Church 2008). Additionally, nonprofessional investors assessed negative stock price revisions for companies that receive an adverse internal control opinion (Lopez et al. 2009). These experimental results are consistent with archival research which suggests that internal control weakness disclosures are associated with higher risk and cost of equity (Ashbaugh-Skaife et al. 2009), as well as increased cost of debt and higher collateral requirements (Costello and Wittenberg-Moerman 2011). These studies suggest that the disclosures of internal control weaknesses and the adverse internal control audit opinions also increase the salience of risks associated with management's financial reporting, which could decrease perceptions of management's reporting credibility.

Collectively, the evidence related to going concern audit reports (Chen and Church 1996; Holder-Webb and Wilkins 2000; Menon and Williams 2010) and internal control audit reports (Lopez et al. 2009; Schneider and Church 2008; Ashbaugh-Skaife et al. 2009; Costello and Wittenberg-Moerman 2011) suggests that these reports convey information about risks to financial statements users. The proposed emphasis of matter paragraphs are intended to discuss

higher risk areas of the financial statements (PCAOB 2011), and they could make risks related to companies' financial statements more salient. In this case, I would expect the presence of the additional paragraphs to cause a decrease in investor's perceptions of management's credibility (salience hypothesis).

However, an alternative hypothesis based on accountability theory (Tetlock 1983) leads to an opposite expectation of how the information contained in the required emphasis of matter paragraphs would affect credibility assessments of investors. The paragraphs are intended to provide specific commentary about areas of the financial statements that have a higher risk of material misstatement (PCAOB 2011). Under the accountability hypothesis, this specific commentary could act as an additional monitoring mechanism and potentially curtail earnings management opportunities. If management will be publically evaluated by its auditor on areas of its financial statements that are most susceptible to error or fraud, it is expected that management would exert additional resources to ensure the correctness of the items specifically addressed in these emphasis of matter paragraphs. This expectation is consistent with previous psychology results suggesting that task performance improves if participants are aware that they will need to justify their decisions (Tetlock 1983). These findings indicate that "accountability can motivate complex and vigilant information processing" (Tetlock 1983, 286), which should improve decision making outcomes.

Evidence to support the generalizability of these positive effects of accountability is presented in previous accounting research. When tax professionals possess sufficient task knowledge, the effects of accountability improve performance on a tax research task (Cloyd 1997). Auditors' assessment of fraud risks become more conservative when they are aware that they will need to justify their assessments to a superior (Hoffman and Patton 1997).

Accountability pressures also increase the extent and breadth of auditor testing which results in better performance on analytical procedures tasks (Asare et al. 2000). Collectively, this evidence suggests that the performance of tax and audit professionals improves in the presence of accountability pressures.

Evidence also suggests that similar accountability pressures could also improve the performance of financial statement preparers. For example, an increase in the effectiveness of a company's auditor can create accountability pressures on management. This effect was exemplified in a financial reporting setting by Jamal and Tan (2010) who suggest that differences in the accountability pressures created by manipulating the enforcement strength of the company's auditor can influence the behavior of financial statement preparers. Chen et al. (2012) also suggest that managers react to a potential increase in the nature and extent of audit procedures by reducing their propensity to engage in fraudulent earnings management. Therefore, the use of the proposed emphasis of matter paragraphs to directly evaluate areas of management's financial statements that are most susceptible to increased risks of material misstatement could increase accounting quality. Finally, qualitative research examining the required use of similar emphasis of matter paragraphs in the French audit reporting model suggests that there is an increased dialogue among management, the audit committee and the auditor regarding the items specifically addressed in the paragraphs (CNCC 2011). The accountability pressures created by the increased dialogue should also improve accounting quality. The accountability pressures on management should then increase investors' perceptions management's reporting (accountability hypothesis).

Due to the conflicting predictions of the salience hypothesis and the accountability hypothesis, I test the following null hypothesis:

H2: The expanded audit reporting will have no effect on investors' perception of management's reporting credibility.

2.1.5 Interaction between Accounting Standard and Expanded Auditor Reporting

Existing research also suggests an interactive effect between accounting standard type and expanded auditor reporting on investors' credibility assessments. Experimental evidence suggests that management's proposed accounting treatments become more conservative under a principles based accounting standard when the auditor is committed to capturing the underlying economics of the transaction (Jamal and Tan 2010), which implies that the quality of management's reporting decisions is dependent upon sufficient monitoring. Additional evidence suggests that auditor decisions in the financial preparation process were also improved by increased monitoring from audit committees, especially when there is a lack of authoritative guidance in accounting standards (Ng and Tan 2003).

Evidence on principles vs. rules based accounting standards suggests that monitoring by strong enforcement regimes is necessary to ensure high quality financial reporting (Holthausen 2009). Similarly, evidence suggests that strong enforcement regimes and strong investor protections were necessary for firms to gain the following benefits associated with the adoption of IFRS: lower cost of capital and increased liquidity (Daske et al. 2008), improvements in analyst forecast accuracy (Byard et al. 2011), increases in foreign investment (Khurana and Michas 2011; Yu 2010), and higher quality financial reporting (Bushman and Piotroski 2006). Additionally, Ball et al. (2003) identify a sample of four East Asian countries that have high quality accounting standards but simultaneously exhibit institutional structures that promote lower quality financial reporting. Firms in these countries exhibit lower quality financial reporting, despite the use of high quality accounting standards. Collectively, this evidence

suggests that the type of accounting standard utilized by a country is not sufficient to ensure high quality financial reporting. It is necessary to also have appropriate regulatory and monitoring pressures on management. Preliminary evidence also suggests that the increased subjectivity in the application of principles based accounting standards may require stronger enforcement mechanisms (Jamal and Tan 2010; Ng and Tan 2003), and the successful implementation of IFRS requires a strong regulatory environment (Daske et al. 2008; Holthausen 2009; Ball et al. 2003; Byard et al. 2011; Khurana and Michas 2011; Yu 2010).

Therefore, I expect that the additional monitoring provided by the emphasis of matter paragraphs to have an interactive effect under principles based accounting standards. However, the evidence on expanded auditor reporting suggests that the additional emphasis of matter paragraphs could either decrease reporting credibility (salience hypothesis) or increase reporting credibility (accountability hypothesis). These alternative hypotheses lead to different predictions regarding the interaction between emphasis of matter paragraphs and the type of accounting standard (e.g., rules based vs. principles based). If the expanded auditor reporting increases the salience of risks, the auditor reporting may have a stronger effect under rules based accounting standards than under principles. As stated in Hypothesis 1, principles based accounting standards are expected to result in lower credibility, which can be attributed to the increased risks associated with the application of principles based accounting standards. Rules based accounting standards should effectively constrain accruals based earnings management (Ewert and Wagenhofer 2005) which is expected to result in higher perceived credibility under rules. However, rules may cause investors to become complacent in understanding the risk associated with financial reporting. Therefore, highlighting the salience of these financial reporting risks may have a greater effect under rules.

Alternatively, if the expanded auditor reporting acts as an accountability pressure, then the effects of this auditor reporting may be stronger under principles. If rules based standards are able to constrain accruals based earnings management (Ewert and Wagenhofer 2005), then the effects of the additional accountability pressures created by expanded auditor reporting may not incrementally effect perceived credibility because reporting credibility is already expected to be higher under rules. However, reporting credibility is expected to be lower under principles based standards because of the subjectivity associated with their application (see H1), and existing evidence suggests that monitoring mechanisms are necessary to ensure the appropriate application of principles based standards (Jamal and Tan 2010; Ng and Tan 2003). Therefore, if expanded auditor reporting acts as an accountability pressure, the effects should be stronger under principles.

Due to the conflicting predictions of the effects of audit reporting, I am unable to predict a directional effect of the hypothesized interaction between accounting and auditing standards. Therefore, I test the following null hypothesis:

H3: The interaction between accounting standard type and expanded audit reporting will have no effect on investors' perception of management's reporting credibility.

3. RESEARCH DESIGN

This chapter documents the methodology used to test the hypotheses in this study. I first introduce the research design and the operationalization of the independent variables. In the second section, I described the measurements of the dependent variables of interest. The third section describes the participants included in my sample. The final section describes the experimental procedures.

3.1 Research Design and Independent Variables

The study utilized a pre-test, treatment, and post-test experimental design with a 2x2 between subjects manipulation of the following independent variables: type of accounting standard utilized for revenue recognition and level of audit reporting. The study was designed to examine the effects of accounting standard type and expanded auditor reporting on the decisions of nonprofessional investors. The instrument was adapted from Mercer (2005), who utilized a similar design to examine the effects of management's disclosure policy on investors' perceptions of management's reporting credibility. In this study, accounting standard type is manipulated as either principles or rules based. Auditor reporting is manipulated by inclusion or exclusion of the proposed emphasis of matter paragraphs that discuss areas of management's financial statements which are subject to higher risk of misstatement. Targeted observations for each cell were approximately 30 participants, with actual observations shown in the table below.

Emphasis of matter paragraphs	Accounting Standard	
	Principles	Rules
Included	57	43
Excluded	51	45

3.2 Dependent Variables

I measured investors' perceptions of management credibility using two alternative measures. Consistent with Mercer (2005), the primary dependent variable is the change in the participants' perceived credibility of management's reporting. Credibility was measured with a scale developed by Mercer (2005), which is adapted from McCroskey (1966) and Leathers (1992). The construct of management's reporting credibility is comprised of both management's competence and trustworthiness in financial reporting. Each sub-construct was measured by three previously validated questions (Mercer 2005). To ensure the questions consistently measure a common construct, I assessed the reliability of the scales. The Cronbach's alpha is 0.799, which is consistent with Mercer (2005). A credibility composite score was then formed by summing the participants' responses to the individual questions. The change in credibility was calculated as the difference between the second and first assessments of credibility.

In addition to a direct measure of reporting credibility, Mercer (2004) suggests that indirect measures of management's reporting credibility provides insight into the economic significance of credibility revisions. Common indirect measures of credibility include stock price revision (e.g. Brown-Liburd et al. 2012; Lopez et al. 2009), anticipated trading volume (e.g. Brazel et al. 2012), and willingness to rely on future reporting (e.g. Mercer 2005). Therefore, I also assessed indirect measures of management's reporting credibility. Participants provided an estimate of the stock trading price of the company directly prior to the company's earnings announcement, and they also provided a revised stock price following the manipulations (Lopez et al. 2009; Brown-Liburd et al. 2012). The magnitude of the stock price revisions will serve as

a secondary dependent variable, and it is used to verify that the observed changes in credibility have an effect on the assessed value of the company's stock⁸.

I also assessed eight additional attributes of the company's financial reporting and information environment (Lopez et al. 2009), which include the risk that the financial statements are materially misstated, the risk of future restatement, the company's risk premium, cost of capital, sustainability of earnings, earnings predictability, information asymmetry, and financial statement transparency. The measures of these attributes are consistent with Lopez et al. (2009), who suggest that these attributes mediate the relationship between internal control audit reports and the magnitude of stock price revisions. Therefore, these variables were collected as potential control variables for examining the effects of my independent variables on the magnitude of stock price revisions.

To ensure that the participants' assessments of credibility have significant consequences on investors' decisions, I followed Mercer (2005) and considered if changes in perceived credibility of management's reporting also affect the participants' willingness to rely on future financial disclosures and reporting provided by management. This additional assessment was made because previous research suggests that investors are more likely to rely on information provided by managers who are perceived to be highly credible (Hirst et al. 1999; Williams 1996) and that management establishes a reputation based on previous disclosures (Williams 1996). Following Mercer (2005), participants received a copy of management's earnings announcement for the next quarter, and they assessed their willingness to rely on that announcement when

⁸ In supplemental analyses discussed in Section 4.6.2, I consider if accounting standard type and expanded auditor reporting affect investors' willingness to rely on subsequent earnings announcements..

determining expected earnings for a subsequent quarter⁹. Consistent with Mercer (2005), this was a positive news earnings announcement because previous research suggests that reporting credibility is important for enhancing the believability of positive news forecasts and disclosures from management (Williams 1996).

The results of the hypothesis testing discussed in Chapter Four considers the effects of the experimental manipulations on both the direct assessment of management's reporting credibility and also the indirect assessment of stock price revision. Additionally, I perform supplemental analyses on the assessments of the company's financial reporting and information environment and investors' willingness to rely on future earnings announcements.

3.3 Sample

To test the hypotheses, an on-line experiment was conducted with nonprofessional investors, who were recruited with the assistance of Qualtrics Labs, a professional survey firm. The use of on-line methods to recruit subjects is an emerging technique utilized in various disciplines included accounting (e.g. Brown et al. 2011; Rennekamp 2012; Brown-Liburd et al. 2012; Lambert et al. 2012; Brazel et al. 2012), management (e.g. Long et al. 2011) and marketing (e.g. Hagtveldt 2011; Mohr et al. 2012). Nonprofessional investors are defined as individuals 18 years of age or older that purchased stock within the past 6 months, do not purchase stock as part of their employment responsibilities, and are not CPAs. This is consistent with existing research that uses survey firms to obtain nonprofessional investors (Brown-Liburd et al. 2012; Brazel et al. 2012; Lambert et al. 2012). Participants were directly invited to participate in the experiment by Qualtrics, and they were compensated for the completed

⁹ This is intended to supplement my primary dependent variable, which is the change in investors' perceptions of management's reporting credibility. Mercer (2004) suggests that investors' willingness to rely on management's reporting is an indirect measure of reporting credibility, and my supplemental analysis will be an additional robustness test to consider the economic significance of investors' credibility revisions.

responses. Qualtrics verified that the individuals met the criteria of nonprofessional investors, using information previously supplied to Qualtrics by the participants, before being invited to participate in the survey. Once the participants provided their informed consent to complete the experiment, they also had to reaffirm that they met the criteria of nonprofessional investors by answer questions about their recent investing activity and current employment. If they did not meet the criteria of a nonprofessional investor, their participation in the survey was terminated.

The primary sample contains responses from 196 individuals. Table 1 provides demographic data for the participants. The mean age is 45 years, and males represent 59% of the sample. Approximately 70% have at least a bachelors' degree, and approximately half have an annual income between \$50,000 and \$100,000. The mean investing experience is 11 years, and the mean number of companies that participants evaluate annually by reading the financial statements is 7.38. The demographic information suggests that participants in my preliminary sample have sufficient knowledge to complete the experimental procedures. Additional analyses, further discussed in Chapter 4, utilized a subset of 140 individuals from the full sample of 196 participants. Table 1 also provides demographic data for the participants in this smaller sample. T-test comparisons, also presented in Table 1, between the full sample and the subset of participants suggest that the demographic attributes are similar between both groups.

3.4 Experimental Instrument

Participants completed an investment case, modified from Mercer (2005), which asks the participants to evaluate management's reporting credibility for a hypothetical software development company. Figure 1 contains a flow chart which depicts the experimental tasks.

In Step 1, participants provided informed consent and reaffirmed that they possessed the required attributes of nonprofessional investors. Then, they received a set of a company's prior

year financial statements, an overview of the company, and the consensus forecast for first quarter of the current fiscal year. Then, in Step 2, participants provided an initial estimate of the company's stock price (Appendix A) and evaluated the credibility of management's reporting (Appendix B).

Next, in Step 3, participants received a press release containing the quarterly earnings announcement, which indicated that the company experienced a small, positive forecast error (Appendix C). The press release also included information to suggest that the company had an incentive to manage earnings in order to achieve its actual earnings¹⁰. The participants also obtained a description of the company's accounting policy for revenue recognition, indicating that the implementation guidance for the relevant accounting standard for revenue recognition includes either "bright-lines," or qualitative factors intended to capture the economic substance of transactions (Appendix D). The revenue standard manipulations are based on previous research which manipulates accounting standards to be either principles or rules based (Cornell et al. 2011; Kadous and Mercer 2011, 2012).

Participants also obtained a copy of the audit report for the previous year's financial statements (Appendix E). Expanded auditor reporting is manipulated through the presence or absence of the proposed emphasis of matter paragraphs in the audit report, which accompanies the prior year financial statements¹¹. The paragraph is adapted from the CAQ (2011), and it

¹⁰ The press release indicates that earnings increased because the company was able to recognize previously deferred revenue. It also suggests that the company is preparing for an equity offering, which provides an incentive for the company to potentially manage earnings. This will ensure that the presence of management's incentives is held constant across each of the experimental cells and that all participants have reason to doubt the credibility of management's reporting. The salience of management's incentive also enables me to draw inferences regarding how less egregious forms of earnings management, as opposed to restatements (Cornell et al. 2011; Kadous and Mercer 2011, 2012; Donelson et al. 2012; Mergenthaler 2009), affect investors' perceptions of management's reporting credibility.

¹¹ The content of the paragraph is held constant for both accounting standard treatments, and it discusses the company's accounting policies for revenue recognition to parallel the accounting standard manipulations.

states that revenue recognition is subject to increased risk of material misstatements and that the auditor performed appropriate procedures to address those risks. It also refers to the appropriate footnote which discusses management's policy for revenue recognition.

In Step 4, the participants provided a second assessment of management's reporting credibility (Appendix F). Participants also forecasted a revised stock price (i.e. Brown-Liburd et al. 2012; Lopez et al. 2009), and they provided their perceptions of attributes of the company's financial reporting and information environment (Appendix G). The measures of the company's attributes are consistent with Lopez et al. (2009). Next, in Step 5 they indicated the likelihood that they will rely on subsequent earnings announcements to form future earnings forecasts (Appendix H), which is similar to Mercer (2005). Finally, in Step 6, they completed comprehension and manipulation check questions (Appendix I) and demographic questions (Appendix J). The demographic questions are adapted from Elliott et al. (2007).

4. DATA ANALYSIS

This chapter provides an account of the data analysis conducted for this study. In the first section I consider participants' comprehension of relevant facts related to the investment case. In the second section, I discuss the preliminary analysis used to assess the assumptions underlying the various statistical tests. The next five sections detail the tests of my hypotheses. The final section provides supplemental analysis conducted to further explore the nature of my results. These analyses first consider if attributes of the company's financial reporting and information environment mediate changes in reporting credibility (Lopez et al. 2009). The second analysis considers the impact of credibility revisions on investors' willingness to rely on subsequent earnings announcements to form an earnings forecast (Mercer 2005). The third analysis investigates the impact of using a limited sample in tests that use price revision as the dependent variable

4.1 Comprehension Checks

In this study, participant completed an investment analysis case that examines investors' perceptions of management's reporting credibility when there is an incentive for earnings management. Three comprehension check questions were included in the experiment to determine if the subjects encoded relevant details. Participants reported their agreement with statements indicating that the company had a positive forecast error, an incentive to manage earnings, and that the unexpected earnings were attributed to revenue related to a new product (Appendix H). Responses were reported along a 9 item scale with end points anchored at 1 = strongly disagree and 9 = strongly agree, and a higher response indicated stronger encoding of the relevant details. The responses to these three questions were averaged to form a comprehension factor, which represents the degree to which participants understood the relevant

facts of the case¹². Thirty-three individuals (approximately 17% of the full sample) reported an average of less than 5 (i.e., the midpoint on the scale) on the comprehension factor. The failure rate of 17% on these screens is comparable to, or less than, existing research using electronic survey methods (Oppenheimer et al. 2009; Andrews et al. 2003), including Qualtrics (e.g. Brown-Liburd et al. 2012). These 33 people are included in the analyses discussed in the remainder of the chapter. As a robustness test, I reran my analyses excluding these participants, and inferences remained unchanged.

4.2 Preliminary analysis

I utilize an analysis of variance (ANOVA) model to test the hypothesized effects of the categorical variables, representing accounting standard type and expanded audit reporting, on the study's dependent variables. This preliminary analysis considers whether the data meet the three basic assumptions of the ANOVA model: independent observations, normal distribution of the dependent variables, and homogeneity of variance. The first assumption of independent observations is addressed by the experimental design, which ensured random assignment of the experimental manipulations to each of the participants. The second assumption of the normal distribution of the dependent variables was initially investigated by examining bloxplots and normal probability plots of the data, and this investigation raised concerns about the normality of the dependent variables: credibility revision and stock price revision. Therefore, I performed the Shapiro-Wilk test, which is a statistical analysis of normality. The results suggest that both dependent variables fail to meet the second assumption of normality. Additionally, the third

¹² The correlation between knowledge of a positive forecast error and the knowledge that the error was attributed to revenue from a new product is 0.480. The correlation between knowledge of a positive forecast error and knowledge that there was an incentive to manage earnings is 0.251. The correlation between incentive to manage earnings and knowledge that the error was attributed to revenue from a new product is 0.349. Each pair of correlations are significant ($p < 0.000$).

assumption, which is homogeneity of variances, was considered by examining the Levene's test statistics for both of the dependent variables. The analysis suggests equal variances for the direct measure of credibility, but it does not suggest equal variances for the indirect measure of stock price revision.

This preliminary analysis suggests that the data may not meet all the assumptions of the ANOVA model. While the model is considered robust of modest violations of the assumptions (Ferguson 1981, 245), the violations observed through the Shapiro-Wilk and Levene's tests led me to supplement my analysis with the Mann-Whitney rank-sum test, which is a nonparametric test that makes no assumptions regarding the distribution of the data (Mann and Whitney 1947; Wilcoxon 1945).

Consideration was also given to the dispersion of the assessed stock price revision. Untabulated descriptive statistics of the stock price revision for all 196 participants indicate that the mean revision is 1,442.37% with a standard deviation of 16,348.29%. The magnitude and dispersion of the stock price revision suggests that some participants in the full sample did not understand the economics of forecasting initial and revised stock prices. Therefore, I limited the sample used to test my hypotheses with price revision as the dependent variable to include only participants that provided a stock price return with an absolute value of 50% or less. This resulted in a sample of 140 participants for the hypothesis tests in which price revision is the dependent variable. I will refer to this group of 140 participants as the "restricted sample." Additionally, I re-examined the boxplots and normal probability plots of the data for this restricted sample, and this investigation also raised concerns about its normality. The Shapiro-Wilk test suggests that the stock price revision in this restricted sample does not meet the assumption of normality. Levene's test statistics, however, suggests equal variances. Therefore, I

again supplement the ANOVA analysis of stock price revision with the non-parametric Mann-Whitney rank-sum test.

The following sections of Chapter 4 discuss the tests of the study's hypothesis, using two measures of reporting credibility. I use the full sample of 196 participants to test the effects of the independent variables on credibility revisions. To test the hypotheses with stock price revision as the dependent variable, I use the restricted sample of 140 participants. .

4.3 Hypothesis 1

Hypothesis 1 examines the effects of accounting standard type on investor's perceptions of managements' reporting credibility, when there is an incentive to manage earnings. Specifically, it predicts that management's reporting credibility will be lower under principles based accounting standards than under rules based accounting standards. Tables 2 – 5 reflect the results of testing for the hypotheses. Figures 2 and 3 also graphically display the results.

4.3.1 Hypothesis 1 using Credibility Revision

My primary assessment of reporting credibility is the scale developed by (Mercer 2005). Participants assessed reporting credibility before and after receiving the experimental manipulations, and the change in the assessments serves as my primary dependent variable. Table 2, Panel A presents the mean credibility revisions, standard deviations, and cell sizes for each of the treatment groups. Table 2, Panel B presents the ANOVA results with Audit Report representing the audit report manipulation and Accounting Standard representing the accounting standard manipulation. The ANOVA shows a non-significant main effect of accounting standard ($F= 0.181$, one-tailed $p = 0.336$). Therefore, these results, using this measure of reporting credibility, do not support H1. This result is consistent with the results from the Mann-Whitney U test shown in Table 3, Panel A ($Z= -0.150$, one-tailed $p = 0.441$). This suggests that principles

based accounting standards, given the presence of an incentive to manage earnings, do not result in a decrease in investors' perceptions of management's reporting credibility.

4.3.2 Hypothesis 1 using Stock Price Revision

I also conducted an analysis of Hypothesis 1 using stock price revision, an alternative measure of reporting credibility, as the dependent variable. Price revision is often considered to be an indirect measure of reporting credibility (Mercer 2004), and it could allow for inferences about the potential economic significance of the results. Table 4, Panel A presents the mean stock price revisions, standard deviations, and cell sizes for each of the treatment groups. Table 4, Panel B presents the ANOVA results with Audit Report representing the audit report manipulation and Accounting Standard representing the accounting standard manipulation. The ANOVA ($F = 0.002$, one-tailed $p = 0.482$) and the Mann-Whitney U test presented in Table 5, Panel A ($Z = -0.227$, one-tailed $p = 0.391$) both show a non-significant main effect of accounting standard. These results are consistent with the primary measure of reporting credibility.

Collectively the results suggest that there is no difference in reporting credibility under principles and rules based accounting standards, given the presence on an incentive to manage earnings.

Thus, the results do not support H1.

4.4 Hypothesis 2

Hypothesis 2 examines the effects of expanded auditor reporting on investors' perceptions of management's reporting credibility. Because of the alternative directional predictions of the salience and accountability hypotheses, it is stated in the null. Specifically, it predicts no effect of expanded auditor reporting on investors' perceptions of reporting credibility.

4.4.1 Hypothesis 2 using Credibility Revision

The ANOVA with credibility revision as the dependent variable, which is presented in Table 2, Panel B, shows a significant main effect of audit reporting ($F = 3.481$, two-tailed $p = 0.064$). This result is consistent with the results from the Mann-Whitney U test shown in Table 3, Panel B ($Z = -1.725$, one-tailed $p = 0.084$). The mean credibility revision for the inclusion (exclusion) of the additional emphasis of matter paragraphs is -0.21 (1.24). Therefore, credibility revisions are lower with the inclusion of the emphasis of matter paragraphs. These results suggest that the additional emphasis of matter paragraphs increase the salience of the risks associated with management's financial statements, which therefore decrease investors' perceptions of management's reporting credibility.

4.4.2 Hypothesis 2 using Stock Price Revision

I also conducted an additional analysis of Hypothesis 2 using stock price revision, an alternative measure of reporting credibility, as the dependent variable. The ANOVA presented in Table 4, Panel B ($F = 6.142$, two-tailed $p = 0.014$) and the Mann-Whitney U test provided in Table 5, Panel B ($Z = -1.667$, two-tailed $p = 0.096$) each also show a significant main effect of expanded auditor reporting. The mean price revision for the inclusion (exclusion) of the emphasis of matter paragraphs is 2.04% (8.61%). Therefore, the magnitude of the price revision is lower when the emphasis of matter paragraphs are included, which also suggests that the paragraphs increase the salience of risks associated with management's financial reporting. These results are also consistent with the primary measure of reporting credibility. Collectively, the evidence suggests that the salience of risks resulting from expanded auditor reporting results in lower assessments of management's reporting credibility. Thus, the results support the "salience hypothesis".

4.5 Hypothesis 3

Hypothesis 3 predicts an interactive effect of accounting standard and auditor reporting on perceived reporting credibility. Since *ex ante* directional effects of the interaction could not be predicted, the hypothesis is stated in the null. Specifically, it predicts no interaction between accounting and audit standards.

4.5.1 Hypothesis 3 using Credibility Revision

The ANOVA with credibility revision as the dependent variable, provided in Table 2, Panel B, shows a non-significant interaction between audit report and accounting standard ($F = 0.860$, two-tailed $p = 0.355$). However, I also performed planned contrasts to assess the interactive effect of accounting and auditing standards. Under principles based accounting standards, the contrasts presented in Table 2, Panel C show no significant difference in the means of credibility revisions between the auditor reporting treatments ($F = 0.490$, two-tailed $p = 0.485$). This result is also consistent with the Mann-Whitney U test shown in Table 3 Panel C ($Z = -0.800$, two-tailed $p = 0.424$). Under rules based accounting standards, however, the contrasts presented in Table 2, Panel C show a significant difference in the means of credibility revisions between the audit reporting treatments ($F = 3.433$, two-tailed $p = 0.061$). This result is also consistent with the Mann-Whitney U test shown in Table 3, Panel D ($Z = -1.746$, two-tailed $p = 0.081$). Therefore, the results of the planned contrasts and the nonparametric Mann-Whitney U test suggest that effects of the inclusion of the additional emphasis of matter paragraphs are dependent on the type of accounting standard utilized by the company. Given the use of rules based standard, the mean credibility revision for the inclusion (exclusion) of the additional emphasis of matter paragraphs is -0.44 (1.82). This suggests that the effect of expanded auditor report to lower reporting credibility is observed only under rules based accounting standards.

4.5.2 Hypothesis 3 using Stock Price Revision

I also conducted a supplement analysis of Hypothesis 3 using the alternative measure of stock price revision. The ANOVA presented in Table 4, Panel B shows a non-significant interaction between audit report and accounting standard ($F = 1.846$, two-tailed $p = 0.117$). Although the ANOVA model does not show a significant interaction, I also performed planned contrasts with both parametric and nonparametric tests. Under principles based accounting standard, the ANOVA shown in Table 4, Panel C ($F = 0.646$, two-tailed $p = 0.423$) and the Mann-Whitney U test presented in Table 5, Panel C ($Z = -0.074$, two-tailed $p = 0.941$) both show no significant differences between the inclusion and exclusion of the emphases of matter paragraphs. However, under rules based standards, the ANOVA shown in Table 4, Panel C ($F = 7.148$, two-tailed $p = 0.008$) and the Mann-Whitney U test presented in Table 5, Panel D ($Z = -2.749$, two-tailed $p = 0.013$) both show significant differences between the audit report treatments. Under rules based standards, the mean price revision for the inclusion (exclusion) of the emphasis of matter paragraphs is 0.12% (10.48%). Therefore, under rules based standards, the magnitude of the price revision is lower when these emphasis of matter paragraphs are included. This also suggests that the paragraphs increase the salience of risks associated with management's financial reporting.

These results are consistent with the primary measure of reporting credibility. They are also graphically presented in Figures 2 and 3. The plots suggest that there is a significant difference between the inclusion and exclusion of the emphasis of matter paragraphs under rules based standards, but not under principles. Collectively, this evidence provides some support for an interaction effect of accounting and auditing standards on investors' perceptions of management's reporting credibility.

4.6 Supplemental Analyses

The following section details the results of three supplemental analyses performed on the data from this study. The first analysis considers if attributes about the company's financial reporting information environment mediates the relationship between expanded audit reporting and each measure of reporting credibility. The second analysis considers if changes in perceived reporting credibility affect investors' willingness to rely on future earnings announcements when forming an earnings forecast. The third analysis investigates the impact of using a limited subsample in testing price revision as the dependent variable.

4.6.1 Consideration of Financial Reporting and Information Environment

Previous experimental research suggests that perceptions of the company's financial reporting and information environment can mediate the relationship between expected investor's stock price revisions and manipulated variables. For robustness purposes this supplemental analysis considers if these attributes are able to mediate the relationship between expanded auditor reporting and both measures of reporting credibility: credibility revision and stock price revision. Following Lopez et al. (2009), I measured eight attributes, which include risk that the financial statements are materially misstated, the risk of future restatement, the company's risk premium, cost of capital, earnings sustainability, earnings predictability, information asymmetry, and financial statement transparency. Consistent with (Lopez et al. 2009), I individually considered each attribute as potential mediating variables in the analysis.

First, I consider the mediating effects of these attributes when credibility revision is the dependent variable¹³, and I follow the procedures outlined by Baron and Kenny (1986). The results of the hypothesis testing in sections 4.3 and 4.4 suggest that expanded auditor reporting

¹³ Below, I separately consider if these attributes mediate the relationship between expanded auditor reporting and stock price revisions.

has a significant effect on both measures of reporting credibility. No effect, however, is observed for accounting standard type. Therefore, the following mediation analyses will only consider if the company attributes mediate the relationship between expanded auditor reporting and credibility revision. Step one of the analysis tests for a significant relationship between the independent variable and the dependent variables. Table 2, Panel B shows the significant effect of expanded audit reporting ($F = 3.481$, two-tailed $p = 0.064$) on credibility revisions. Step two of the analysis tests for a significant effect of the independent variables on the expected mediating variable. Considering the full sample, Table 6 shows the results of the individual ANOVA models with the respective company attributes as the dependent variable and audit report as the independent variable. The results of the analysis suggest that audit report did not significantly influence variation in any of the company attributes. This lack of significance suggests that the attributes will not mediate the relationship between expanded audit reporting and credibility revisions. Step three of the analysis tests for a significant effects of the mediator variables on the dependent variables. Table 7 provides the results of the individual ANOVA models with credibility revision as a dependent variable and the company attributes as the independent variables. The results suggest that risk of misstatement ($F = 3.404$, two-tailed $p = 0.001$), risk of restatement ($F = 2.698$, two-tailed $p = 0.002$), earnings sustainability ($F = 1.977$, two-tailed $p = 0.060$), earnings predictability ($F = 2.883$, two-tailed $p = 0.007$), and financial statement transparency ($F = 2.503$, two-tailed $p = 0.013$) are significant predictors of credibility revision. The fourth step of the analysis tests if the significance of the independent variable on the dependent variable is mitigated by the inclusion of the mediating variables in the model. Table 8 provides the results of the individual ANOVA models with the company attributes individually included as covariates. With the exception of earnings predictability, the inclusion

of the company attributes did not mitigate the significant main effect of expanded audit reporting. The results of the mediation analysis suggest the company attributes do not mediate the relationship between expanded audit reporting and credibility revision.

I also examined the pair-wise correlations among the eight variables, and 19 of the 28 pairs were significantly correlated. Table 10 contains the correlation matrix for the data of the full sample. As an additional robustness check, I also performed a factor analysis on the variables. Table 12 contains the results of the factor analysis for the full sample; I present only the factors with eigenvalues greater than 1. Factor 1 contains risk of misstatement, risk of restatement, risk premium, cost of capital, and information asymmetry. Factor 2 contains earnings predictability, earnings sustainability, financial statement transparency, and information asymmetry. The eigenvalues of the factors are 2.667 and 2.609 respectively, and the correlation between both factors is approximately zero. I then performed the mediation analysis to consider if the factors mediate the relationship between audit report and credibility revision. Table 13, Panel A shows the results of the analysis for Factor 1, and Panel B presents the results for Factor 2. Consistent with the results from analyzing the individual measures of the company attributes, neither Factor 1 nor Factor 2 mediates the relationship between expanded audit reporting and credibility revision.

Next, I perform same mediation analysis to determine if the company attributes mediate the relationship between expanded audit reporting and stock price revision. Table 4, Panel B shows the significant effect of expanded audit reporting ($F = 6.142$, two-tailed $p = 0.014$) on stock price revision. Considering the restricted sample, Table 6 shows with results of the individual ANOVA models with the respective company attributes as the dependent variable and audit report as the independent variable. The results of the analysis suggest that audit report did

not significantly influence any of the company attributes. This lack of significant suggests that these attributes may not mediate the relationship between expanded audit reporting and credibility revisions. Table 7 results of the individual ANOVA models with stock price revision as a dependent variable and the company attributes as the independent variables. The results suggest that risk of misstatement ($F = 3.443$, two-tailed $p = 0.001$) and financial statement transparency ($F = 2.201$, two-tailed $p = 0.038$) are significant predictors of stock price revision. Table 9 provides the results of the individual ANOVA models with the company attribute included as a covariate. Their inclusion, however, did not mitigate the significant main effect of audit report, and the results suggest that the individual company attributes do not mediate the relationship between expanded audit reporting and price revision.

I also examined the pair-wise correlations among the eight variables, and 20 of the 28 pairs were significantly correlated. Table 11 contains the correlation matrix for the data. As an additional robustness check, I also performed a factor analysis on the variables. Table 12 contains the results of the factor analysis for the restricted sample; I present only the factors with eigenvalues greater than 1. Factor 1 is contains risk of misstatement, risk of restatement, risk premium, cost of capital, and information asymmetry. Factor 2 contains earnings predictability, earnings sustainability, financial statement transparency, and information asymmetry. The eigenvalues of the factors are 2.889 and 2.610 respectively, and the correlation between both factors is approximately zero. I then performed the mediation analysis to consider if the factors mediate the relationship between audit report and credibility revision. Table 14, Panel A shows the results of the analysis for Factor 1, and Panel B presents the results for Factor 2. Consistent with the results from analyzing the individual measures of the company attributes, neither Factor

1 nor Factor 2 mediates the relationship between expanded audit reporting and credibility revision.

Collectively, the results of the analyses, which consider both measures of reporting credibility, suggest that the attributes measured by Lopez et al. (2009) did not effectively mediate the relationships between expanded audit reporting and the measures of reporting credibility.

4.6.2 Consideration of Willingness to Rely on Earnings Announcements

The second supplemental analysis follows Mercer (2005), who suggests that credibility revisions can affect investors' willingness to rely on earnings announcements when forming future earnings forecasts. This analysis provides additional insights into the economic significance of credibility revisions. Table 15, Panel A provides the cell means and standard deviations of investors' willingness to rely on management financial reporting. Table 15, Panel B provides the ANOVA model to test the main and interactive effects of accounting standard type and expanded auditor reporting on investors' willingness to rely. The ANOVA shows insignificant main effects of accounting standard ($F = 0.663$, two-tailed $p = 0.201$) and audit report ($F = 0.435$, two-tailed $p = 0.510$). However, the results suggest a significant interaction ($F = 3.731$, two-tailed $p = 0.055$). Untabulated planned contrasts suggest that the inclusion of the emphasis of matter paragraphs lower investor's willingness to rely under rules based accounting standards ($F = 3.049$, two-tailed $p = 0.082$), but not under principles ($F = 0.900$, two-tailed $p = 0.344$). This interaction is consistent with the results using both credibility revision and stock price revision.

4.6.3 Additional Robustness Tests

I also considered two additional robustness tests to investigate the impact of using a limited subsample in testing price revision as the dependent variable.. First, I used the restricted

sample of 140 participants to test the hypotheses with credibility revision as the dependent variable. The smaller sample size reduces the statistical power of the ANOVA analyses, which mitigates the significance of the observed effects for the parametric and non-parametric tests. However, the inferences are directionally consistent with the results of using the full sample of 196 participants. Second, I used the full sample of 196 participants to test the hypotheses when stock price revision is the dependent variables. The statistical analyses are heavily influenced by the dispersion in the stock price revision. The results of the parametric and non-parametric tests are not significant.

5. DISCUSSION, CONTRIBUTIONS AND LIMITATIONS

The final chapter of the paper contains three sections. In the first section, I discuss the implications of the statistical analyses presented in Chapter Four. Then, in the second section, I highlight of contributions this study makes to extant literature. Finally, in the third section, I identify aspects of the research design that may limit the generalizability of these findings, and discuss opportunities for future research.

5.1 Discussion

This study considers the effects of two potential changes in the accounting and the auditing regulatory environments. Specifically, it investigates the effects of accounting standard type and expanded audit reporting on investor's perceptions of management's reporting credibility. The results suggest that the inclusion of the proposed emphasis of matter paragraphs effectively communicate risks associated with managements' financial reporting. The study also provides limited evidence to suggest that the effects of expanded auditor reporting are present only under rules based accounting standards. The results do not suggest, however, that differences in accounting standard type effect perceived credibility. The effects are observed for both dependent variables: credibility revision and stock price revision. The results also appear to be robust to the additional analyses performed. Additionally, the study provides limited evidence to suggest that credibility revisions may mediate the interactive effect of accounting standard and expanded auditor reporting on investor's willingness to rely on earnings announcements when forming earnings forecasts.

5.1.1 Hypothesis 1

The first hypothesis predicted that investor's perceptions of management's reporting credibility would be lower under principles based accounting standard the under rules based

accounting standards. The results from the statistical analyses performed in Section 4.3 suggest no difference in perceived credibility between the two types of accounting standards, given the presence of an incentive manage earnings. This hypothesis is a direct response to the call for studies to investigate the effects of accounting standard type of less egregious forms earnings management (Mergenthaler 2009), and it extends the existing literature, which currently only examines the effects of accounting standard type on litigation decisions (Kadous and Mercer 2011, 2012; Cornell et al. 2011; Donelson et al. 2012) and SEC enforcement actions (Mergenthaler 2009) subsequent to restatements. The lack of significance appears be consistent with the conclusion from archival research which suggests that there was no difference in the attributes of Form F-20 filings after the elimination of the requirement for cross-listed companies to reconcile their income and equity balances from IFRS to US GAAP (Kim et al. 2011; Jiang et al. 2010).

Additionally, Bailey and Sawers (2012) measure the trust that investors have in our financial reporting system, and they suggest that individuals with low trust in our financial reporting system allocate more investment capital to a company that utilizes accounting methods to increase earnings. Similar effects may be present in my study for individuals with low trust of our financial reporting system, but I did not measure participants' trust in the financial reporting system. It is possible that the lack of an effect is attributed to such an omitted variable. Since the existing evidence, including the results of this study, are inconclusive about the effects of accounting standard type on perceived reporting credibility, future research can continue to investigate this relationship.

5.1.2. Hypothesis 2

The second hypothesis predicts that the use of expanded auditor reporting would have either positive or negative effect on perceived reporting credibility. The results suggest that the inclusion of the emphasis of matter paragraphs was able to effectively highlight risks of management's financial reporting. The results were observed for both dependent variables: credibility revision and price revision. Although the effect is observed in this investment case for revenue recognition at a software company, the results of this study may not generalize to instances when the emphasis of matter paragraphs discuss other areas of management's financial statements. The experimental manipulation of the emphasis of matter paragraphs only discussed one aspect, revenue recognition, of management financial statements. Future research can investigate the incremental effects of including multiple aspects of the financial statements within the audit report disclosures. Additionally, investors reviewed the audit report for only one period. The current data does not allow for inference about the long-term effects that the use of these paragraphs have on perceived credibility of management's reporting. It is possible that the information content of these disclosures will dissipate after continued use, especially if the content becomes "boilerplate" and does not vary. The evidence from this study, however, contributes to the existing literature which examines audit report disclosures, and it also provides preliminary evidence to the PCAOB, which is currently considering the required use of the emphasis of matter paragraphs.

5.1.3. Hypothesis 3

The third hypothesis considers the potential interactive effects of accounting and auditing standards on perceived reporting credibility. The results of this study suggest that the effects of expanded auditor reporting are observed only under rules based accounting standards. This result

is contrary to the hypothesized relationship. Ewert and Wagenhofer (2005) suggest that rules based accounting standards should constrain accruals based earnings management. The presence of the “bright-line” rules and the breadth and depth of implementation guidance within US GAAP can serve as an inherent form of monitoring. Figures 2 and 3 suggest that reporting credibility is higher under rules based accounting when the emphasis of matter paragraphs are excluded, but the means are not significantly different. The higher credibility is consistent with the conjecture that rules based standards are a form of monitoring. However, under rules, reporting credibility is significantly reduced once the emphasis of matter paragraphs highlight risks of investors. It is possible that under rules based standards, investors are not as vigilant about understanding the nature of risks associated with financial reporting. This could be supported by existing research which suggests that litigation is more likely after admitted accounting restatements (Donelson et al. 2012; Cornell et al. 2011) under principles based accounting standards. The results of this study, therefore, suggest that the use of the proposed emphasis of matter paragraphs could better inform investors and other stakeholders about the risks associated with management’s financial reporting. A more accurate understanding of these risks should then result in higher quality decision making. These findings will be of particular interest to the PCAOB as it considers the potential changes to the audit reporting model.

5.2 Contributions

This study is of interest to regulatory agencies, which are concurrently considering significant changes to the accounting and auditing standards. The results will inform the SEC and PCAOB about the effects of revisions to their respective standards on investors’ perceptions of financial reporting. Although no significant effects of accounting standard type on investors’ perceptions of management’s reporting credibility were observed in this study, it provides

additional evidence for the existing literature examining principles vs. rules based accounting standards. Previous research suggests that investors are more likely to litigate (Cornell et al. 2011; Donelson et al. 2012) after restatements when companies use principles based accounting standards. This also extends existing management reporting credibility literature (Mercer 2005), which has not yet explored the effects of accounting standard type or expanded auditor reporting on perceived reporting credibility. It also extends existing research which examines the effects of accounting standard type on litigation decisions (Kadous and Mercer 2011, 2012; Cornell et al. 2011; Donelson et al. 2012) and SEC enforcement actions (Mergenthaler 2009) subsequent to restatements. This study provides evidence regarding the influence of principles vs. rules based characteristics of accounting standards on less egregious forms of earnings management than restatements.

Additionally, this study responds to previous suggestions to investigate the effects of possible changes to the audit reporting model to increase the information content of these reports (Church et al. 2008; Gray et al. 2011; Audit Quality Forum 2007) because it provides evidence about a potential change to the existing audit reporting model. The proposed changes to the auditing standard would require the use of emphasis of matter paragraphs to evaluate areas of companies' financial statements that the auditor determines to be subject to an increased management judgment or risk of material misstatement. The results suggest that the inclusion of additional emphasis of matter paragraphs increases the salience of the risk associated with financial reporting, which then leads to a decrease in management's reporting credibility.

5.3 Limitations and Future Research.

The results from this study could be extended by future research. Consistent with previous research, the study uses nonprofessional investors (Cornell et al. 2011; Mercer 2005;

Lopez et al. 2009; Brown-Liburd et al. 2012; Brazel et al. 2012) and the use of online recruiting of nonprofessional investors is an emerging method in the accounting literature (Rennekamp 2012; Brown-Liburd et al. 2012; Brazel et al. 2012; Lambert et al. 2012). Alternative participants for this study include MBA students (Elliott et al. 2007; Mercer 2005; Cornell et al. 2011; Lopez et al. 2009) or members of investment clubs (Elliott et al. 2007). It is possible that these alternative groups could have a different level of financial expertise than the participants recruited from an on-line source, and this possible difference in expertise may result in different investment judgments. Additionally, future research could consider whether the hypothesized relationships exist with other external stakeholders such as professional investors, analysts, or loan officers.

Additionally, the experimental manipulation of accounting standards for revenue recognition reflects only one aspect of a company's financial statements. Future research could consider the effects of accounting standard differences on other areas of a company's financial statements. Finally, the experimental manipulation of the use of additional emphasis of matter paragraphs is only one of the potential revisions to the audit reporting model that is considered by the PCAOB. Future research could also consider how alternative revisions to the existing audit reporting model can affect investors' perceptions of management's reporting credibility.

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Figure 1 – Flowchart of Experimental Procedures

Step 1: Provide informed consent, reaffirm criteria of nonprofessional investors, review company background materials including: company overview, prior year condensed financial statements and consensus earnings forecast.



Step 2: Provide an initial estimate of the company's stock price and an assessment of management's reporting credibility.



Step 3: Review the earnings announcement, audit report (with manipulation) and deferred revenue footnote (with manipulation).



Step 4: Provide updated assessment of management's reporting credibility, determine an updated stock price, and assess additional company attributes.



Step 5: Obtain subsequent earnings announcement and assess the likelihood of relying on the disclosure for forming an earnings forecast.



Step 6: Answer manipulation check questions and demographic questions.

Figure 2

Effects of Accounting Standard Type and Expanded Auditor Reporting on Investors' Perceptions of Management's Reporting Credibility

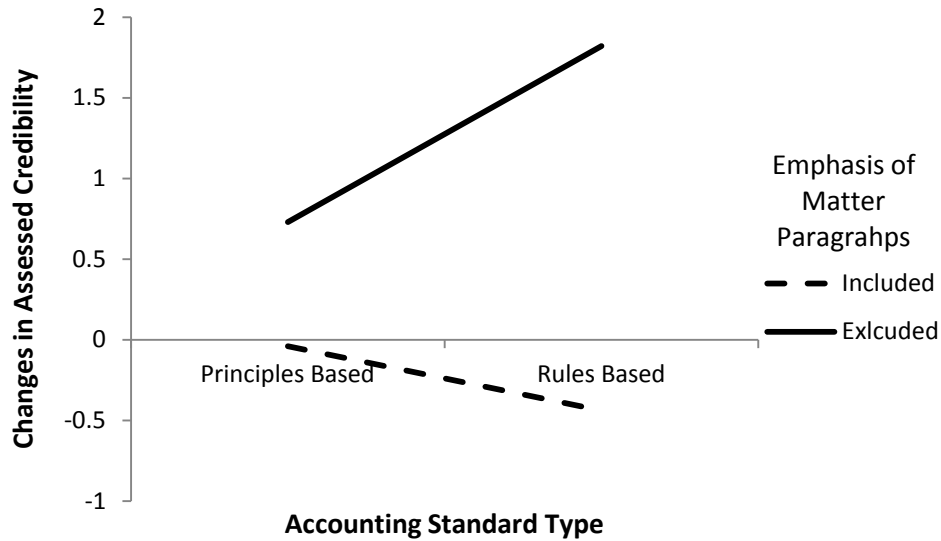
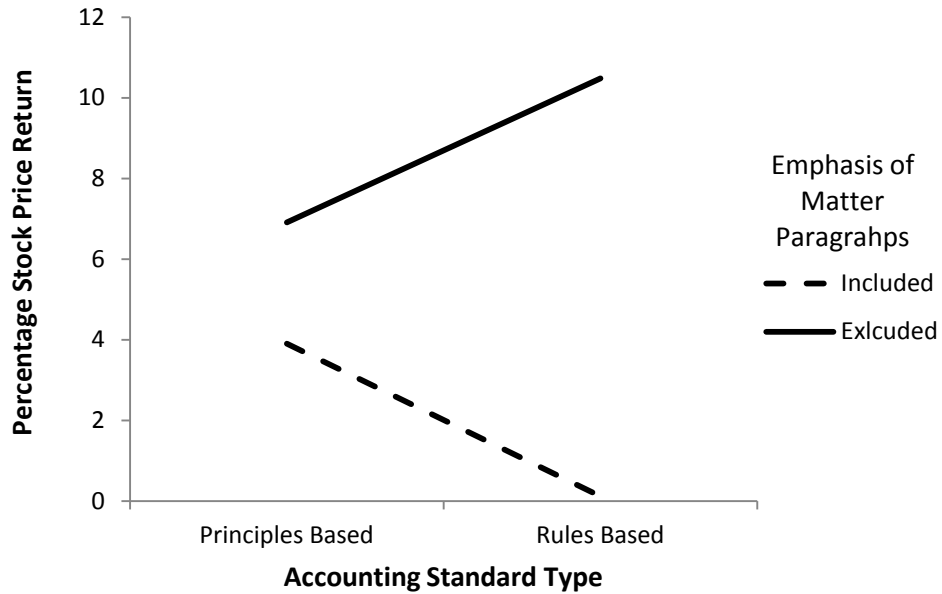


Figure 2 shows the effects of accounting standard type and expanded auditor reporting on management's reporting credibility. Prior to receiving the experimental manipulations, participants provided an initial assessment of management's reporting credibility by evaluating six statements that comprise credibility (Appendix 2). A composite of credibility was formed by summing the responses to the 6 questions. After receiving the experimental manipulations, participants then provided a second assessment of reporting credibility using the same 6 questions. Each participant's change in credibility was calculated by subtracting the initial composite assessment from the second composite assessment.

Figure 3

**Effects of Accounting Standard Type and Expanded Auditor Reporting
on Investors' Stock Price Revisions**



*Figure 3 shows the effects of accounting standard type and expanded auditor reporting on the stock price revision. Prior to receiving the experimental manipulations, the participants provided an initial assessment of stock price. After receiving the experimental manipulations, participants then provided a second assessment of stock price. The change in stock price is calculated as $((Price2 - Price1)/Price1)*100$.*

Table 1
Summary of Participant Demographic Information

Variables	Full Sample (n = 196) Mean (Std. Dev.)	Restricted Sample (n=140) Mean (Std. Dev.)	Comparison t stat (two-tailed p)
Age	45.24 (14.37)	46.42 (14.00)	-0.632 (0.528)
Work Experience	22.10 (12.88)	22.88 (12.62)	-0.547 (0.584)
Investing Experience	11.12 (10.02)	11.77 (10.27)	-0.584 (0.560)
Number of companies evaluated annually by analyzing their financial statements	7.38 (12.98)	8.02 (12.80)	-0.451 (0.652)
Number of annual buy/sell transactions ^(a)	90.97 (1,070.61)	123.63 (1,266.57)	-0.225 (0.799)
Percent of investment portfolio actively traded	28.42 (22.26)	29.01 (22,65)	-0.237 (0.813)
Percent of software companies in portfolio	10.22 (16.02)	10.61 (16.74)	-0.219 (0.827)
Percentage of male participants	59.2	62.1	-0.545 (0.586)
Percentage of participants with at least a bachelor's degree	69.4	72.9	-0.688 (0.492)
Percentage of participants who reported reading the audit report when evaluating financial statements.	61.7	59.3	0.452 (0.652)
Percentage of participants reporting an annual income between \$50,000 and \$100,000	50.5	47.9	0.478 (0.633)
Familiarity with US accounting standards for revenue recognition ^(b)	5.20 (2.33)	5.26 (2.36)	-0.205 (0.838)
Familiarity with international accounting standards for revenue recognition ^(b)	4.55 (2.33)	4.57 (2.35)	-0.099 (0.921)
Familiarity with difference between US and international accounting standards for revenue recognition ^(b)	4.43 (2.41)	4.31 (2.48)	0.423 (0.672)

^(a) One participant reported making 15,000 buy/sell transactions. If the participant is excluded, the mean number of trades for the full (restricted) sample is 14.51 (16.60) with a standard deviation of 21.92 (25.00). The means are also not significantly different ($t = -0.808$, two-tailed $p = 0.419$). An examination of all the responses for this participant suggests that he understood the experimental manipulations, the relevant details of the case materials, and the economics of estimating stock prices and price revisions. Therefore, he is included within the sample for analysis.

^(b) Participants assessed three separate statements on a nine-point scale with end points labeled 1 = strongly disagree and 9 = strongly agree. Higher responses represent greater familiarity.

Table 2

**Cell Means and Parametric Tests of Hypotheses with Credibility
Revision as the Dependent Variable**

Panel A: Mean (Standard Deviation) Changes in Management’s Reporting Credibility

	Principles Based Accounting Standard	Rules Based Accounting Standard	Total
Emphasis of matter paragraphs included	-0.04 (5.69) n = 57	-0.44 (6.77) n = 43	-0.21 (6.12) n = 100
Emphasis of matter paragraphs excluded	0.73 (4.18) n = 51	1.82 (5.82) n = 45	1.24 (5.02) n = 96
Total	0.32 (5.03) n = 108	0.72 (6.37) n = 88	0.50 (5.66) n = 196

Panel B: ANOVA Results

	df	MSE	F-Stat	p-value
Accounting Standard	1	5.76	0.181	0.336 (a)
Audit Report	1	100.72	3.481	0.064 (b)
Audit Report X Accounting Standard	1	27.36	0.860	0.355 (b)

(a) Represents a one-tailed test

(b) Represents a two-tailed test

Panel C: Tests of Planned Contrasts

Comparisons	F-Ratio	two-tailed p-value
Within Principles, Included vs. Excluded	0.490	0.485
Within Rules, Included vs. Excluded	3.544	0.061

Table 3

Non- Parametric Tests of Hypotheses with Credibility Revision as the Dependent Variable

Panel A: Mann-Whitney U Test Results for Effect of Accounting Standard

Source of Variation	N	Mean Rank	Sum of Rank	Z	one tailed p-value
Principles	108	97.95	10,579.00	-0.150	0.441
Rules	88	99.17	8,727.00		

Panel B: Mann-Whitney U Test Results for Effect of Expanded Auditor Reporting

Source of Variation	N	Mean Rank	Sum of Rank	Z	two-tailed p-value
Paragraphs Included	100	91.70	9,169.50	-1.725	0.084
Paragraphs Excluded	96	105.59	10,136.50		

Panel C: Mann-Whitney U Test Results for Effect of Expanded Auditor Reporting under Principles Based Standards

Source of Variation	N	Mean Rank	Sum of Rank	Z	two-tailed p-value
Paragraphs Included	57	52.24	2,977.50	-0.800	0.424
Paragraphs Excluded	51	57.03	2,908.50		

Panel D: Mann-Whitney U Test Results for Effect of Expanded Auditor Reporting under Rules Based Standards

Source of Variation	N	Mean Rank	Sum of Rank	Z	Two-tailed p-value
Paragraphs Included	43	39.66	1,705.50	-1.746	0.081
Paragraphs Excluded	45	49.12	2,210.50		

Table 4**Cell Means and Parametric Tests of Hypotheses with Stock Price Revision as the Dependent Variable****Panel A: Mean (Standard Deviation) Stock Price Revisions (%)**

	Principles Based Accounting Standard	Rules Based Accounting Standard	Total
Emphasis of matter paragraphs included	3.90 (17.21) n = 37	0.12 (14.84) n = 36	2.04 (16.09) n = 73
Emphasis of matter paragraphs excluded	6.91 (16.83) n = 35	10.48 (14.40) n = 32	8.61 (15.70) n = 67
Total	5.36 (16.98) n = 72	4.99 (15.43) n = 68	5.18 (16.19) n = 140

Panel B: ANOVA Results

	df	MSE	F-Stat	p-value
Accounting Standard	1	0.046	0.002	0.483 (a)
Audit Report	1	1,555.43	6.142	0.014 (b)
Audit Report X Accounting Standard	1	467.45	1.846	0.177 (b)

(a) Represents a one-tailed test

(b) Represents a two-tailed test

Panel C: Tests of Planned Contrasts

Comparisons	F-Ratio	two-tailed p-value
Within Principles, Included vs. Excluded	0.646	0.423
Within Rules, Included vs. Excluded	7.148	0.008

Table 5

Non- Parametric Tests of Hypotheses with Price Revision as the Dependent Variable

Panel A: Mann-Whitney U Test Results for Effect of Accounting Standard

Source of Variation	N	Mean Rank	Sum of Rank	Z	one tailed p-value
Principles	72	71.42	5,142.00	-0.277	0.391
Rules	68	69.53	4,728.00		

Panel B: Mann-Whitney U Test Results for Effect of Expanded Auditor Reporting

Source of Variation	N	Mean Rank	Sum of Rank	Z	two-tailed p-value
Paragraphs Included	73	65.06	4,794.50	-1.667	0.096
Paragraphs Excluded	67	76.43	5,120.50		

Panel C: Mann-Whitney U Test Results for Effect of Expanded Auditor Reporting under Principles Based Standards

Source of Variation	N	Mean Rank	Sum of Rank	Z	two-tailed p-value
Paragraphs Included	37	36.68	1,357.00	-0.074	0.941
Paragraphs Excluded	35	36.61	1,271.00		

Panel D: Mann-Whitney U Test Results for Effect of Expanded Auditor Reporting under Rules Based Standards

Source of Variation	N	Mean Rank	Sum of Rank	Z	Two-tailed p-value
Paragraphs Included	36	28.94	11,402.00	-2.479	0.013
Paragraphs Excluded	32	40.75	1,304.00		

Table 6**Relationship between Expanded Audit Reporting and Company Attributes**

The following table presents the results of individual ANOVA models in which the respective company attribute is the dependent variable and audit report is the independent variable. This is performed in conjunction with step two of the mediation analysis procedures (Baron and Kenny 1986) to test the relationship with the expected mediator variable and the independent variable.

Company Attribute	Full Sample n=196	Restricted Sample n=140
<i>Risk of Misstatement</i>	0.659 (0.418)	1.713 (0.193)
<i>Risk of Restatement</i>	1.114 (0.293)	0.878 (0.350)
<i>Risk Premium</i>	1.326 (0.251)	0.801 (0.372)
<i>Weighted Average Cost of Capital</i>	0.156 (0.693)	0.226 (0.635)
<i>Earnings Sustainability</i>	0.749 (0.388)	0.114 (0.736)
<i>Earnings Predictability</i>	1.782 (0.184)	0.717 (0.399)
<i>Information Asymmetry</i>	0.121 (0.728)	0.039 (0.843)
<i>Financial Statement Transparency</i>	0.865 (0.354)	1.094 (0.297)

*** *Significant at the 0.01 level (two-tailed).*

** *Significant at the 0.05 level (two-tailed).*

* *Significant at the 0.10 level (two-tailed).*

Table 7**Relationship between Company Attributes and the Dependent Variables**

The following table presents the results of individual ANOVA models in which willingness to rely on future earnings announcements is the dependent variable and respective company attribute is the independent variable. This is performed in conjunction with step three of the mediation analysis procedures (Baron and Kenny 1986) to test the relationship with the expected mediator variable and the independent variable.

Company Attribute	Credibility Revision n=196	Stock Price Revision n=140
<i>Risk of Misstatement</i>	3.404 (0.001)***	3.443 (0.001)***
<i>Risk of Restatement</i>	2.698 (0.008)***	1.418 (0.195)
<i>Risk Premium</i>	0.968 (0.463)	1.393 (0.205)
<i>Weighted Average Cost of Capital</i>	0.796 (0.606)	1.158 (0.330)
<i>Earnings Sustainability</i>	1.977 (0.060)*	0.319 (0.945)
<i>Earnings Predictability</i>	2.883 (0.007)***	1.696 (0.115)
<i>Information Asymmetry</i>	1.013 (0.427)	0.394 (0.922)
<i>Financial Statement Transparency</i>	2.503 (0.013)**	2.201 (0.038)**

*** Significant at the 0.01 level (two-tailed).

** Significant at the 0.05 level (two-tailed).

* Significant at the 0.10 level (two-tailed).

Table 8

**ANOVA Model with Company Attributes as a Covariate
and Credibility Revision as the Dependent Variable**

The following table presents the results of individual ANOVA models in which willingness to rely on future earnings announcements is the dependent variable, accounting standard and audit report are the independent variables, and the respective company attribute is a covariate. This is performed in conjunction with step final of the mediation analysis procedures (Baron and Kenny 1986) to test if the expected mediator variable mitigates the significance of the independent variable.

Dependent Variable = Credibility Revision				
n=196				
F stat				
(p value)				
Company Attribute	Attribute^(b)	Standard^(a)	Report^(b)	Standard X Report^(b)
<i>Risk of Misstatement</i>	9.774 (0.002)***	0.340 (0.281)	3.001 (0.085)*	1.190 (0.287)
<i>Risk of Restatement</i>	9.597 (0.002)***	0.241 (0.312)	2.291 (0.089)*	1.855 (0.175)
<i>Risk Premium</i>	1.430 (0.233)	0.278 (0.346)	2.941 (0.337)	1.065 (0.303)
<i>Weighted Average Cost of Capital</i>	0.171 (0.679)	0.186 (0.334)	3.431 (0.066)*	0.908 (0.342)
<i>Earnings Sustainability</i>	4.891 (0.028)**	0.217 (0.321)	2.998 (0.085)*	0.688 (0.408)
<i>Earnings Predictability</i>	6.058 (0.015)**	0.469 (0.247)	2.625 (0.107)	0.629 (0.429)
<i>Information Asymmetry</i>	0.345 (0.558)	0.002 (0.335)	3.509 (0.063)*	0.792 (0.374)
<i>Financial Statement Transparency</i>	2.954 (0.087)*	0.404 (0.263)	3.008 (0.084)*	0.660 (0.418)

(a) Represents a one-tailed test

(b) Represents a two-tailed test

*** Significant at the 0.01 level (two-tailed).

** Significant at the 0.05 level (two-tailed).

* Significant at the 0.10 level (two-tailed).

Table 9

**ANOVA Model with Company Attributes as a Covariate
and Stock Price Revision as the Dependent Variable**

The following table presents the results of individual ANOVA models in which willingness to rely on future earnings announcements is the dependent variable, accounting standard and audit report are the independent variables, and the respective company attribute is a covariate. This is performed in conjunction with step final of the mediation analysis procedures (Baron and Kenny 1986) to test if the expected mediator variable mitigates the significance of the independent variable.

Dependent Variable = Price Revision				
n=140				
F stat				
(p value)				
Company Attribute	Attribute^(b)	Standard^(a)	Report^(b)	Standard X Report^(b)
<i>Risk of Misstatement</i>	9.837 (0.002)***	0.000 (0.497)	4.851 (0.029)**	2.789 (0.097)*
<i>Risk of Restatement</i>	3.884 (0.051)*	0.009 (0.463)	5.496 (0.021)**	2.415 (0.123)
<i>Risk Premium</i>	0.555 (0.457)	0.001 (0.491)	5.819 (0.017)**	1.948 (0.165)
<i>Weighted Average Cost of Capital</i>	0.004 (0.948)	0.002 (0.482)	6.074 (0.015)**	1.835 (0.178)
<i>Earnings Sustainability</i>	0.741 (0.391)	0.000 (0.493)	6.002 (0.016)**	1.722 (0.192)
<i>Earnings Predictability</i>	0.927 (0.337)	0.012 (0.456)	5.775 (0.018)**	1.785 (0.184)
<i>Information Asymmetry</i>	0.491 (0.485)	0.002 (0.483)	6.182 (0.014)**	1.812 (0.180)
<i>Financial Statement Transparency</i>	5.534 (0.020)**	0.107 (0.372)	5.300 (0.023)**	1.724 (0.191)

(a) Represents a one-tailed test

(b) Represents a two-tailed test

*** Significant at the 0.01 level (two-tailed).

** Significant at the 0.05 level (two-tailed).

* Significant at the 0.10 level (two-tailed).

Table 10

Correlation Matrix of Company Attributes for Full Sample

Pearson Correlations (two tailed p-value) n = 196

	Risk of Misstatement	Risk of Restatement	Risk Premium	Cost of Capital	Earnings Sustainability	Earnings Predictability	Information Asymmetry	FS Transparency
Risk of Misstatement	1	0.611*** (0.000)	0.532*** (0.000)	0.401** (0.000)	-0.106 (0.140)	-0.163** (0.022)	0.168** (0.018)	-0.26*** (0.000)
Risk of Restatement	0.611*** (0.000)	1	0.521*** (0.000)	0.350** (0.000)	-0.060 (0.404)	-0.042 (0.556)	0.292*** (0.000)	-0.117 (0.101)
Risk Premium	0.532** (0.000)	0.521*** (0.000)	1	0.478** (0.000)	-0.001 (0.993)	-0.035 (0.627)	0.309** (0.000)	-0.107 (0.134)
Cost of Capital	0.401*** (0.000)	0.350*** (0.000)	0.478*** (0.000)	1	0.120* (0.093)	0.107 (0.135)	0.338*** (0.000)	0.077 (0.284)
Earnings Sustainability	-0.106 (0.140)	-0.060 (0.404)	-0.001 (0.993)	0.120* (0.093)	1	0.731*** (0.000)	0.349*** (0.000)	0.580*** (0.000)
Earnings Predictability	-0.163** (0.022)	-0.042 (0.556)	-0.035 (0.627)	0.107 (0.135)	0.731** (0.000)	1	0.355** (0.000)	0.655*** (0.000)
Information Asymmetry	0.168** (0.018)	0.292*** (0.000)	0.309*** (0.000)	0.338*** (0.000)	0.349*** (0.000)	0.335*** (0.000)	1	0.402*** (0.000)
FS Transparency	-0.260*** (0.000)	-0.117 (0.101)	-0.107 (0.134)	0.077 (0.284)	0.580*** (0.000)	0.656*** (0.000)	0.402*** (0.000)	1

*** Significant at the 0.01 level (two-tailed).

** Significant at the 0.05 level (two-tailed).

* Significant at the 0.10 level (two-tailed).

Table 11

Correlation Matrix of Company Attributes for Restricted Sample

Pearson Correlations (two tailed p-value) n = 140

	Risk of Misstatement	Risk of Restatement	Risk Premium	Cost of Capital	Earnings Sustainability	Earnings Predictability	Information Asymmetry	FS Transparency
Risk of Misstatement	1	0.752*** (0.000)	0.512*** (0.000)	0.500** (0.000)	-0.122 (0.152)	-0.168** (0.047)	0.249*** (0.003)	-0.218*** (0.010)
Risk of Restatement	0.752*** (0.000)	1	0.558*** (0.000)	0.428** (0.000)	-0.096 (0.259)	-0.116 (0.172)	0.299*** (0.000)	-0.166** (0.050)
Risk Premium	0.512*** (0.000)	0.558*** (0.000)	1	0.530** (0.000)	0.004 (0.960)	-0.008 (0.929)	0.417*** (0.000)	-0.021 (0.803)
Cost of Capital	0.500*** (0.000)	0.428*** (0.000)	0.530*** (0.000)	1	0.104 (0.222)	0.089 (0.294)	0.392*** (0.000)	0.078 (0.358)
Earnings Sustainability	-0.122 (0.152)	-0.096 (0.259)	0.004 (0.960)	0.104 (0.222)	1	0.743*** (0.000)	0.298*** (0.000)	0.597*** (0.000)
Earnings Predictability	-0.168** (0.047)	-0.116 (0.172)	-0.008 (0.929)	0.089 (0.294)	0.743** (0.000)	1	0.335** (0.000)	0.654*** (0.000)
Information Asymmetry	0.249*** (0.003)	0.299*** (0.000)	0.417*** (0.000)	0.392*** (0.000)	0.298*** (0.000)	0.335*** (0.000)	1	0.364*** (0.000)
FS Transparency	-0.218*** (0.010)	-0.166** (0.050)	-0.021 (0.803)	0.078 (0.358)	0.597*** (0.000)	0.654*** (0.000)	0.364*** (0.000)	1

*** Significant at the 0.01 level (two-tailed).

** Significant at the 0.05 level (two-tailed).

* Significant at the 0.10 level (two-tailed).

Table 12**Factor Analysis of Company Attributes**

The following table presents the results of factor analyses performed on the attributes of the Company's financial reporting and information environment, as measured by Lopez et al. (2009). All eight of the Lopez attributes were initially entered into the factor analysis. Information asymmetry appeared in both factors, and it was removed from further consideration in the analysis.

Company Attribute	Full Sample n=196		Restricted Sample n=140	
	Component		Component	
	1	2	1	2
<i>Risk of Misstatement</i>	0.811		0.820	
<i>Risk of Restatement</i>	0.807		0.814	
<i>Risk Premium</i>	0.798		0.803	
<i>Cost of Capital</i>	0.682		0.752	
<i>Earnings Predictability</i>		0.880		0.890
<i>Earnings Sustainability</i>		0.848		0.855
<i>FS Transparency</i>		0.844		0.851
<i>Information Asymmetry</i>	0.456	0.587	0.584	0.472
<i>Eigenvalue values</i>	2.667	2.609	2.889	2.610

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Table 13**Analysis of Audit Reporting and Credibility Revision with
the Mediating Effects of the Factors of Company Attributes****Panel A: Mediation analysis for Factor 1 (n = 196)**

	df	MSE	F-Stat	Two tailed p-value
Step 1: IV = Audit Report DV = Credibility Revision	1	100.72	3.481	0.064
Step 2: IV = Audit Report DV = Factor 1	1	4.29	0.649	0.542
Step 3: IV = Factor 1 DV = Credibility Revision	8	116.83	4.116	0.000
Step 4: IV = Audit Report Factor 1 DV = Credibility Revision	1 1	125.21 121.45	4.478 4.343	0.036 0.000

Panel B: Mediation analysis for Factor 2 (n = 196)

	df	MSE	F-Stat	Two tailed p-value
Step 1: IV = Audit Report DV = Credibility Revision	1	100.72	3.481	0.064
Step 2: IV = Audit Report DV = Factor 2	1	1.65	0.249	0.618
Step 3: IV = Factor 2 DV = Credibility Revision	8	42.72	1.354	0.220
Step 4: IV = Audit Report Factor 2 DV = Credibility Revision	1 1	88.52 37.48	2.924 1.238	0.089 0.279

Table 14**Analysis of Audit Reporting and Stock Price Revision with
the Mediating Effects of the Factors of Company Attributes****Panel A: Mediation analysis for Factor 1 (n = 140)**

	df	MSE	F-Stat	Two tailed p-value
Step 1: IV = Audit Report DV = Stock Price Revision	1	1,555.43	6.142	0.014
Step 2: IV = Audit Report DV = Factor 1	1	3.77	0.566	0.453
Step 3: IV = Factor 1 DV = Stock Price Revision	8	725.98	3.107	0.003
Step 4: IV = Audit Report Factor 1 DV = Stock Price Revision	1 1	1,251.35 629.48	5.370 2.701	0.022 0.009

Panel B: Mediation analysis for Factor 2 (n = 140)

	df	MSE	F-Stat	Two tailed p-value
Step 1: IV = Audit Report DV = Stock Price Revision	1	1,555.43	6.142	0.014
Step 2: IV = Audit Report DV = Factor 2	1	2.08	0.311	0.578
Step 3: IV = Factor 2 DV = Stock Price Revision	8	428.29	1.745	0.094
Step 4: IV = Audit Report Factor 1 DV = Stock Price Revision	1 1	1,160.15 233.58	4.648 0.936	0.033 0.490

Table 15

Supplemental Analysis of Willingness to Rely on Future Earnings Announcements

Panel A: Mean (Standard Deviation) Willingness to Rely

	Principles Based Accounting Standard	Rules Based Accounting Standard	Total
Emphasis of matter paragraphs included	6.79 (1.37) n = 57	6.19 (1.69) n = 43	6.53 (1.54) n = 100
Emphasis of matter paragraphs excluded	6.51 (1.62) n = 51	6.76 (1.45) n = 45	6.63 (1.54) n = 96
Total	6.66 (1.49) n = 108	6.48 (1.59) n = 88	6.58 (1.54) n = 196

Panel B: ANOVA Results

	df	MSE	F-Stat	p-value
Accounting Standard	1	1.55	0.663	0.201 (a)
Audit Report	1	1.02	0.435	0.510 (b)
Audit Report X Accounting Standard	1	8.73	3.731	0.055 (b)

(a) Represents a one-tailed test

(b) Represents a two-tailed test

Appendix A – Instructions and Background information

General Instructions

Thank you for participating in this study. The purpose of the study is to investigate how investors make judgments and decisions. The results from this will help to educate a large number of accounting professors about investor decision making and fill a void in the academic literature and educational curriculum. Your participation today should take approximately 20 minutes.

Anonymity of Responses: All data are being collected in a manner that ensures your complete anonymity. You will not be required to divulge any personally identifiable information that can be used to distinguish your individual responses.

If at any time you have questions or concerns about the study, please contact: Mike Ozlanski, PhD Candidate, ozlanski@vt.edu.

Thank you in advance for your valuable time!

If at any time you have questions or concerns for the Institutional Review Board (IRB) at Virginia Tech, please contact Dr. David M. Moore, IRB Chair, at moored@vt.edu.

Before proceeding, please provide your consent that you agree to participate in this study.

_____ I agree to participate.

_____ I do not agree to participate.

Before proceeding with this study, please answer two questions about yourself.

1) Did you purchase or sell at least one (1) individual stock (not mutual fund or index fund) within the previous six (6) months? (circle one)

Yes

No

2) Do you purchase or sell stocks as part of your employment responsibilities?

Yes

No

Specific Instructions

For the purposes of this study, you are asked to assume that you are a member of an investment club that currently holds the common stock of Goldenrod Inc., a software development and licensing company. You will be provided with background information and selected financial information about Goldenrod. Based on this information, you will be asked to provide several judgments about Goldenrod and its management. The case information is not intended to include all the information that would be available if you were evaluating the common stock of Goldenrod, Inc. However, for purposes of this study, base your judgment on the information provided.

The case materials contain several sets of instructions detailing how to proceed during the study. The instructions will be shaded. Please read the instructions carefully.

BACKGROUND INFORMATION

Prior to your investment club's decision to purchase stock in Goldenrod, Inc. you reviewed the company's most recent annual report. Some background information and financial data from that annual report are shown on the following two pages. Please review this information before moving on to the next part of the case.

Company Background

Goldenrod, Inc. is a California-based company which develops and licenses software to handle the supply chain management functions of manufacturing firms. The Company also provides product support services for its software. The Company's primary products include pre-packaged software solutions (used by manufacturing companies across numerous industries) and custom designed applications to meet the specific needs of individual customers. The Company markets its products directly to its customers through a trained, customer-focused sales team. The products are sold primarily in North America, with a developing market share in key international markets, including Europe, South America, Central America, and the Pacific Rim.

Products

The Company's engineers and sales team work collaboratively to develop new products that are responsive to the needs of its customers. The development of new products is always based on the emerging needs of its clients. Customers purchase the software licenses, which enables them to utilize the applications, for a specific period of time. During the licensing period, customers receive software updates and ongoing customer support. Goldenrod also provides consulting services to assist with software implementation, and the consulting services are often "bundled" with licensing and product service contracts. The Company is currently in the process of developing a new application, Thunderbolt, which is targeted specifically to electronics manufacturers. The Company expects to begin recognizing revenue for this product within the next fiscal year.

BACKGROUND INFORMATION (continued)**Goldenrod, Inc. – Annual Financial Information****Income Statement (in thousands except per share data)**

	<i>Fiscal year ended December 31</i>		
	2011	2010	2009
Total revenues	\$ 31,022	\$ 26,820	\$ 23,252
Operating expenses	20,989	17,758	14,931
Operating income	10,033	9,062	8,321
Interest expense and other, net	(612)	(519)	(487)
Provision for income taxes	2,564	2,108	2,241
Net income	<u>\$ 6,857</u>	<u>\$ 6,435</u>	<u>\$ 5,593</u>
Earnings per share	<u>\$ 1.33</u>	<u>\$ 1.22</u>	<u>\$ 1.10</u>

Balance Sheet (in thousands)

	<i>As of December 31</i>	
	2011	2010
<i>Assets</i>		
Total current assets	39,174	27,004
Long term assets	33,361	34,754
Total assets	<u>\$ 72,535</u>	<u>\$ 61,758</u>
<i>Liabilities and Stockholders' Equity</i>		
Current liabilities	17,192	14,691
Long term liabilities	17,098	15,688
Stockholders equity	38,245	31,379
Total liabilities and stockholders' equity	<u>\$ 72,535</u>	<u>\$ 61,758</u>

BACKGROUND INFORMATION (continued)

After reviewing the information previously shown, you decide to do some more searching. Specifically, you obtained the following information about Goldenrod from an online financial database.

There are currently eleven Wall Street analysts covering Goldenrod, Inc. The consensus analyst earnings forecast for Goldenrod for the quarter ending March 31, 2012 is \$0.38.

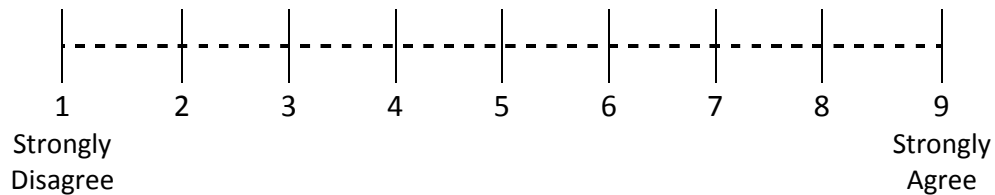
What is your estimate of the price per share of Goldenrod directly before the release of the earnings announcement? (please omit the \$ sign)

Appendix B – Initial Assessment of Management’s Reporting Credibility

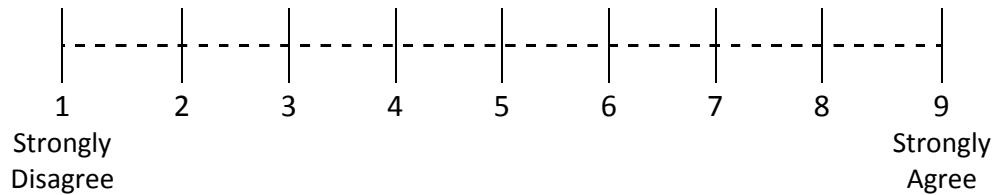
Questions

Based on the information you have been provided, indicate your beliefs about each of the following statements regarding Goldenrod management’s **competence in managing Goldenrod**.

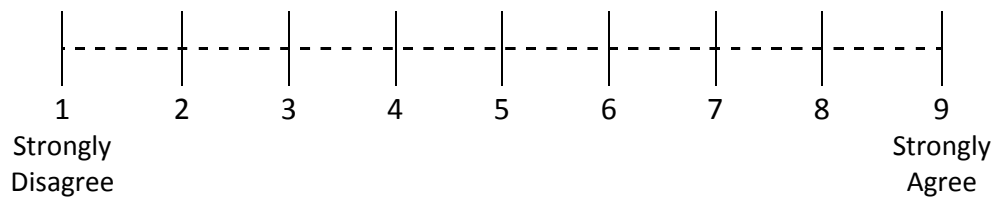
- 1) I believe that Goldenrod management is very competent at running Goldenrod.



- 2) I believe that Goldenrod management is expert at running their company.

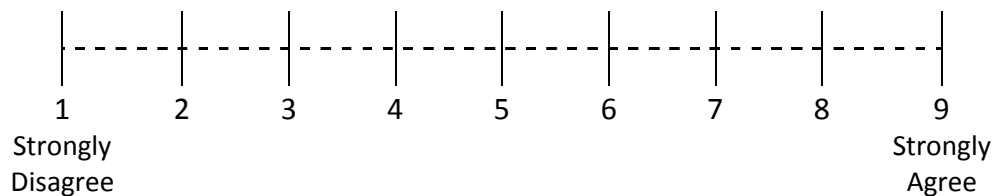


- 3) I believe that Goldenrod management is very intelligent.

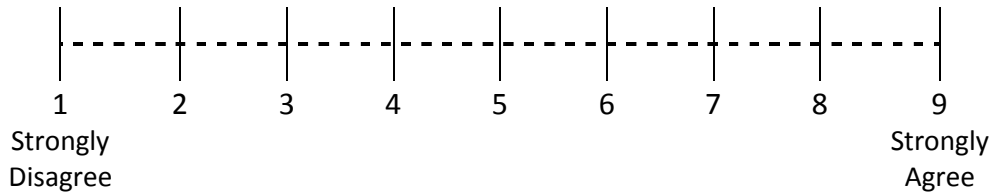


Based on the information you have been provided, indicate your beliefs about each of the following statements regarding Goldenrod management’s **financial disclosure/reporting competence**.

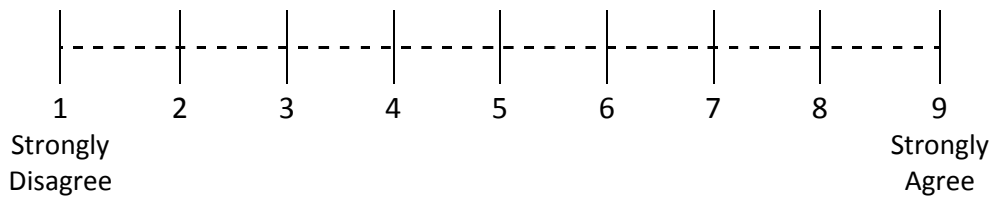
- 4) I believe that Goldenrod management is very competent at providing financial disclosures.



5) I believe that Goldenrod management has little knowledge of the factors involved in providing useful disclosures.

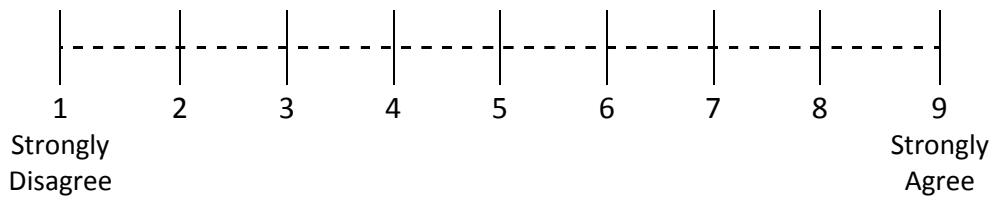


6) I believe that few people are as qualified as Goldenrod management to provide useful financial disclosures about Goldenrod.

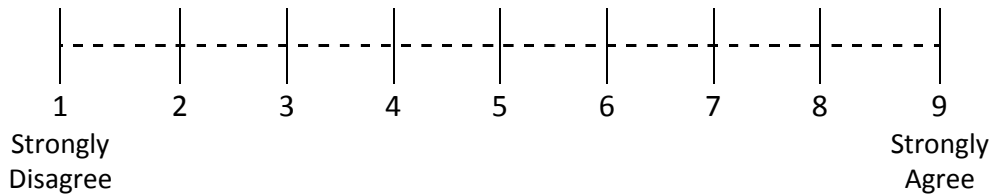


Based on the information you have been provided, indicate your beliefs about each of the following statements regarding Goldenrod management's **trustworthiness**.

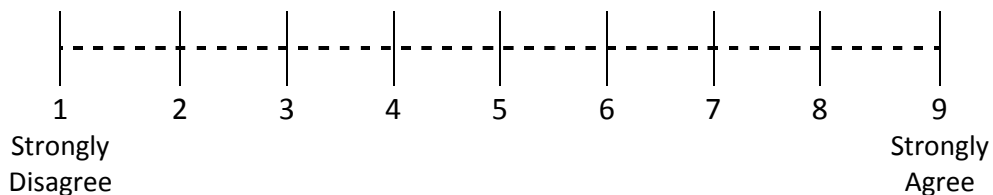
7) I believe that Goldenrod management is very trustworthy.



8) I believe that Goldenrod management is very honest.



9) I believe that Goldenrod management may not be truthful in their financial disclosures.



Appendix C – Press Release

PRESS RELEASE

Shortly after obtaining the company's expected earnings for the quarter, you review the following news article which reports the actual results of Goldenrod for the first quarter.

GOLDENROD, INC. REPORTING EARNINGS OF \$0.40 FOR THE QUARTER ENDED MARCH 31, 2012

April 27, 2012

The Associated Press

SAN FRANCISCO (AP) – Goldenrod, Inc. today reported financial results for the quarter ended March 31, 2012. The company reported earnings per share of \$0.40 on sales of \$10.43 million for the quarter. These results are \$0.02 above the consensus analyst forecast of \$0.38.

“This has been a tremendous quarter for us,” commented Goldenrod CEO Bill Watson. “A significant portion of the increase in sales and EPS for the quarter is attributed to our ability to recognize previously deferred revenue related to Thunderbolt, our newly developed software package. We believe that customers will greatly benefit from this software and from our high quality customer support services.”

CEO Watson is quite optimistic about the company's 2012 performance. Industry analysts, who were previously uncertain about the company's performance, see this as positive news. The increased profitability will be especially beneficial for Goldenrod as it prepares for its upcoming equity offering to raise additional capital.

Appendix D – Accounting Standard Manipulation

RULES BASED ACCOUNTING STANDARD MANIPULATION

Manipulation highlighted for review purposes only

In addition to reviewing the company's earnings announcement, you decide to obtain the following footnote from Goldenrod's most recent annual financial statements.

EXCERPT FROM FOOTNOTE E – Deferred Revenue (from the Goldenrod Inc. 2011 financial statements)

Deferred revenues typically result from undelivered product and customer support services. Revenue recognition for these services is determined by applying The Accounting Standards Codification (ASC). The principles of the ASC indicate that revenue must be deferred and recognized ratably over the term of the contract. However, revenue for customer support contracts can be recognized at the time of sale of the software if collectability is assured, the contract is short-term, and the majority of the costs of providing customer supports have already been incurred.

The ASC specifies that the principles for recognizing revenues from customer service contracts as of the date of sale of the software are met, if and only if each of the following conditions are met:

- 1) the amount of the support service is included in the initial license fee,
- 2) the terms of the support contract are renewed annually, and
- 3) the costs of providing the support service is inconsequential.

Revenue remains deferred until the rules enumerated in the accounting standards are met.

Deferred revenues consisted of the following:

	(in thousands)	
	<i>As of December 31</i>	
	2011	2010
Customer support contracts	\$ 8,108	\$ 9,668
Deferred revenues, included in current liabilities	7,802	8,980
Deferred revenues, included in non-current	306	688
Total deferred revenues	<u>\$ 8,108</u>	<u>\$ 9,668</u>

PRINCIPLES BASED ACCOUNTING STANDARD MANIPULATION

Manipulation highlighted for review purposes only

In addition to reviewing the company's earnings announcement, you decide to obtain the following footnote from Goldenrod's most recent annual financial statements.

**EXCERPT FROM FOOTNOTE E – Deferred Revenue
(from the Goldenrod Inc. 2011 Financial statements)**

Deferred revenues typically result from undelivered product and customer support services. Revenue recognition for these services is determined by applying The Accounting Standards Codification (ASC). The principles of the ASC indicate that revenue must be deferred and recognized ratably over the term of the contract. However, revenue for customer support contracts can be recognized at the time of sale of the software if collectability is assured, the contract is short-term, and the majority of the costs of providing customer supports have already been incurred.

Revenue remains deferred until the principles enumerated in the accounting standards are met.

Deferred revenues consisted of the following:

	(in thousands)	
	As of December 31	
	2011	2010
Customer support contracts	<u>\$ 8,108</u>	<u>\$ 9,668</u>
Deferred revenues, included in current liabilities	7,802	8,980
Deferred revenues, included in non-current	<u>306</u>	<u>688</u>
Total deferred revenues	<u><u>\$ 8,108</u></u>	<u><u>\$ 9,668</u></u>

Appendix E – Audit Reporting Manipulation

EMPHASIS OF MATTER PARAGRAPHS EXCLUDED

In conjunction with reviewing the press release of quarterly earnings for Goldenrod, you also review a copy of the audit report which was included in the company's financial statements from the previous fiscal year.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Goldenrod Inc.:

We have audited the accompanying balance sheets of Goldenrod Inc. as of December 31, 2011 and 2010, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2011. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Goldenrod Inc.'s internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria) and our report dated February 22, 2012 expressed an unqualified opinion.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2011 and 2010, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2011, in conformity with U.S. generally accepted accounting principles

Big 4 CPA Firm
San Francisco, California
February 22, 2012

EMPHASIS OF MATTER PARAGRAPHS INCLUDED

Manipulation highlighted for review purposes only

In conjunction with reviewing the press release of quarterly earnings for Goldenrod, you also review a copy of the audit report which was included in the company's financial statements from the previous fiscal year.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Goldenrod Inc.:

We have audited the accompanying balance sheets of Goldenrod Inc. as of December 31, 2011 and 2010, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2011. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Goldenrod's internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria) and our report dated February 22, 2012 expressed an unqualified opinion.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In connection with our audit, we also bring to your attention the matter listed below. This is not intended to be a complete list of all areas that our audit procedures addressed in response to identified risks of material misstatement.

- 1) The Company's software sale agreements often include ongoing customer support services. Revenue recognition of customer payments for these customer support services is deferred until the company's criteria for recognizing revenue is appropriately satisfied. At December 31, 2011, the total deferred revenue approximated \$8,108 million. This compares to the total deferred revenue balance of \$9,668 million at December 31, 2010. The net revenue recognized from these license and product support agreements approximated \$24,031 million during 2011. See Note E for further details.

We highlight the above matter because it represents an area of audit emphasis during the periods covered by our report. Our audit included performing procedures designed to address the risks of

material misstatement associated with the above matters. Such procedures were designed in the context of our audit of the consolidated financial statements taken as a whole, and not to provide assurance on individual accounts or disclosures. As noted above, our audit also included procedures in response to identified risks and those required by professional standards that have not been specifically identified herein.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2011 and 2010, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2011, in conformity with U.S. generally accepted accounting principles

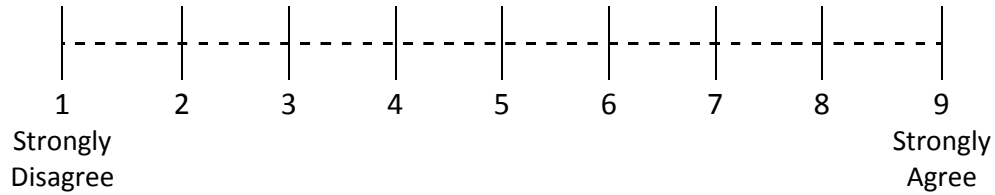
Big 4 CPA Firm
San Francisco, California
February 22, 2012

Appendix F – Second Assessment of Management’s Reporting Credibility

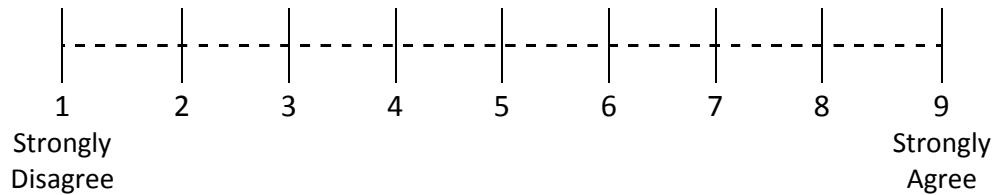
Questions

Based on the information you have been provided, indicate your updated beliefs about each of the following statements regarding Goldenrod management’s **competence in managing Goldenrod**.

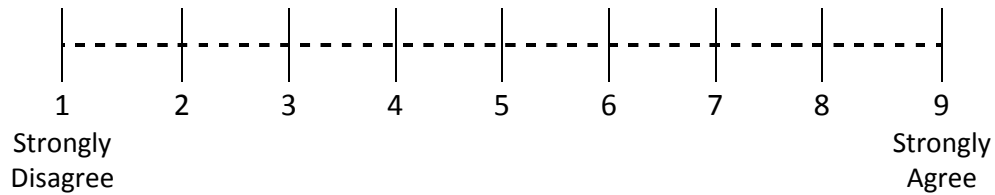
- 1) I believe that Goldenrod management is very competent at running Goldenrod.



- 2) I believe that Goldenrod management is expert at running their company.

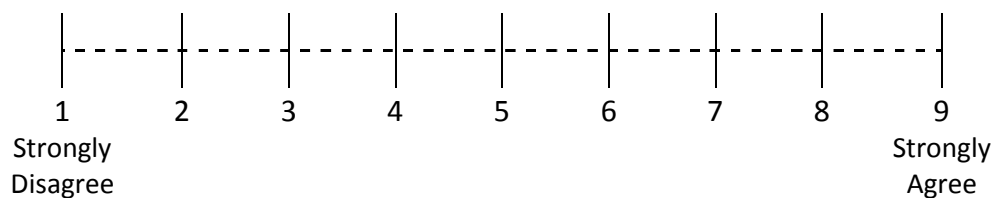


- 3) I believe that Goldenrod management is very intelligent.

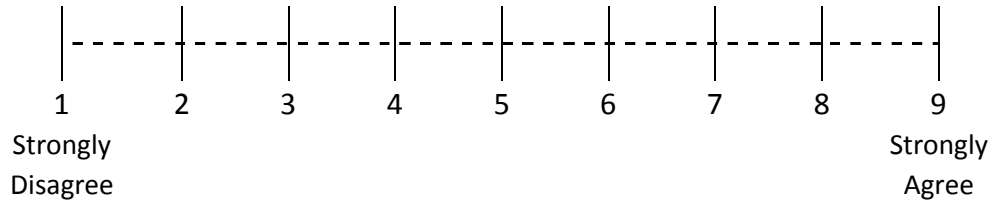


Based on the information you have been provided, indicate your updated beliefs about each of the following statements regarding Goldenrod management’s **financial disclosure/reporting competence**

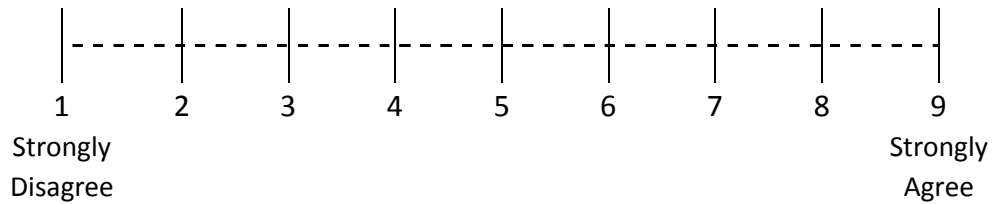
- 4) I believe that Goldenrod management is very competent at providing financial disclosures.



5) I believe that Goldenrod management has little knowledge of the factors involved in providing useful disclosures.

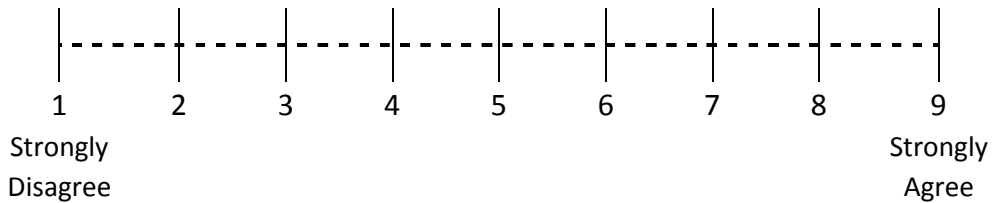


6) I believe that few people are as qualified as Goldenrod management to provide useful financial disclosures about Goldenrod.

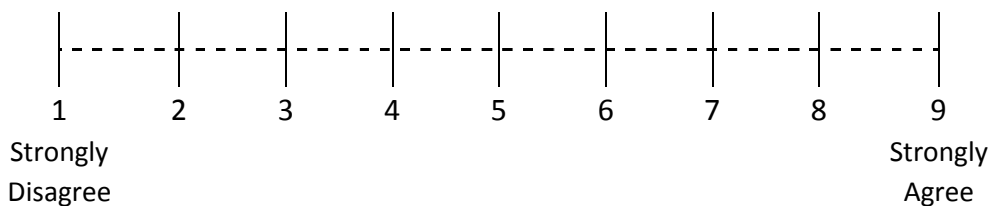


Based on the information you have been provided, indicate your updated beliefs about each of the following statements regarding Goldenrod management's **trustworthiness**.

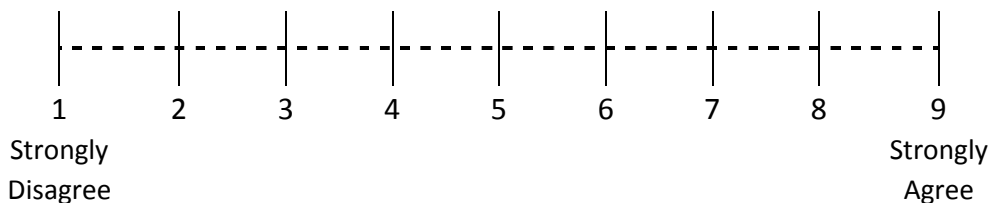
7) I believe that Goldenrod management is very trustworthy.



8) I believe that Goldenrod management is very honest.



9) I believe that Goldenrod management may not be truthful in their financial disclosures.



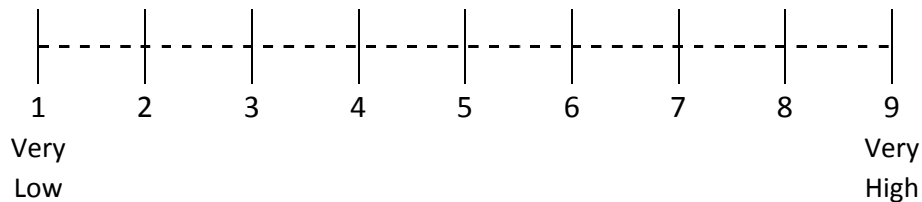
Appendix G – Assessment of Stock Price Revision and Attributes of the Company’s Financial Reporting and Information Environment

Questions

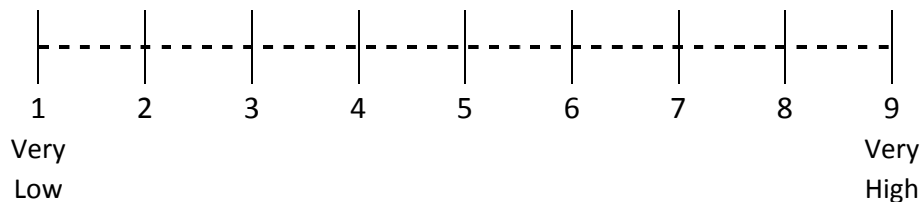
Based on the information you have been provided, please respond to the following questions about Goldenrod Inc.

- 1) What is your estimate of the price per share directly after the release of the earnings announcement?

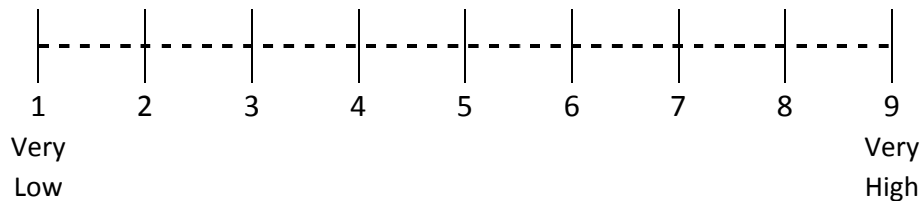
- 2) What is your judgment of the risk that the current financial reporting of Goldenrod is **materially misstated**?



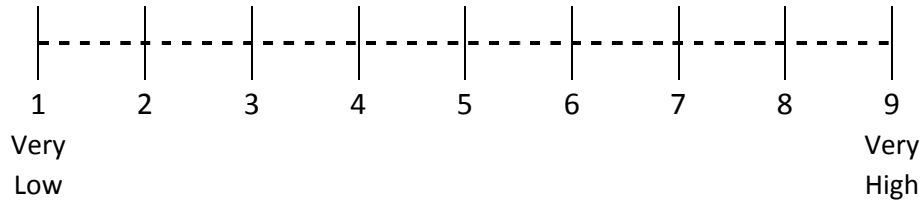
- 3) What is your judgment of the risk that the current financial reporting of Goldenrod will eventually be **restated**?



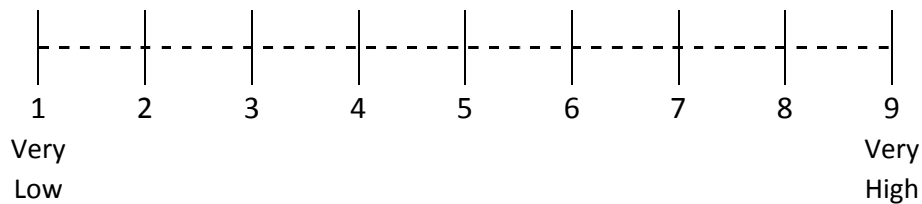
- 4) The **risk premium** is the expected rate of return for investing in a risky asset above the rate of return on a risk-free asset such as a treasury bill. Said another way, **risk premium** is a measure of the excess return on the average risky asset above the return on a risk free asset. What is your assessment of the **risk premium** for Goldenrod?



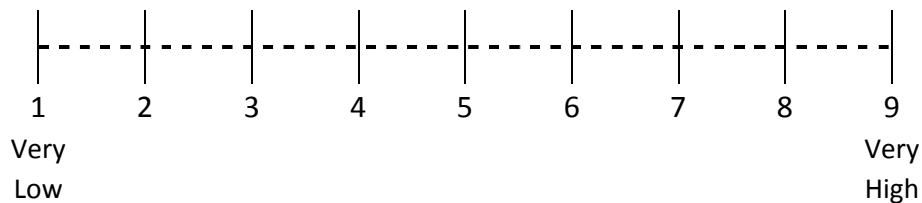
- 5) The **cost of capital** for a company is a weighted average of the cost of equity and the cost of debt. The **cost of capital** is often described as the required rate of return for a project. It is also known as the hurdle rate or the discount rate. What is your assessment of the **cost of capital** for Goldenrod?



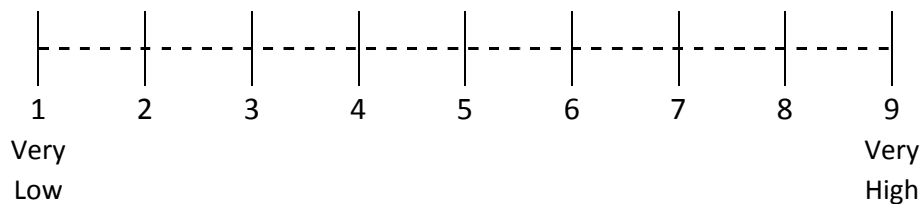
- 6) **Sustainable earnings** are earnings that have high persistence. Earnings that are **sustainable** or **persistent** are generated by recurring core business activities. What is your assessment of the **sustainability of earnings** for Goldenrod?



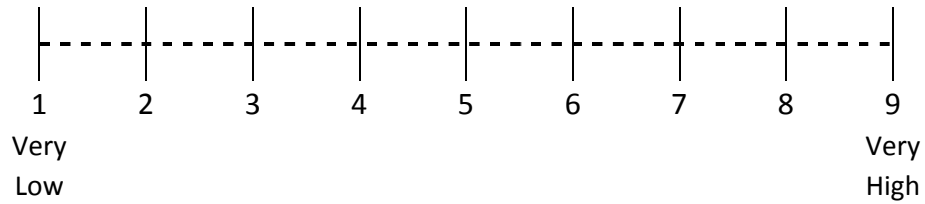
- 7) **Earnings predictability** is a measure of how reliable future earnings can be forecasted by knowing current earnings. Predictability is generally based on the stability of year-to-year quarterly earnings comparisons. What is your assessment of the **predictability of earnings** for Goldenrod?



- 8) In economics and contract theory, **information asymmetry** is present when one party to a transaction has more or better information than other party (e.g. the company management has better information than the investors). What is your assessment of the **information asymmetry** for Goldenrod?



9) **Financial statement transparency** regards the extent to which investors can be sure about a company's real fundamentals and true risk. That is, transparency revolves around the extent to which financial statement users understand the underlying transactions that form the basis of the basic financial statements. Alternative definitions of **financial statement transparency** included financial reporting are "easily understood," "very clear," "frank," and "candid." What is your assessment of the **financial statement transparency** of Goldenrod?



Appendix H – Use of Management’s Financial Reporting to Form Future Earnings Forecasts

PRESS RELEASE

On July 27, 2012 (i.e. the following quarter), Goldenrod, Inc. reported its quarterly earnings. You reviewed the following news article which reports the actual results of Goldenrod for the second quarter.

GOLDENROD, INC. REPORTING EARNINGS OF \$0.45 FOR THE QUARTER ENDED JUNE 30, 2012

July 27, 2012

The Associated Press

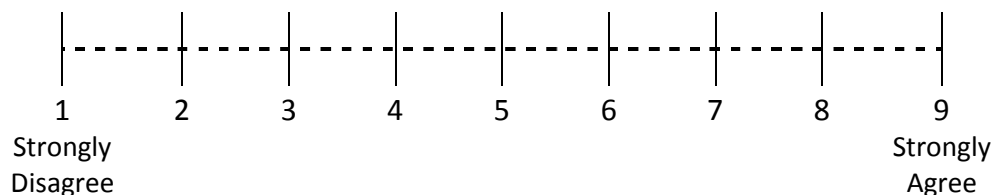
SAN FRANCISCO (AP) – Goldenrod, Inc. today reported financial results for the quarter ended June 30, 2012. The company reported earnings per share of \$0.45 on sales of \$11.73 million for the quarter. These results are \$0.03 above the consensus analyst forecast of \$0.42.

“We continue to experience the positive results of recognizing revenue related to our Thunderbolt software,” stated Goldenrod CEO Bill Watson. “We expect to continue to see growth in the next quarter, as well.”

Industry analysts continue to remain optimistic about the company’s profitability for the remainder of the current fiscal year. This is positive news for Goldenrod, which is expected to complete its upcoming equity offering during the third quarter of 2012.

QUESTION

I would rely on the above financial reporting in forming an earnings forecast for Goldenrod.

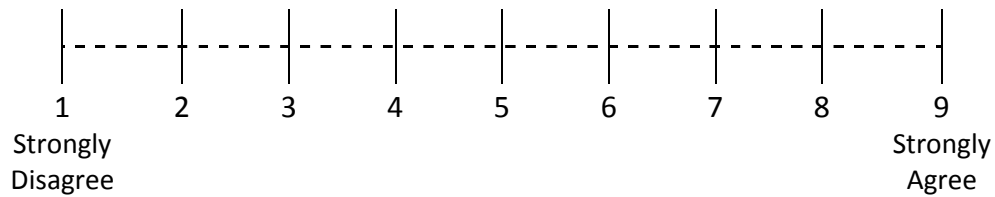


Appendix I – Manipulation Check Questions

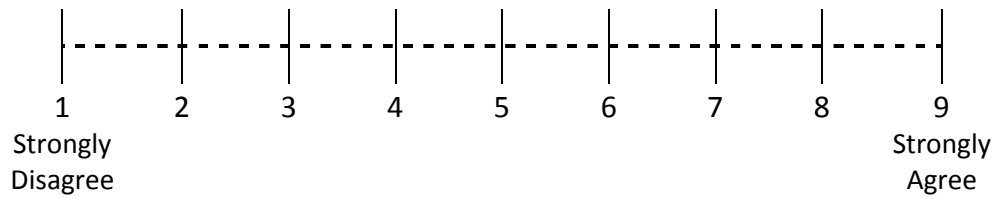
QUESTIONS

Please answer the following questions in the order presented

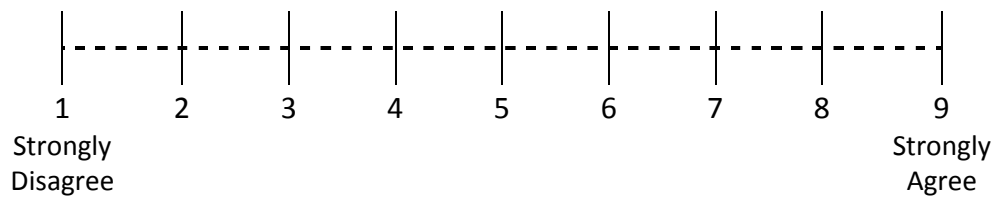
- 1) Goldenrod's actual earnings were higher than the analyst consensus earnings forecast.



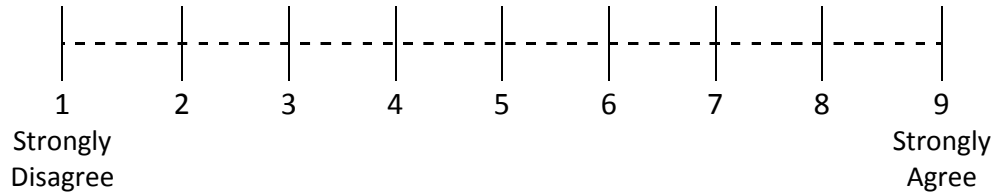
- 2) The unexpected earnings for Goldenrod were primarily attributed to revenue from the sale of a new product.



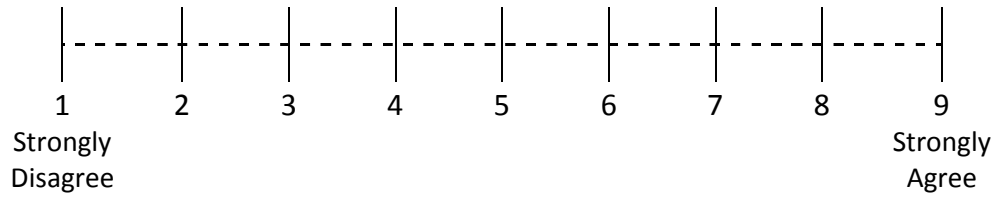
- 3) The company's auditor specifically commented on a particular account of Goldenrod's financial statements.



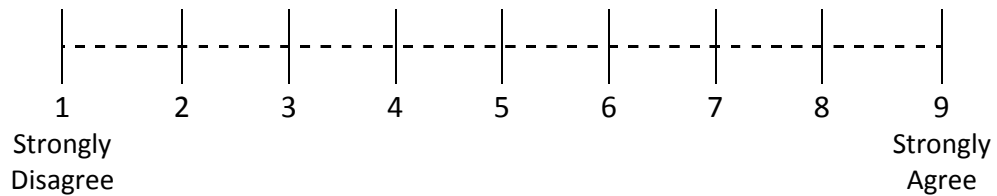
4) Goldenrod management had an incentive to manage earnings.



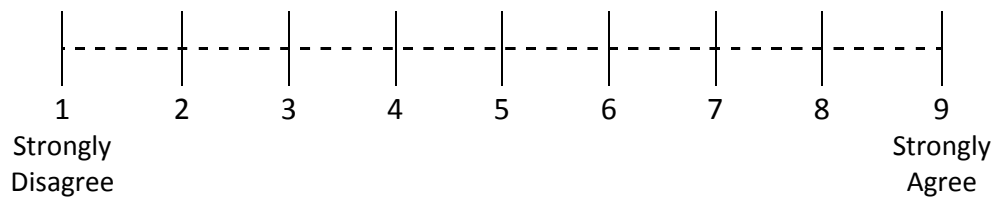
5) The accounting standards used by Goldenrod management provided specific guidance and rules for revenue recognition.



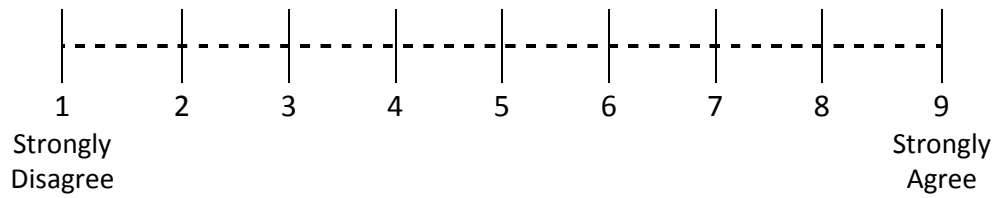
6) The audit report issued on Goldenrod's financial statements highlighted areas of Goldenrod's financial reporting that are subject to increased risk of misstatement.



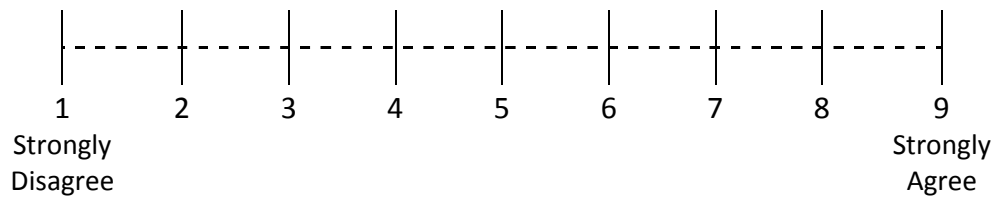
7) The audit report issued on Goldenrod's financial statements contained a qualified audit opinion.



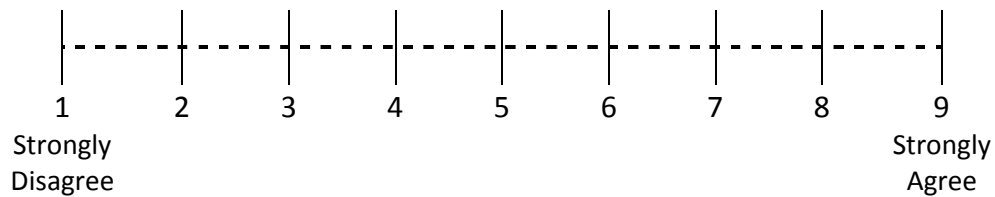
- 8) Auditors are able to ensure that significant errors or misstatements discovered during an audit are corrected by management before the financial statements are released to the public.



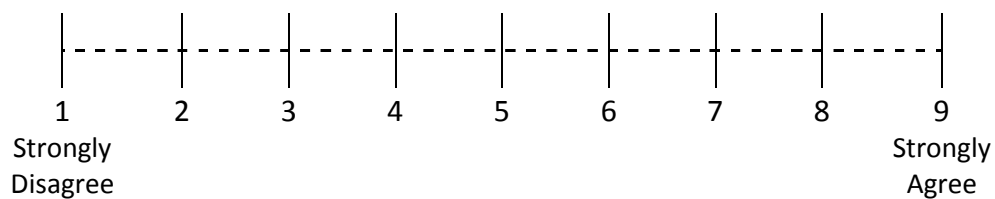
- 9) I am familiar with the US accounting standards for revenue recognition.



- 10) I am familiar with the international accounting standards for revenue recognition.



- 11) I am familiar with the differences between the US and international accounting standards for revenue recognition.



Appendix J – Demographic Questions

DEMOGRAPHIC QUESTIONS

Before finishing the experiment, please answer the following questions about yourself.

3) What is your current age? _____

4) Please indicate your gender (circle one)

Male

Female

5) Please indicate your highest degree obtained

- 1) High School Diploma
- 2) Associates
- 3) Undergraduate/BachelorsMBA
- 4) Masters degree (other than MBA)
- 5) Doctor of philosophy

6) How many years of full-time work experience do you have?

7) What is your approximate annual household income?

- 1) \$0 to \$25,000
- 2) \$25,000 to \$50,000
- 3) \$50,000 to \$75,000
- 4) \$75,000 to \$100,000
- 5) \$100,000 to \$125,000
- 6) \$125,000 to \$150,000
- 7) \$150,000 to \$175,000
- 8) \$175,000 to \$200,000
- 9) More than \$200,000

Have you ever bought or sold an individual company's common stock or debt securities (not through a mutual or pension fund)? (circle one)

Yes

No

8) How many years have you been buying/selling individual equity or debt instruments?

9) How many buy/sell transactions do you make during a year?

10) What is the approximate percentage of your investment portfolio that you actively trade? _____

11) How many times (during the past 12 months) have you evaluated a company's performance by analyzing its financial statements?

12) Do you currently hold stocks or bonds of software development companies in your investment portfolio? (circle one)

Yes

No

13) What is the approximate percentage of your investment portfolio that is comprised of software development companies? _____

14) Do you read and evaluate the audit report that accompanies a company's financial statements when making buy/sell decisions for your investment portfolio? (circle one)

Yes

No