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Managing Audits to Manage Earnings: The Impact of Baiting Tactics on an Auditor,Äôs Ability to Uncover Earnings Management Errors

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MANAGING AUDITS TO MANAGE EARNINGS:
THE IMPACT OF BAITING TACTICS ON AN AUDITOR'S ABILITY
TO UNCOVER EARNINGS MANAGEMENT ERRORS

A Dissertation Presented

by

BENJAMIN LABRIE LUIPPOLD

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

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Isenberg School of Management

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DEDICATION

To Mom and Dad.

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I would like to thank my friend and advisor, Thomas Kida, for his guidance, patience and support throughout the years. I can truly say that I have never learned so much from one person as I did from Tom. All in all, Tom made this experience truly invaluable for me, and he did so by providing an atmosphere that allowed us to laugh at ourselves and each other. As I told him during one of the many times that I gave him a ride home, if I had to do it all over again, I definitely would! Thanks for everything, Tom.

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ABSTRACT

MANAGING AUDITS TO MANAGE EARNINGS: THE IMPACT OF BAITING TACTICS ON AN AUDITOR'S ABILITY TO UNCOVER EARNINGS MANAGEMENT ERRORS

SEPTEMBER 2009

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This study examines an aspect of earnings management that I refer to as audit management. I define audit management as a client's strategic use of techniques (e.g., baiting tactics) to prevent auditors from discovering earnings management during the audit. Specifically, I examine whether two baiting tactics, diversionary statements and distracting errors, affect an auditor's ability to uncover an accounting error used to manage earnings. Auditors performed analytical review on financial statements that contained an earnings management error (i.e., an intentional error that results in the client meeting an earnings target). I manipulated whether management provided a diversionary statement that explicitly identified risk in other areas of the audit, and whether management seeded easier, distracting errors into those other areas, both of which were designed to lure the auditor away from the earnings management error. I found that when auditors were intentionally directed to error free accounts they were unlikely to uncover an earnings management error elsewhere in the financial statements. On the other hand, auditors were most accurate in identifying earnings management when they were directed to audit areas that contained distracting errors. These results suggest that managers can

use certain baiting tactics to strategically manage the outcome of the audit, but that, in some circumstances, baiting tactics may actually make auditors more likely to uncover managed earnings.

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CHAPTER 1

INTRODUCTION

Earnings management has been a topic of great interest in both the popular press and academic literature (e.g., Creswell 2002; Degeorge et al. 1999; Hayn 1995; MacDonald 2002). In fact, the attempt to manipulate financial performance has become so widespread that books have been written on earnings management strategies (e.g., Giroux 2003; McKee 2005). This study discusses an aspect of earnings management that I refer to as audit management. I define audit management as a client's strategic use of techniques (e.g., baiting or distraction tactics) to prevent auditors from discovering managed earnings during the audit. Evidence suggests that clients employ such techniques within the audit to manipulate income (e.g., Barr 1998). The question therefore arises: Are auditors able to uncover managed earnings when their clients manage the audit?

This study investigates whether auditors are able to identify earnings management errors (i.e., financial misstatements that the client intentionally uses to meet an earnings target) when the client employs baiting (distraction) tactics in an attempt to manage the audit.¹ More specifically, I examine whether diversionary statements made by the client (i.e., identifying areas of risk in the financial statements to lure the auditor away from the earnings management error) affect an auditor's ability to uncover an earnings management error. I also examine whether seeding easily discovered errors into the

¹ While auditing standards typically characterize unintentional misstatements as errors and intentional misstatements as fraud, I use the term error in its more generic sense to refer to any departure from accuracy.

financial statements affects an auditor's ability to uncover a separate, more difficult-to-detect, earnings management error.

Managers may be motivated to divert auditors to areas that contain, or do not contain, distracting errors. For example, if managers divert auditors to ostensibly risky areas that are error free, auditors may conclude that the client's accounts are likely to be accurate in other areas as well. Conversely, management may want to direct auditors to areas that contain distracting errors because, if auditors spend more time and effort finding errors in one area, they will have less time to search for an earnings management error elsewhere in the financial statements. However, directing auditors to areas containing errors could raise a red flag, resulting in greater overall audit effort. As a result, I investigate the effect of management directing auditors to both error and error-free accounts.

While certain psychological theories suggest that auditors will be less likely to find an earnings management error when baiting tactics are employed (e.g., Kahneman 1973; Petty and Cacioppo 1986; Simons and Chabris 1999; Webster and Kruglanski 1994), auditors are also trained to practice professional skepticism and exhibit conservatism in their judgments (Smith and Kida 1991), which suggests that auditors may not be susceptible to audit management strategies.

Earnings Management

Earnings management refers to financial reporting practices designed to achieve desired or favorable financial results (e.g., smoothing earnings, meeting earnings targets) (Bouillon 2007; Jackson and Pitman 2001; McKee 2005; Millstein 2005). Management faces several pressures, such as meeting analysts' forecasts, which compel them to resort

to such practices (Duncan 2001). For instance, managers may seek to avoid a fate similar to that of Proctor and Gamble, whose stock fell 30% in the first quarter of 2000 after it warned that it would not meet its forecasted earnings (Duncan 2001). Regardless of their underlying incentives to engage in such practices, evidence suggests that these short-term pressures can take priority over long-term economic growth. Both experimental and survey research have found that executives would sacrifice economic value to smooth earnings or hit an earnings target (Bhojraj and Libby 2005; Graham et al. 2005).

Archival research provides substantial evidence that earnings management occurs (e.g., Burgstahler and Dichev 1997; Degeorge et al. 1999; Hayn 1995). In fact, several studies have examined specific accrual accounts that clients use to manage earnings (e.g., Bernard and Skinner 1996; Dhaliwal et al. 2004; Marquardt and Wiedman 2004). Furthermore, while McKee (2005) suggests that earnings management should only involve legal accounting tactics (e.g., maintaining cookie jar reserves, using derivatives, changing assumptions), a number of illegal earnings management practices have been documented (e.g., Collins 2007; Earnings Management 2008; Henry 2004; Hilzenrath 2007; MacDonald 2002; Mavin 2007). More striking, however, is evidence suggesting that managers sometimes resort to fraudulent measures to manage earnings (e.g., Beasley et al. 1999; Farber 2005; Jones et al. 2008).

This notion is underscored by a survey conducted at a *CFO Magazine* sponsored conference, which indicated that 78% of attending CFOs had faced pressures to manage earnings upwards using GAAP approved changes, and about half had agreed to do so. More surprisingly, 45% of the attending CFOs had been asked by senior executives to

misrepresent the company's financial performance, and 38% complied (Barr 1998; Earnings Management 2008; McKee 2005; Mills 2003).

The risk of detection should deter managers from illegally or fraudulently misreporting earnings. However, anecdotal evidence suggests that such earnings management strategies are often practiced because of the difficulty in distinguishing between outright fraud and unintentional error. For example, Nortel Networks was accused of engaging in fraudulent financial reporting, but was able to settle without an admission of guilt, possibly due to the difficulty in proving fraudulent intent over accidental errors (Kalawksy 2005; Mavin 2007; U.S. Securities and Exchange Commission 2007). In addition, an internal investigation at Dell, Inc. revealed that management had knowingly used accounting errors to help meet earnings targets (Collins 2007). These cases point to management's willingness to use errors to manage earnings and the difficulty in differentiating between fraud and unintentional accounting errors.

Since it is difficult for the auditor to distinguish intentional errors from simple mistakes, management may readily explain such errors as unintentional mistakes (Cabrera 2007; Mavin 2007). This plausible, alternative explanation can mitigate the client's perceived risk of engaging in illegal earnings management. In fact, it has been suggested that managers believe they can outsmart auditors by using difficult to detect earnings management tactics, and would probably engage in these types of practices regardless of the risk of being caught (Duncan 2001; Merchant 1989). However, in order for management to successfully report over-aggressive or fraudulent earnings, auditors must fail to discover how and where income is being manipulated.

Audit Management

I define audit management as a client's strategic use of techniques to prevent auditors from identifying or recognizing managed earnings during the audit. Managing the audit may include a variety of methods. For instance, managers may frame evidence in certain ways to manipulate the level of perceived risk. They may provide the auditor with incomplete or incorrect information to cover-up questionable accounting practices. Or, they may use baiting tactics to distract the auditor from uncovering earnings management, which is the primary focus of this study.

Two potential tactics are of particular interest: diversionary statements and distracting errors. Diversionary statements refer to management identifying specific areas of risk in the financial statements to lure the auditor away from the accounts used to manage earnings. Distracting errors, on the other hand, involve the insertion of easily detectable errors into specific areas of the financial statements, again in an attempt to draw the auditor away from errors in other areas that the client is using to manage earnings.²

Managers may divert auditors to areas where errors have been seeded, or where there are no known errors. Managers may be motivated to direct auditors to seeded errors for several reasons. First, given budget constraints, more time spent in one area of the audit may result in less time being spent in other areas. Second, allowing auditors to find errors may contribute to the auditors feeling satisfied that they "have done their job,"

² Conversations with practitioners lead us to believe that this and similar tactics likely occur in practice. For example, a former manager of a technology company indicated that, when auditors found error corrections that would reduce earnings, he would direct them toward other error corrections that would increase earnings. Similarly, an audit partner indicated that managers may indeed see the audit as a diversionary game.

resulting in auditors feeling less compelled in their search to discover other errors. Third, management may feel that pointing out areas that lead to error discovery may increase the trust that auditors have in them, resulting in auditors performing less work in areas that management suggests are problem free.

Conversely, managers may be motivated to direct auditors to areas into which no errors have been seeded, since auditors may conclude that if the client's accounts are accurate in areas of higher misstatement risk, they are likely to be error free elsewhere in the financial statements. As a result, I investigate the auditor's ability to uncover earnings management errors in both of these potential scenarios. It should be noted that, while I investigate error discovery in this paper, baiting tactics may be used to distract auditors from different types of earnings management practices, including those that are illegal and fraudulent, as well as any aggressive GAAP-approved method.

Audit management will be more successful when auditors shift their attention and effort away from areas where manipulated reporting occurs. A recent archival study provides evidence to support this notion. Caramanis and Lennox (2008) found that when audit hours are low, abnormal accruals are more often larger and positive, suggesting that companies are more likely to manage earnings. On a macro-level, this suggests that audits receiving less attention will yield more opportunities for clients to manipulate earnings. Following this logic, if an auditor's attention is directed away from certain parts of the audit by baiting tactics, managers may be able to manage earnings in the areas receiving less attention.

Analytical Review

While clients may attempt to “manage” many different aspects of the audit, one area that is of particular interest is analytical review. Koonce (1993) outlines analytical review as a diagnostic, iterative process of identifying and explaining unexpected fluctuations or errors. Analytical review is used to determine the extent of required detailed testing in different audit areas, and sometimes, is the only audit procedure used to test certain accrual based accounts (Ricchiute 2006). For example, unless specific risks are identified that warrant detailed testing, compensation accruals are typically audited using only some variant of analytical review (Ricchiute 2006).³ Thus, if such an account contains errors that go undetected during analytical review, there may not be subsequent procedures in the audit plan to detect them.

Several studies have examined various aspects of the cognitive processes involved in analytical review procedures (e.g., Asare et al. 2000; Asare and Wright 2003; Bedard and Biggs 1991a, 1991b; Bhattacharjee et al. 1999). A finding common to many of these studies is that auditors sometimes perform poorly on analytical review. In fact, these studies often reveal error detection rates below 50%. This finding is underscored by reports from the Public Company Accounting Oversight Board (PCAOB), noting similar deficiencies in auditors’ performance on these types of procedures.

To gather evidence on this issue, I examined nineteen PCAOB reports for the period 2004 to 2007. These comprised of all reports, currently available, for five of the major professional services firms: Deloitte & Touche, Ernst & Young, Grant Thornton,

³ In fact, when pretesting this study's experimental materials, a Big 4 audit manager commented on how an error in compensation would probably go undetected if not uncovered at this stage.

KPMG and PricewaterhouseCoopers. Of the nineteen reports reviewed, thirteen (68%) identified analytical review procedures as a particular concern. The issues identified included the inappropriate use of analytical review procedures in lieu of substantive tests of details, failure to set explicit expectations and thresholds, failure to follow-up with management regarding fluctuations, and failure to conduct subsequent testing when exceptions were noted. Therefore, analytical review appears to be an area of the audit that clients may exploit to manage earnings, specifically in those areas that incur little follow-up detailed testing.

Given that managers may attempt to manage the audit, the question therefore arises, can managers employ baiting tactics that allow them to effectively manage earnings? Findings from several areas of research investigating distraction suggest that audit management tactics may be effective (e.g., Festinger and Maccoby 1964; Petty et al. 1976; Petty and Cacioppo 1986). On the other hand, audit practice and research suggests that auditors display professional skepticism and exhibit conservatism (see Smith and Kida 1991 for a review), which may serve to mitigate clients' attempts to manage the audit. That is, because auditors are trained to question evidence and focus on negative information, they may naturally seek out instances of earnings management.

Distractions

Baiting tactics involve distraction techniques designed to direct an auditor's attention away from managed earnings. The diversion they provide attempts to inhibit the auditor's ability to uncover earnings management in other areas. As an analogy, consider the diversions and misdirections that magicians use to distract an audience. Smoke, noise, and flashes of light that are used to draw an audience's attention towards

the diversion and away from the trick are key components to successful illusions (Freudenburg and Alario 2007; Kuhn and Tatler 2005; Kuhn et al. 2007). When the audience's attention is drawn away from the "tell" of the trick, their ability to uncover the trick's secret is inhibited.

Several streams of research suggest that distractions inhibit performance. Studies on persuasion have found that distractions make individuals more susceptible to agreeing with the arguments of others, as they detrimentally affect comprehension (Baron et al. 1973; Festinger and Maccoby 1964; Petty et al. 1976; Watts and Holt 1979; Zimbardo et al. 1970). Similarly, the Elaboration Likelihood Model (for attitude formation) indicates that distractions make cognitive processing more difficult, resulting in more peripheral (shallow) information processing (Petty and Cacioppo 1986; Street et al. 2001). Other cognitive research suggests that distractions consume attention, and since attention is limited, less is available to process important information (Kahneman 1973; Sagarin et al. 2003). For instance, in a classic study on inattention blindness, participants viewed a video of individuals passing around a basketball and were instructed to count the number of passes (Simons and Chabris 1999). In the video, a person in a gorilla suit walked through the group of individuals, stopped, beat his chest and exited. Notably, over half of the participants never saw the gorilla, as they were too distracted by the task at hand.

Human engineering research on diagnostic reasoning, which examines how operators uncover problems in various systems (e.g., manufacturing systems), has found results consistent with these distraction effects. For example, in situations with multiple system faults, research has found that individuals tend to focus on one problem at a time, attending first to the easy problems. In addition, when more difficult faults are present,

they are less likely to be detected than the easier faults (Kerstholt et al. 1996; Moray and Rotenberg 1989). Subsequent research involving multiple fault scenarios has found that single faults (easier explanations) are more likely to be detected than multiple faults (more difficult ones) (Patrick et al. 1999). While these studies do not specifically focus on distractions, the results suggest that easier explanations may inhibit consideration of more difficult explanations.

Distractions may also satisfy a need for closure. Kruglanski (1990) describes the need for closure as “a desire for an answer on any given topic ... as compared to ambiguity.” Those with a higher need for closure often rely on less information when making judgments and feel more confident with their decisions (Bailey et al. 2006; Vermier and Van Kenhove 2005). In general, accountants, especially staff and senior auditors (who are responsible for completing analytical review), have been found to have a relatively high need for closure (Bailey et al. 2006; Webster and Kruglanski 1994). As a result, distracting errors may deter auditors from uncovering harder-to-detect earnings management errors. That is, the sense of closure from addressing the area impacted by the baiting tactic may cause the auditor to feel that the procedures are complete and stop their search for additional errors.

Conservatism

While the preceding theories suggest that the baiting tactics used by clients may distract auditors from uncovering earnings management, evidence from audit research and practice suggest otherwise. In their review of the heuristics and biases literature, Smith and Kida (1991) reported that many of the biases found in psychological research are often mitigated or modified when experienced auditors perform job related tasks. For

instance, Joyce and Biddle (1981) found no effect of anchoring and adjustment when auditors assessed the changing strengths of internal controls. Smith and Kida (1991) proposed that auditors employ the specialized heuristic of conservatism, which can override the commonly found heuristics and biases present in psychological research. This conservatism heuristic leads to an auditor's tendency to focus on negative information (especially with respect to the client reporting higher profits).

Professional skepticism contends that auditors should continually question evidence that is gathered during the audit (Ricchiute 2006). This is especially true when clients have incentives to manage earnings. Studies have shown that auditors are more likely to book material audit differences when earnings targets are present (Anderson et al. 2004; Ng 2007), which suggests that auditors will be more likely to question management's explanation when those managers have incentives to manage earnings. Therefore, the use of baiting tactics to avoid the discovery of managed earnings may signal a "red flag," causing auditors to pay closer attention to the entire audit, and thereby increase their likelihood of detecting more difficult earnings management errors.

Overview of the Study

In this study, auditors completed analytical review procedures on the financial statements of a hypothetical client in order to determine if any errors were present. In all conditions, an earnings management error (which reduced compensation expense and accruals) was embedded into the financial statements and resulted in the client meeting analysts' forecasted earnings. In the diversionary statement condition, auditors were informed of a personnel change in the department responsible for non-current assets. This statement was designed to elevate the perceived misstatement risk in that area and

lure the auditor away from the earnings management error. In the distracting error condition, two off-setting and easily discovered errors were inserted into non-current assets. These distracting errors affected depreciation for property, plant and equipment and goodwill amortization, and off-set so that they had no impact on earnings.

Preview of the Results

The results indicate that when management provided a diversionary statement that led auditors to an area that was error free, auditors were unlikely to identify the earnings management error elsewhere in the financial statements. Conversely, auditors were most accurate in uncovering earnings management when they were directed to accounts that contained distracting errors. Overall, these results suggest that diversionary statements can distract auditors from finding earnings management. However, if auditors are diverted to accounts that contain errors, it appears that the discovery of those errors raises a red flag that heightens their sensitivity to errors in other areas of the audit.

CHAPTER 2

LITERATURE REVIEW

A company's management has incentives to manage earnings, but financial audits prevent over aggressive reporting. As such, management may employ strategies to prevent the auditor from discovering managed earnings. One of these strategies, the use of baiting tactics, involves distracting or misdirecting the auditor away from instances of earnings management. There is ample research suggesting that distractions are effective at inhibiting performance at various tasks (e.g., Freudenburg and Alario 2007; Kruglanski and Webster 1996). At the same time, auditors practice professional skepticism, thereby making them conservative in their judgments (Smith and Kida 1991), which suggests that baiting tactics will not be effective.

In this chapter, I review studies providing evidence that companies manage earnings to provide a foundation for their use of baiting tactics. I then provide a brief review of audit management (i.e., a means of employing strategies to prevent the auditor from discovering earnings management). Since baiting tactics involve distracting auditors, I then identify several streams of literature suggesting that distractions will be effective at inhibiting auditor performance. Finally, I provide a review on auditor conservatism, which suggests that these tactics will not be effective at distracting auditors.

Earnings Management

Earnings management is a pervasive topic in both accounting research literature and the popular press. As Thomas McKee broadly states in his book, Earnings Management: An Executive Perspective, earnings management involves “reasonable and

legal decision making and reporting intended to achieve stable and predictable financial results” (2005, 1). While McKee outlines legal ways to manage earnings, the popular press has documented many illegal ways managers will also try to smooth earnings. For instance, in 2007, it was revealed that Dell was using intentional accounting errors and irregularities to meet financial targets (Collins 2007). As another example, in 2003, Nortel executives used excessive cookie-jar accounting techniques to show a profit that resulted in employee bonuses (Kalawksy 2005). While these two examples are anecdotal, experimental research has found evidence suggesting that managers will engage in fraudulent activities when auditors are more trusting of their clients (e.g., King 2002).

Pressures

Without incentive, there is little reason to engage in earnings management. Duncan (2001) describes twenty pressures that managers face which, independently or collectively, may lead them to manage their earnings. He divides his list into three categories: external pressures, company culture and personal factors. External factors included pressures felt by the company from outside the organization generally relating to the stock market and competitors. Company culture describes the company’s ‘tone at the top’ and its overall strategic plan. Personal factors include reasons such as bonuses tied to the company meeting certain performance targets.

These pressures may become so prevalent that the need to manage earnings can trump the need for long term growth. In a survey of financial executives, Graham et al. (2005) found that earnings is the most important financial metric to external constituents. In fact, meeting earnings targets was so important to the executives that 78% of them

indicated that they would sacrifice long-term economic profit to meet an earnings forecast. An experimental study found similar results. Bhojraj and Libby (2005) conducted a study where individuals chose between two marketing campaigns; one that resulted in a short-term income, and another that resulted in a long-term profit. They manipulated stock market pressure and frequency of reporting. Their results suggested that companies experienced managerial myopia when there was a stock issuance. That is, companies chose the option of short-term income over a long term profit because there was an earnings target that was important to meet.

Evidence

While these studies show that managers have incentive to manage earnings, there is ample research suggesting that earnings are, in fact, managed. The first involves examining a phenomenon known as the 'break' in the earnings distribution. In a fairly normal distribution of earnings, evidence suggests there is a break just short of zero, and a spike just after zero. This suggests that in conditions where earnings will fall just shy of a given target, managers have an incentive to manage earnings upward just crossing the zero threshold. Three studies, in particular, have attributed this break to managed earnings. Hayn (1995) compared earnings per share (EPS) for the current year to the previous year (t to $t-1$). While her paper focused on the information content of losses, she found the break in the earnings distribution just before zero, indicating that firms are hesitant to record negative earnings (compared to their previous year). In another study, Burgstahler and Dichev (1997) found a similar break in the earnings distribution of changes in annual net income scaled by market value. In addition, their research suggested that cash flow from operations and changes in working capital are used to

achieve increases in earnings. Finally, Degeorge et al. (1999) found a similar relationship with analyst forecast errors, suggesting that when companies are going to slightly miss the forecast, they will manage earnings upwards to meet the target.

Other archival evidence examines specific accounts using various regression models. For instance, Subramanyam (1996) provided evidence that discretionary accruals are used to manage earnings (Bernard and Skinner 1996; Kasanen et al. 1996). In addition, other research has suggested that companies may try reduce their third and fourth quarter effective tax rates to drive earnings upwards (Dhaliwal et al. 2004). Furthermore, while firms issuing equity prefer to manage earnings upward by accelerating revenue recognition, other firms try to avoid reporting a loss by managing special items (Marquardt and Wiedman 2004).

Although there is ample evidence of earnings management occurring, these studies do not examine whether these attempts are legal methods or not. That is, research investigating earnings management generally does not delineate between methods that operate within or outside the rules of generally accepted accounting principles (GAAP). While McKee (2005) suggests that earnings management should only involve legal accounting tactics (e.g., maintaining cookie jar reserves, using derivatives, changing assumptions), several cases of illegal earnings management practices have been documented (e.g., Collins 2007; Henry 2004; Hilzenrath 2007; MacDonald 2002; Mavin 2007). For instance, Waste Management was sued for reporting fictitious increases in income and earnings from continuing operations by hiding the fact that substantial earnings were due to non-recurring items (Earnings Management 2008). In addition, a 1998 survey conducted at a *CFO Magazine* sponsored conference indicated that 78% of

attending CFOs had faced pressures to manage earnings upwards using GAAP approved changes, and about half had agreed to do so. What is more striking is that 45% of the attending CFOs had been asked by senior executives to misrepresent the company's financial performance, and 38% complied (Barr 1998; Earnings Management 2008; McKee 2005; Mills 2003). Overall, these examples provide evidence that earnings are managed by using illegal methods.

Research investigating fraud firms has found that one measure of discretionary accruals has predictive power for fraudulent activities (Jones et al. 2008). Still other research has examined characteristics and measures of fraudulent companies (Beasley et al. 1999), and how corporate governance stems from fraud detection (Farber 2005). What is interesting about these studies is that all of them included actual fraud firms as part of their sample (ranging from 87 cases to 200), providing evidence that managers do, in fact, engage in illegal reporting practices. It therefore appears that managers may use aggressive, perhaps even illegal, measures to meet an earnings target.

Finally, research has investigated the ways in which auditors are able to detect earnings management. Nelson, Elliot and Tarpley (2002) surveyed several audit partners in a field based study, counting the attempts of managers to manage earnings and the subsequent discovery by auditors. Overall, the most common occurrence of earnings management was through expenses (and other losses) and revenues (and other gains). In general, their results suggest that managers are more likely to manage earnings upwards than downwards and indicates that managers may use many different accounts to manage earnings. It should be noted that their study only reported those instances of earnings

management that had been discovered by auditors, and obviously omits all of the possible cases where auditors failed to uncover the managed earnings.

Summary

Overall, earnings management is a heavily researched area in the accounting literature. Research has documented the significant pressures faced by CFOs to manage earnings, provided evidence that earnings management occurs and offered insight into the types of accounts used to record improper entries. Furthermore, documented cases of illegal earnings management suggest that earnings management may be a common tactic employed by companies.

Audit Management

I define audit management as a client's strategic use of techniques to prevent auditors from identifying or recognizing managed earnings during the audit. To date, this is a relatively unexplored area of research. While my study focuses on the effect of baiting tactics, there have been a limited number of studies that have manipulated management information, which could be viewed as another means to manage the audit. These studies involved providing incomplete information and framing evidence.

For instance, in an analytical review task, Bedard and Biggs (1991a) manipulated the representations provided by management as either complete, incomplete or no representation. Auditors who received an incomplete representation had less than half the audit quality than those receiving the complete representation (32% compared to 73%). Specifically, this suggests that if managers do not provide complete information, auditor performance will suffer, providing opportunities to manage the audit.

In another study, Johnson et al. (1991) examined how auditors are affected by evidence framing. In a verbal protocol field study, they provided six audit partners (three novice partners and three experienced audit partners) with two cases of companies with errors in their financial statements. In the first case, involving a company with a fraudulent overstatement of income, the company was framed as a high-growth company, which would explain the increase in income. The other case involved errors to receivables without framing the information. The researchers found that two of the six auditors, who had auditing experience in the same industry as the framed company, were able to identify the correct representations to realize that the company was not a growth company and that income was overstated. In the other case (with no framing), only the more experienced partners were able to identify the error.

While studies on managing the audit are limited, a recent study suggests that it can be effective. Caramanis and Lennox (2008) regressed accruals by audit hours on firms in Greece. They found that when audit hours are lower, abnormal accruals are often positive and larger. This provides evidence that companies are likely to manage earnings upwards to meet or beat a zero earnings benchmark. In addition, the study concluded that company size and tenure with the auditor also has an impact management's tendency to manage earnings. Overall, these three variables may provide management with the opportunity to engage in audit management practices. That is, if management can bait auditors to different areas of the audit, more audit hours would be spent in those areas, and consequently, less would be spent in others areas where management has managed earnings. As a result, audit management is a fruitful area for future exploration.

Distractions

Baiting tactics involve the use of distractions. Distractions have been studied in several streams of literature, including both psychology and sociology. A central finding of the research across many areas exploring various theories is that distractions often inhibit task performance. For instance, if an individual is talking on a cell phone while driving, he/she is more likely to get into an accident than if all concentration was dedicated towards driving. At the same time, an audience is more likely to learn the tell of a magician's trick if the magician does not distract them. In both cases, distractions reduce individual performance. The following review describes various theories involving distractions. First, I introduce how distraction affects legitimation. I then describe how distractions affect performance in other areas of research, including attention, need for closure, persuasion and human engineering.

Legitimation

In their sociological thesis, Freudenburg and Alario (2007) reviewed several streams of literature examining legitimation (i.e., the process of concluding that something is valid). They argue that preventing evidence from being questioned is a means of achieving legitimation (i.e., it creates something that is only valid in appearance). Specifically, they review how magicians effectively divert attention to “make things disappear.” Their commentary does not stop at magicians, as it extends to other contexts, such as politics.

Freudenburg and Alario (2007) further argue that this “dark” legitimation can work in two ways. First, it can be effective by making problem evidence disappear from view. So a magician's trick will work (or appear real) if the tell is not visible. They do

this by using misdirection, or leading the audiences eyes away with gestures, rendering the tell of the trick invisible. Similarly, a debater will win an argument if the evidence that refutes his/her position is not known.

However, a more efficient approach, they argue, is to get the audience to focus on something else. That is, by enticing the audience to put their attention elsewhere, questionable evidence is likely to be ignored. As part of their argument, Freudenberg and Alario (2007) examine this phenomenon in the context of the mass media. They suggest that the media is relatively ineffective at shaping public opinion; instead, its power and influence stems from setting the agenda or determining what people think about (e.g., Iyengar and Kinder 1987). As such, changing the focus to a completely new topic (as the media have the power to do) is an effective way for distractions to work. For instance, when investigating a risky technology, experts may emphasize the risks of the technology, prompting public fear (Mazur 1981). If other experts try to reframe the story focusing on the safety features of the technology, their attempts to refute the argument may be ineffective because the focus is still on risk. A better approach, the authors argue, is to focus attention on another issue, such as the legitimacy of the refuting experts, or distract the public with other information in a separate area (Freudenberg and Alario, 2007).

Overall, research and commentary on legitimacy provide examples of techniques which make distractions effective. A distraction will be effective when the topic is legitimized, either through making the dissenting evidence invisible or diverting attention to other issues. In either case, the audience validates (or does not invalidate) the trick, the argument or the story, as the distraction prevents them from accomplishing that.

Attention

Distractions are effective because they occupy attention, making it more difficult to attend to other activities. Kahneman (1973) describes attention as mental effort needed to process information. Cognitively, the amount of mental effort individuals have is finite. Simply put, this capacity refers to a maximum level of mental effort that an individual can devote at any particular time (Friedenberg and Silverman 2006; Reed 1996). Generally, individuals can divide their mental effort on various activities at will, but they must work within their given capacity.⁴ This cognitive division can be thought of as the amount of attention that each activity is receiving. Each task competes for the finite amount of mental capacity that the individual possesses. Tasks that are more demanding require more effort, or a larger slice of the attention available.

Decisions can fail when activities exceed mental capacity (Kahneman 1973). This will occur if there are too many concurrent activities, or if any particular activity is too difficult and requires too much of the available mental activity. In either case, the sum of the activities exceeds the amount of available mental capacity, resulting in some activities being ignored. As an example, Reed (1996) describes an air traffic controller who is attending to seven planes. One of the planes is flying 200 feet below the top of a major skyscraper. An alarm sounds and the air traffic controller quickly tells the pilot to ascend. The reason the controller did not notice the plane's altitude is because he/she was attending to seven planes. As such, these activities exceeded his/her mental capacity, and there was not enough available cognition to attend to all of the necessary cues (Reed

⁴ Attention is lowered when multiple tasks rely on the same processes. In general, two tasks that rely on different processes (e.g., a visual and a verbal task) can be performed at the same time (e.g., Reed, 1996).

1996). This example is consistent with other research suggesting that divided attention slows reaction time and causes mistakes when competing tasks are present (Ninio and Kahneman 1974).

Distractions essentially consume cognitive resources. That is, they use up the amount of available processing, leaving less for other activities. This is evidenced by classic studies on inattention blindness. In one study, Neisser (1979) had participants watch a video of students passing a basketball. One group was asked to simply watch the tape, while others were asked to count the passes. During the video a woman with an umbrella entered the picture. While all individuals who were simply instructed to watch the video saw the woman, only 21% of those instructed to count the passes saw the woman. Simons and Chabris (1999) replicated this study, changing the woman with the umbrella to an individual wearing a gorilla suit. During the video, that person in the gorilla suit walked through the group of individuals, beat his chest and exited. Interestingly, over half of the participants never saw the gorilla.

Both of these studies demonstrate how distractions can affect our attention. Given our finite amount of attention, the more focus we dedicate to a specific task, the less we have available to devote to another task, making us essentially blind to them. Just as in the previous studies (involving the person in the gorilla suit and the woman with the umbrella), the individuals became so focused on the task of counting the basketball passes that they were unaware that a strangely out of place gorilla was walking across the scene. What makes this more striking is that in the video, the person in the gorilla suit even gets in the way of the passes (i.e., the basketball disappears behind the person in the

gorilla suit) but most participants still failed to see him. As such, the distraction of the task effectively prevented the participants from noticing something clearly obvious.

Need for Closure

Distractions can also satisfy a need for closure. Kruglanski (1990) describes the need for closure as “a desire for an answer on any given topic ... as compared to ambiguity.” The researchers further argue that any answer (even a wrong one) will suffice when closure is sought, because those with a higher need for closure often rely on less information when making judgments and feel more confident in their decisions (Bailey et al. 2006; Vermier and Van Kenhove 2005).

Distractions and other situational pressures induce a need for closure. For instance, Kruglanski et al. (1993) examined how noise activated a need for closure. In their study, students took part in a mock trial. The researchers manipulated whether or not students were exposed to a noisy environment. They found evidence suggesting that noisy environments activate a need for closure, as those in a noisy environment had more need to come to an agreement with the task confederate. Other research has also found that time pressure and other situational variables can induce a need for closure (e.g., Kruglanski and Webster 1991). These studies suggest that this is due to the strain these external forces exert on cognitive capacity (Kruglanski and Webster 1996; Roets et al. 2008). That is, when less cognitive capacity is available, consistent with how distractions use capacity, there is a greater need for cognitive closure.

While the need for closure may be activated by situational variables, individuals may be naturally predisposed to this phenomenon. Such individuals prefer to feel a sense of closure with given tasks. While assuming variability among the population, Webster

and Kruglanski (1994) examined individual differences and found that desire for completion may be measured along five different dimensions: preference for order, preference for predictability, decisiveness, discomfort with ambiguity and closed-mindedness. For instance, those who do not like to enter into situations without knowing what to expect (preference for predictability), and who believe they can arrive at the one best solution to a problem very quickly (decisiveness), would be said to have higher need for closure.

In general, accountants have been found to have a relatively high need for closure (Bailey et al. 2006; Webster and Kruglanski 1994). This is especially true for staff and senior accountants who are generally responsible for completing field work. Research indicates that those with higher need for closure might be more attracted to majors that appear more predictable (i.e., accounting). However, more experienced auditors (i.e., managers and partners) generally have a lower need for closure, because those with higher need for closure realized that auditing is not as predictable as they may have liked and left the industry (Bailey et al. 2006).

Overall, distractions can impair judgments by activating one's need for closure. Given that distractions use up cognitive capacity, one may seek to come to a faster solution in the presence of them. Furthermore, research suggests that auditors responsible for field-work (i.e., staff and seniors), on average, already possess a higher need for closure, possibly making them even more susceptible to desiring completion of a task in the presence of distractions (Bailey et al. 2006).

Attitudes and Persuasion

Research on distractions also exists in the literature on persuasion and attitude formation. Specifically, distractions make individuals more susceptible to arguments. In a classic study on persuasion, Festinger and Maccoby (1964) performed a series of three studies on persuasion. All three experiments had subjects listen to an argument against the existence of college fraternities, and manipulated whether or not a distraction was present. The distraction involved subjects viewing a silent movie as they listened to the argument. In their first study, there was no distraction effect found, possibly because the university where the study was conducted had a weak fraternity system. Festinger and Maccoby then replicated the study with fraternity students at a different university and found that those receiving the distraction were more persuaded by the argument and less likely to reject the speaker's views. Finally, the researchers ran the study again at a third university using both fraternity and non-fraternity students. They found that distractions made the fraternity students more accepting of the speaker's arguments rejecting fraternities.

Subsequent research has further explored distractions and provided insights into its effect on persuasion. A review by Baron et al.(1973) describes several studies that explore the effects of distractions on persuasion. Overall, they conclude that distractions clearly enhance the persuasive impact of arguments. As one example, Zimbardo et al. (1970) examined the effect of distractions and found that they have an effect on persuasion when the individual is trying to focus on the message (and not on the distraction). That is, distractions make individuals more susceptible to persuasive

arguments. However, if individuals are focusing on the distraction, then an argument is not as persuasive, because they do not hear the argument in the first place.

Expanding on this research, Petty and Cacioppo (1986) created the Elaboration Likelihood Model for attitude formation. The model stipulates that attitudes can be formed by way of two separate processes, or ‘routes:’ the central route or the peripheral route. The central route involves careful thinking about and scrutinizing all details of the message being processed. The peripheral route involves shallow processing and relies more on environmental characteristics of the message. For instance, one may naturally agree with the message because the source is reliable (regardless of what the message says). The route used by the individual is determined by the motivation of the individual and the cognitive ability he/she has available. Distractions foster peripheral route processing, meaning that the message processing will be shallower in the presence of distractions, making individuals more susceptible to being persuaded.

As evidenced by the studies previously described, distractions seem to inhibit performance. They make individuals more susceptible to arguments of others, meaning that individuals are less able to form their own opinion in the presence of distractions. This appears to be due to the peripheral route of processing chosen when distractions are present.

Human Engineering

A stream of research in human engineering involves diagnostic reasoning of how operators uncover faults (i.e., problems) in various systems. This type of research often involves human performance related to monitoring tasks (e.g., monitoring the reactor of a nuclear power plant). These monitoring systems provide information for individuals to

determine whether the environment is running properly or not. While research in this area has not specifically explored distractions, they have found effects that are consistent with distractions.

For example, one study recorded eye movements of subjects attending to either single or multiple faults (i.e., problems) while monitoring a thermal hydraulic system (Moray and Rotenberg 1989). The results provide evidence of 'cognitive lockup,' as individuals were only able to focus on one fault at a time, and too many faults exceeded their available capacity.

Kerstholt et al. (1996) followed up on this study and manipulated the complexity of problems in a ship control task. They also found evidence of cognitive lockup. However, their results also suggested that individuals took longer to react to disturbances when several were happening at once. Furthermore, disturbances detected later had a higher probability of being ignored.

In another experiment, Patrick et al. (1999) conducted a field study examining the effects of single and multiple faults in a manufacturing plant. They discovered that multiple faults are more difficult to detect, because multiple events occurring concurrently cause various symptoms. As a result, the multiple faults were determined to be more difficult. The researchers discovered that individuals could not develop multiple fault hypotheses to explain the symptoms.

Each of the preceding studies has found results consistent with distractions. When multiple problems are present, each can be thought of as a distraction to the other. That is, individuals have difficulty attending to all faults in a system, causing greater likelihood that faults will go undetected. Furthermore, the easiest faults (i.e., most salient

problems) are detected first, suggesting that they effectively distract operators from the more difficult ones. Finally, the effect of cognitive lockup appears to be similar with how distractions affect performance. When distractions are present, individuals' performance suffer because the processes exceed their cognitive capacity.

Summary

Overall, distractions affect one's ability to perform at a given task. Magicians take advantage of these to legitimize their tricks. Politicians also effectively use distractions to steer arguments in an intended direction. Distractions appear to use up existing capacity in the brain, leaving less cognition available for other activities. Not only do distractions use up available attention, but they also perpetuate the need for closure; they make individuals more likely to be persuaded by arguments of others, thereby allowing their attitudes to be shaped, and they inhibit individuals from finding problems with systems.

As a result, distractions may be an effective tool for management to use during an audit. Hence, if managers can distract auditors, they may be able to effectively prevent managed earnings from being detected.

Conservatism

In their review of the auditing literature, Smith and Kida (1991) discovered that many of the heuristics and biases found in psychology are often modified or mitigated when professional auditors complete audit tasks. The authors found an overall tendency, across many audit tasks, for auditors to focus on negative information. As such, Smith and Kida (1991) proposed that auditors employ the specialized heuristic of conservatism, which can override the commonly found heuristics and biases present in psychological

research. This conservatism heuristic leads to an auditor's tendency to focus on negative information (especially with respect to the client reporting higher profits).

For instance, in one study, Joyce and Biddle (1981) found an effect of anchoring and adjusting when auditors made fraud assessments. However, they found no effect of this bias when experienced auditors assessed the changing strengths of internal controls. While auditors do not often make fraud assessments in the manner that Joyce and Biddle tested, they do often rate the strength of internal controls. As a result, auditors were familiar with this task, and given that the controls weakened, auditors appropriately increased the scope of testing instead of anchoring on the original control rating.

In another study, Kida (1984) assessed auditors' likelihood to use confirmatory or disconfirmatory decision strategies. In his experiment, auditors assessed whether a firm would go bankrupt or remain viable (i.e., they were given one of the two options). In order to make this assessment, he provided the auditors with twenty pieces of information about the firm (ten positive and ten negative items), and had the auditors list the evidence they used in their assessment. While there was not strong support for a confirmatory strategy, in both cases there was a heavy bias towards the failure items.

The above studies highlight the effects of conservatism on auditor judgment. That is, for professional auditors, the focus on negative information modifies the effects of other heuristics and biases found in psychology. This overriding heuristic is still a common focus in current literature. For instance, subsequent research has found that accountability pressure heightens the effects of conservatism (i.e., makes auditors more conservative) (DeZoort et al. 2006). Still other research has found differences in auditor conservatism for small and large firms (Kim et al. 2003), and that auditor conservatism

impacts materiality levels (Patterson and Smith 2003). Overall though, auditor conservatism should make an auditor more focused on negative information.

Auditor conservatism is likely supported by auditors' tendency to adopt a mindset of professional skepticism. Auditors receive training on professional skepticism, which teaches them to continually question evidence that is gathered during the audit (Ricchiute 2006). This is especially true when clients have incentives to manage earnings. Studies have shown that auditors are more likely to book material audit differences when earnings targets are present (e.g., Anderson et al. 2004).

An experiment by Anderson et al. (2004) pointed auditors to a fluctuation in revenues and gross margin and provided them with management's explanation of the fluctuation. Auditors were then asked to assess the likelihood that the financial statements were misstated and how likely they would rely on the statements of the controller. They manipulated both management's explanation as quantified or non-quantified, and management's earnings management incentive as either high or low. They found an effect of earnings management; when management had a high incentive to manage earnings, auditors were less likely to believe the clients explanation and thought the statements were in error.

In another study, Ng (2007) examined an auditor's likelihood to book or waive an audit decision given three materiality thresholds: positive earnings, beating prior year earnings or beating analysts' forecasts. In his first of two experiments, he used an immaterial audit difference. While auditors were most likely to book a positive earnings threshold, overall they were not very likely to book any audit difference. As such, he ran a second experiment; however, this time he used a material audit difference. Again, he

found that auditors were most likely to book a positive earnings threshold. More importantly, when the audit difference was material, auditors were always likely to book the adjusting entry.

Overall, conservatism appears to cause auditors to focus on more negative (and generally income decreasing) information. As a result, several biases found in psychology are often modified in auditor judgments. When conducting audits, conservatism should make auditors more skeptical of management, making them more likely to question evidence and devote more attention to the underlying data. This, in a sense, should make auditors more likely to identify managed earnings.

Summary

Overall, earnings management is a pervasive phenomenon that has been discussed at length in the academic literature. Not only does archival research provide evidence that it occurs (e.g., Burgstahler and Dichev 1997), but there is even survey research with managers admitting that they practice it (Graham et al. 2005). Given that earnings management should be detected (and possibly corrected) during the audit, the existence of audit failures suggest that clients must be taking some strategic approach to prevent auditors from discovering managed earnings (e.g., Bedard and Biggs 1991a).

Baiting tactics may be one approach that clients use to effectively “manage the audit.” Baiting tactics involve distractions, and there is ample research suggesting that distractions inhibit performance (e.g., Freudenburg and Alario 2007; Kruglanski and Webster 1996). However, auditors are trained to practice professional skepticism, which suggests that baiting tactics would be ineffective (Smith and Kida 1991).

CHAPTER 3

METHODOLOGY

The primary purpose of this study is to examine the impact of baiting tactics on an auditor's ability to discover an earnings management error (i.e., an error that the client intentionally records in the financial statements to meet an earnings target). The experiment concerned analytical review procedures, and had auditors navigate through financial information to look for material fluctuations that might be the result of an error.

In all conditions, an earnings management error was seeded into the statements that allowed the client to meet an earnings target. I manipulated the presence of two baiting tactics. One tactic involved management alerting auditors to risk in a different area of the financial statements (i.e., employed a diversionary statement). The other baiting tactic involved the insertion of easy-to-detect, distracting errors in those other areas of the financial statements.

Research Question

Both academic research and the popular press report that companies manage earnings (e.g., Burgstahler and Dichev 1997; Cabrera 2007; Graham et al. 2005). It is the responsibility of auditors to prevent management from using inappropriate or illegal reporting practices. Despite the fact that auditors know that managers try to manage earnings, there are still several documented occurrences (e.g., Collins 2007; Earnings Management 2008; U.S. Securities and Exchange Commission 2007). One explanation for why auditors sometimes fail to detect earnings management may be management's ability to "manage the audit," or strategically attempt to prevent auditors from detecting manipulated performance (e.g., Caramanis and Lennox 2008). Baiting tactics involve

distractions, and may be one way managers succeed in preventing auditors from discovering earnings management. Competing theories and research raise questions regarding how baiting tactics will affect an auditor's ability to identify earnings management practices. Psychological, sociological and human engineering research indicate that distraction affects performance (e.g., Freudenburg and Alario 2007; Kahneman 1973; Simons and Chabris 1999), which suggests that the inclusion of diversionary statements and/or easy-to-detect, distracting errors will reduce the likelihood of auditors uncovering a harder-to-detect earnings management error. Conversely, audit research indicates that auditors exhibit a measure of conservatism and professional skepticism, which reduces, and sometimes eliminates, several biases present in the psychology literature (see Smith and Kida 1991 for a review). Therefore, exposure to a baiting tactic could alarm auditors, which may heighten their awareness and cause them to increase their level of scrutiny towards the data. Given these possible outcomes, I present the following research question:

RQ₁: Will diversionary statements and/or distracting errors affect an auditor's ability to uncover an earnings management error?

Method

Participants

Seventy-six auditors took part in the experiment (64.5% of which were male and 35.5% were female). On average, participants were 28 years old and had four years of audit experience.⁵ Approximately two-thirds (66%) of the participants were employed by

⁵ The original participant pool contained 77 auditors; however, one was removed due to software error.

Big 4 accounting firms, while 28% were employed by regional sized firms. Participants held the following job titles: 61% percent were audit seniors, 22% were associates,⁶ 10% were managers or partners, and 7% were classified as other.⁷ The experience level of our sample provides reasonable assurance that the individuals were both familiar with the task at hand and possessed the requisite knowledge to effectively complete it.⁸

Overview of the Study

The experiment required that auditors complete analytical review procedures on the financials statements of a hypothetical client. An error was embedded into the statements which understated compensation expense and accruals by approximately \$450,000. Detection of this error was part of the main dependent variable. The compensation expense error was divided evenly into administrative compensation expense and sales compensation expense, understating both by approximately \$225,000. The accrual entry was divided evenly between current and non-current accrued compensation.⁹ Background data, provided prior to beginning the analytical review, revealed that the company beat analysts' forecasted EPS by approximately \$0.025 / share (net income was about \$8.45 million). If the compensation error was discovered, the company would miss its earnings target.

⁶ An interview with five individuals with audit experience revealed that all had conducted analytical procedures when they were associates (four had done so in their first year, while one did during his second year).

⁷ The other participants had an average of 3.67 and a minimum of 1.33 years of audit experience.

⁸ Audit effectiveness (our main dependent variable which is further described in Chapter 4) did not significantly differ between audit levels ($F=0.64$, $p=0.64$).

⁹ The error was divided into different accounts so that it was more difficult to uncover. While compensation is often a current accrued liability, non-current accrued compensation can relate to post-retirement benefits, deferred incentive compensation, pension benefits, non-expiring vacation/sick time, etc.

The study employed a 2 x 2 experimental design (see Figure 3.1). The first independent variable manipulated whether management provided a diversionary statement. The diversionary statement involved management explicitly identifying risk elsewhere in the financial statements in an attempt to lure the auditor away from managed earnings. The accounts identified with risk were non-current assets. To effectively manipulate an elevated misstatement risk, the client's background information indicated that the individual responsible for maintaining non-current assets (i.e., property, plant & equipment, intangibles and other non-current assets) left the company about six months ago. It also stated that her replacement transferred in from the manufacturing floor and had very little accounting experience. Aside from that change, the auditors were told that there was no other turnover with any of the accounting personnel responsible for financial reporting. In the other conditions, no specific area of risk was identified.

The second independent variable was manipulated by seeding two off-setting, easy-to-discover, distracting errors. These errors were strategically inserted into non-current assets, the same area towards which the diversionary statement pointed.¹⁰ One error concerned the company failing to record a portion of depreciation expense for furniture and fixtures, resulting in an understatement of depreciation expense and accumulated depreciation by approximately \$450,000. The other error overstated amortization expense, and hence understated the net value of goodwill by approximately

¹⁰ As previously noted (in Chapter 1), management may want to embed distracting errors into diversionary areas to reduce the amount of time the auditor spends on error investigation in other areas of the audit, or to increase the trust that the auditor has in the client. On the other hand, management may want to divert auditors to error-free accounts, on the thought that if the client's records are accurate in higher risk areas, they'll likely be accurate elsewhere.

Figure 3.1
Experimental Design

		Diversionary Statement	
		No	Yes
Distracting Errors	No	No Audit Management	Diverted to Clean Area
	Yes	Distracting Errors	Diverted to Distracting Errors

This Figure represents the 2x2 experimental design. All conditions contained an error to compensation that was used to meet analysts' forecasts (earnings management error).

- In the "No Audit Management" cell, auditors conducted analytical review procedures without any baiting tactics present.
- In the "Distracting Errors" cell, auditors conducted analytical review procedures on financial statements that contained two, off-setting easy-to-detect errors in non-current assets.
- In the "Diverted to Clean Area" cell, management alerted auditors to risk in non-current assets, but these accounts did not contain any errors.
- In the "Diverted to Distracting Errors" cell, management alerted auditors to risk in non-current assets, which contained two, off-setting easy-to-detect errors.

\$450,000. Since the two errors off-set, taken together, they had no effect on net income.

Absent the seeded errors, none of the accounts related to depreciation and amortization reflected any material fluctuations from previous years.

These manipulations resulted in four conditions. In one condition, the auditors completed the analytical review without the client trying to manage the audit (i.e., no baiting tactics). Two other conditions each involved the use of one baiting tactic. In one condition, auditors conducted an analytical review on financial statements that contained distracting errors. In the other, auditors were alerted to risk in accounts that did not actually contain any errors (i.e., they were led to a clean area). Finally, the last condition

manipulated both baiting tactics, so the auditors were alerted to risk in accounts that contained distracting errors.

Development of the Instrument

The analytical review case included background information on the client and the financial information necessary to complete the review procedures. In developing that instrument, I sought to achieve a case that met the following goals:

- Consisted of a stable set of financial statements.
- Portrayed the client's desire to meet an earnings target.
- Contained a difficult, but detectable error that assisted the client in meeting an earnings target.
- Contained easier, off-setting errors as part of the distracting error manipulation.
- Employed errors that did not require any specific industry expertise.
- Effectively elevated misstatement risk in another area of the financial statements as part of the diversionary statement manipulation.

The background information provided information about the client, the industry, the market and the audit (see Table 3.1). Participants learned that they would be conducting an analytical review on Flexpack, a mid-sized manufacturing company that produced cardboard boxes and container products. Client and industry data were derived from Bhattacharjee et al. (1999) and IBISWorld (2008). The background information also identified the analysts' forecasted earnings and specifically indicated that Flexpack had consistently met its forecasts and was very committed to continuing to meet this benchmark. Additional information presented in the background materials revealed that

Table 3.1
Client Background and Financial Information

- Background Information
 - The client
 - The industry
 - The market
 - The audit
- Analytical Review
 - Balance sheet
 - Income statement
 - Cash flow statement
 - Marketable securities
 - Accounts receivable
 - Inventory
 - Inventory
 - Cost of goods manufactured / sold
 - Prepaid expenses
 - Property, plant and equipment
 - Property, plant and equipment
 - Accumulated depreciation
 - Intangible assets
 - Other non-current assets
 - Purchases, payables & taxes
 - Other current liabilities
 - Debt
 - Other non-current liabilities
 - Retained earnings
 - Sales
 - Selling and administrative expenses
 - Selling expenses
 - Administrative expenses

Participants were provided with several pages relating to the client's background and financial information described above. Pages that contained information related to the earnings management error, the diversionary statement manipulation and the distracting error manipulation are noted. Furthermore, the sub-headings for inventory, PP&E and S&A expenses indicate that this information was provided over two pages.

the client had received an unqualified opinion in previous audits and that no material control deficiencies were noted. The materiality threshold was specifically stated to be \$100,000 (\$0.01 per share).

The financial statements were created from several other accounting studies using similar analytical review procedures, including Bhattacharjee et al. (1999), Cohen (1994), Cohen and Kida (1989), Luippold and Kida (2008), and Moreno et al. (2007). The statements were edited so that no single account differed significantly from the prior year balance in order to present stable financial statements (i.e., no fluctuations were greater than \$100,000). In addition, the sales were reduced in the current year, so that the forecasted earnings were missed (by approximately \$0.025 per share).

An error to compensation was seeded into the financial statements amounting to approximately \$450,000. This error was evenly divided between sales compensation and administrative compensation and off-set in current accrued compensation and non-current accrued compensation (understating each account by approximately \$225,000). This error was chosen because compensation expense is common across all industries, and is generally audited through analytical procedures, as detailed testing can be very taxing on an audit budget. Furthermore, the error was divided into multiple accounts to make it more difficult to detect (i.e., less salient), although still material in each individual account.

The diversionary statement manipulation was embedded into the background information. When the diversionary statement was present, the background information included language stating that management had indicated that the person responsible for maintaining non-current assets (i.e., property, plant & equipment, intangibles and other non-current assets) left the company and the replacement had little accounting experience. This statement was designed to elevate the risk of misstatement in those areas of the financial statements.

Finally, the distracting errors were manipulated by seeding two easier-to-detect errors into the financial statements. One involved the understatement of depreciation for furniture and fixtures by approximately \$450,000, thereby reducing administrative depreciation expense and accumulated depreciation. The other involved inappropriately amortizing goodwill by, again, approximately \$450,000, which overstated administrative amortization expense and understated the net value of goodwill. These errors offset so they would have no impact on net income. For each error, the misstatement was always in a single account (plus an off-setting entry) to make it appear more salient (i.e., easier to detect). These accounts were chosen for two reasons. First, depreciation and amortization are not industry specific, so no industry expertise is required. In fact, both of these concepts are taught in introductory accounting classes, suggesting that professional auditors should be able to easily interpret these accounts and identify the errors. Second, they both fall within the same general area of the financial statements (i.e., non-current assets), allowing the diversionary statement to appropriately interact.

After receiving the background information, auditors were exposed to a financial information set for Flexpack that included the following information (refer to Table 3.1 for details outlining the background and financial information presented and to the Appendix for the actual instrument):

1. Current year's unaudited and two prior years' audited balance sheet. The statements were presented in both account balance and common-sized (i.e., percentages of total assets) formats. Compared to prior year, there were no unexpected, material fluctuations. For all conditions, in the current year, both other current liabilities and other non-current liabilities each dropped by 0.2%

total assets (from 9.0% to 8.8% and 4.8% to 4.6% respectively) or each by approximately \$225,000 from the inclusion of the earnings management error.

When the distracting errors were present, there was a significant fluctuation in accumulated depreciation causing net Property, Plant and Equipment to increase by 0.3% of total assets (from 29.0% to 29.3%) from previous years. In addition, net-intangible assets decreased significantly more than what would have been expected due to amortization (1.9% to 1.3%).

2. Current year's unaudited and two prior years' audited income statements. Similar to the balance sheet, the statement was presented in both account balance and common-sized (i.e., percentage of net sales) formats. Aside from the decrease in sales for the current year (to reflect an incentive to manage earnings), the only fluctuations from previous years were the decreases in selling and administrative expenses which dropped 0.3% of net sales (or approximately \$450,000) compared to the previous year (20.5% compared to 20.8%). This resulted in net income increasing by 0.1% of net sales.
3. Indirect cash flow statement. The statements detail changes in operating activities, investing activities and financing activities in absolute deviations for the current year unaudited to previous two years audited. There were significant deviations in net income, "changes in payables/taxes and other current liabilities" and "changes in other non-current liabilities" (approximately \$200,000, \$150,000 and \$200,000 respectively). Furthermore, when the distracting errors were present, the adjustment for depreciation was approximately \$400,000 less than the

previous year and the “changes in intangible assets/other non-current assets” was approximately \$550,000.

4. Relevant analytical procedures for marketable securities. The information consisted of marketable securities as an absolute balance, as a percentage of total assets and as a percentage of current assets. In addition, details were provided related to the breakdown of the specific marketable securities owned, reported in both the cost bases and market value formats. There were no material fluctuations in this data.
5. Relevant analytical procedures for marketable securities. This information included the accounts receivable turnover and days net receivable outstanding ratios. The allowance for doubtful accounts and bad debt expense were both reported in absolute terms, as a percentage of net sales and as a percentage of net receivables. Finally, an accounts receivable aging analysis was presented. There were no material fluctuations in these data.
6. Relevant analytical procedures for inventory. The information was composed of the working capital balance, the current ratio, the quick ratio, inventory turnover, days inventory ratio, profit margin on sales, percent profit before taxes to total assets, working capital to total assets, net sales to total assets, net sales to working capital and net sales to selling and administrative expenses. In addition, there was a breakdown of inventory by category, a schedule of cost of goods manufactured and a schedule of cost of goods sold. Again, there were no material fluctuations in these data.

7. Relevant analytical procedures for prepaid expenses. The information contained the prepaid expenses as a raw balance, as a percentage of current assets and as a percentage of total assets. In addition, there was a breakdown of the prepaid expenses. There were no material fluctuations in these accounts.
8. Relevant analytical procedures for property, plant and equipment and accumulated depreciation. The information included breakdowns of PP&E by class, additions, disposals, accumulated depreciation and current period depreciation. When the distracting errors were present, there was a significant decrease in depreciation for furniture and fixtures (understated by approximately \$450,000).
9. Relevant analytical procedures for intangible assets. The information reported the intangible assets raw balance and as a percentage of total assets. In addition, the detailed schedule of intangibles assets, acquisitions, disposals and impairments and the amortizations was provided. When the distracting errors were present, goodwill was inappropriately amortized which overstated the amortization by approximately \$450,000.
10. Relevant analytical procedures for other non-current assets. The information presented other non-current assets as a raw balance and as a percentage of total assets. In addition, there was a breakdown of the other non-current assets. These data did not contain any material fluctuations.
11. Relevant analytical procedures for purchases, payables and taxes. The information consisted of the purchases of goods balances for the year as well as for the months prior and subsequent to year-end. In addition, the purchases

returns and allowances were reported as a raw balance and as a percentage of net sales. Accounts payable was also reported as a raw balance and as a percentage of net sales, and the payables balances for the months prior and subsequent to year-end were also provided. Finally, accrued tax liability was reported as a raw balance and as a percentage of tax expense. There were no material fluctuations in the data.

12. Relevant analytical review procedures for other current liabilities. The background information reported other current liabilities as a raw balance, as a percentage of current liabilities and as a percentage of total liabilities and equity. There was also a breakdown of other current liabilities. Accrued employee compensation was significantly less than the previous year (approximately \$225,000) due to the presence of the earnings management error.
13. Relevant analytical procedures for debt. The information contained balances for long-term debt (raw balance, as a percentage to equity and to total assets), interest expense (raw balance and as a percentage to total debt), short-term notes payable and a breakdown of long-term debt. There were no material fluctuations in the data.
14. Relevant analytical review procedures for other non-current liabilities. The information included other current liabilities as a raw balance, as a percentage of current liabilities and as a percentage of total liabilities and equity. In addition, there was a breakdown of non-other current liabilities. Accrued employee compensation was significantly less than the previous year (by approximately \$225,000) due to the presence of the earnings management error.

15. Relevant analytical procedures for retained earnings. For common stock, the information set consisted of the shares outstanding, the par value, additional paid in capital, initial public offering price and the current trading price. The information also included dividends per share, dividends as a percentage of stock price, earnings per share and market capitalization. Finally, a statement of retained earnings was reported. There were no significant differences in any of the information compared with the prior year.
16. Relevant analytical review procedures for sales. The following data was present: sales by product, a sales mix, gross margin by product, sales for the months prior and subsequent to year-end, sales returns and allowances for the year (as raw balance and as a percentage of net sales) and the balances for the months prior and subsequent to year-end. Aside from the decrease in sales for the current year (to reflect an incentive to manage earnings), there were no significant differences in any of the data.
17. Relevant analytical procedures for selling and administrative expenses. The data were reported in absolute and common-sized (as a percentage of net sales) formats. There were significant decreases in both sales and administrative compensation expenses (each fluctuating approximately \$225,000) from the previous year. Also, when the distracting errors were present, administrative depreciation expense was understated by approximately \$450,000, while amortization expense was overstated by the same amount.

Pretests of the Instrument

Three pretests were conducted prior to administering the experiment. The pretests were designed to ensure that the earnings management error was difficult but detectable and that the distracting errors were easier to detect than the earnings management error. The first pretest was administered before the instrument was coded electronically (i.e., it was paper-based), while the final two were conducted in the same electronic format used in the actual experiment.

The first pretest provided initial insights into how detectable the earnings management error and the distracting errors were. Six individuals, either currently or previously employed by accounting firms (mean of 3.25 years of experience), completed three paper-based analytical reviews, each containing one of the errors. All six of the individuals were able to identify the error to amortization expense, while five of the six found the error to depreciation (i.e., the distracting errors). Of the six, two successfully identified the error to compensation, while two others were able to identify the areas that contained the errors, but were not able to specifically point to compensation. Subsequent conversations with the individuals revealed that the earnings management error (i.e., compensation) was more difficult than the distracting errors (i.e., depreciation and amortization), but participants believed that the depreciation error was still more difficult than the amortization error. As a result, I adjusted accumulated depreciation balance, so that when the error was present the balance would drop below \$5 million, making it more salient.

After these edits, the instrument was computerized (discussed below). The second pretest sought to ensure that the distracting errors (those affecting depreciation

and amortization) were of similar difficulty and were easier to discover than the earnings management error (affecting compensation). Individuals with a mean of over three years of audit experience examined the electronic analytical review with all of the errors present. They were informed of the three errors and rated them on a 10-point scale, which ranged from very easy (one) to very difficult (ten). Significant differences were found between the earnings management error (6.4) and the distracting errors (amortization = 2.6, $p < 0.01$ and depreciation = 3.4, $p < 0.01$), suggesting that the distracting errors were, in fact, easier to uncover than the earnings management error. Furthermore, the difficulty ratings for the distracting errors were not significantly different, which suggested similar levels of difficulty ($p = 0.24$).

After ensuring that the earnings management error was more difficult to detect, it was still unclear whether or not it was too difficult. The third pretest was conducted to ensure that the earnings management error (affecting compensation) was detectable (i.e., easy enough to uncover). Four auditors (with a mean of 4.33 years of experience) completed the analytical review (in the condition with no baiting tactics). Three of the four individuals successfully identified the compensation error, providing evidence that the error to compensation was, in fact, discoverable.

Experimental Procedures

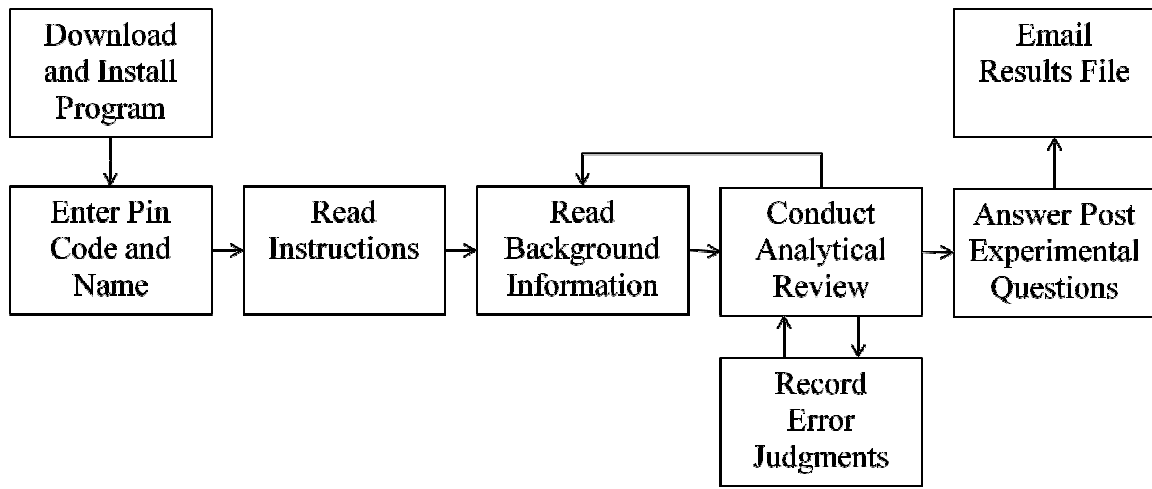
The study was administered through a computer program, called Macromedia® Authorware® 7, which is a software package used for the development of electronic training modules (refer to Appendix for screen shots of the entire instrument). The program publishes files in an executable format, so that participants could run the program on their own computer. As such, the study was posted on a secure website and

could be downloaded by the auditors. After agreeing to participate, the auditors received an email with the relevant information to access the program (see Figure 3.2 for the timeline of the experiment). Upon starting the study, auditors entered a pin number to grant them access and randomly assign them to a condition. They then entered their name and navigated through a set of instructions and background information about the company, its industry, its position in the market, and details about its audit history. Participants were told that they were the senior-in-charge on an audit of a manufacturing company. The company had consistently met analysts' earnings forecasts, and analysts had recently forecasted income to remain at \$8.2 million (or \$0.82 per share), which was the same as the previous two years. In addition, the materiality threshold for the audit was explicitly stated to be \$100,000, which made material the fluctuations for all of the accounts affected by the earnings management and distracting errors.

After reading the background and instructions, the auditors began the analytical review. At this stage, participants were exposed to information from the client that compared the unaudited financial balances of the current year to the audited balances of the previous two years. Navigation buttons, along the left hand side of the screen, allowed the participants to access the various pages of financial details that were previously discussed. The navigation buttons were always present on the left side of the screen during the analytical review so that participants could move freely to any piece of information in any order they preferred.

A button on the bottom of each screen labeled "Record Judgment" brought the auditors to a page where they could record any errors identified in a free response text box. When they were satisfied with their error explanation, another button saved their

Figure 3.2
Timeline of Experimental Procedures



The experiment was conducted through a computer program that participants downloaded and completed at their convenience. Participating auditors received an email with download instructions and a pin-number to grant them access to the program.

After downloading the program, they entered their name and pin number. They then read instructions and background information before beginning the analytical review. During the review, auditors searched through several pages of information related to the client's financial statements. If participants identified an error, they could navigate to a page to record their judgment as part of their evaluation. Participants could make as many error judgments as needed throughout the review, and they could revert back to the background information as necessary.

Upon completing analytical review, auditors navigated through post experimental questions. At this stage, they could not go back to the analytical review. After completing the experimental questions, they emailed the result file back to the experimenter.

judgment and returned them to the analytical review task. They could return to the "Record Judgment" page as often as they wanted to add new judgments. Each time they returned to add an additional error, all of their previous entries were listed numerically in the order they were entered. Another button allowed them to complete the exercise, and brought them to the supplemental questions described below. In addition to recording the participant's judgments, the program recorded a process trace from the time the auditors started reading the instructions to the time they finished the analytical review. That is,

the program recorded every page that the auditors viewed, the order in which they were viewed, and the amount of time spent on each page.

After participants completed the analytical review, they were asked to respond to a series of post-experimental questions. First, they received a manipulation check for the diversionary statement which asked whether management identified any turnover in the accounting department. They were then asked to indicate their agreement with several statements using a six-point scale. The first fifteen statements (shown in Table 3.2) were adapted from the forty-two item Need for Closure Scale outlined in Kruglanski et al. (1993).¹¹ These questions were provided to determine if individual need for closure differences affected any of the results. To ensure that I received a valid need for closure measure, I selected three questions from each need for closure dimension: order and structure, discomfort with ambiguity, decisiveness of judgments, predictability of the future, and closed-mindedness (Kruglanski et al. 1993). The remaining seven statements (found in Table 3.3) related to the participants' perceptions of management's desire to manage earnings, management's likelihood to engage in audit management strategies, and how they would respond to those strategies (i.e., related to auditor skepticism). Finally, participants were asked to provide demographic (i.e., gender and age) and audit work information (i.e., audit title, audit firm, and months of audit experience). Participants emailed the results file back to me when they completed the study.

¹¹ The need for closure scale was validated in Webster and Kruglanski (1994).

Table 3.2
Need for Closure Statements^a

<u>Statement^b</u>	<u>Dimension</u>
I feel uncomfortable when I don't understand the reason why an event occurred in my life.	Discomfort with Ambiguity
I tend to put off making important decisions until the last possible moment.	Decisiveness
I would describe myself as indecisive.	Decisiveness
I enjoy the uncertainty of going into a new situation without knowing what might happen.	Preference for Predictability
I tend to struggle with most decisions.	Decisiveness
When considering most conflict situations, I can usually see how both sides could be right.	Closed-Mindedness
I don't like to be with people who are capable of unexpected actions.	Preference for Predictability
When thinking about a problem, I consider as many different opinions on the issue as possible.	Closed-Mindedness
I dislike it when a person's statement could mean many different things.	Discomfort with Ambiguity
I find that establishing a consistent routine enables me to enjoy life more.	Preference for Order
I enjoy having a clear and structured mode of life.	Preference for Order
I like to have a place for everything and everything in its place.	Preference for Order
I feel uncomfortable when someone's meaning or intention is unclear to me.	Discomfort with Ambiguity
I always see many possible solutions to problems I face.	Closed-Mindedness
I dislike unpredictable situations.	Preference for Predictability

^a The need for closure items were adapted from Kruglanski et al. (1993), which was validated in Webster and Kruglanski (1994).

^b Individuals responded to each statement (in this order) on a six-point scale, ranging from strongly disagree to strongly agree.

Table 3.3
Supplementary Management Statements^a

1. Managers try to manage earnings to meet earnings targets.
2. Managers are likely to commit fraud if left unmonitored.
3. Managers may try to hide an error in the financial statements to meet an earnings target.
4. Auditors prevent managers from committing fraud.
5. Managers try to distract auditors with easily detectable errors in hopes of hiding other errors.
6. When auditors begin to uncover relatively easy errors in financial statements, they usually increase the depth of their analysis with the expectation to find more errors.
7. If management identifies risky areas of the audit to you (the auditor), you would view management as more credible.

^a Individuals responded to each statement (in this order) on a six-point scale, ranging from strongly disagree to strongly agree.

Variable and Manipulation Checks

After the experiment was conducted, several checks were examined to ensure that the earnings management error was detectable, and that the manipulations were successful. First, the overall detection rate of the earnings management error to compensation was 32.9%, which is a similar detection rate to others studies that employed difficult errors (e.g., Asare and Wright 2003; Bedard and Biggs 1991a, 1991b; Bhattacharjee et al. 1999).

The overall detection rates for amortization and depreciation (i.e., distracting errors) were 80.6% and 63.9% respectively. In addition, when a distracting error was present, 83.3% of subjects found at least one of the distracting errors. These percentages suggest that the distracting error manipulation successfully implanted easier errors into the financial statements. In fact, when the distracting errors were present 92.9% of auditors who found the earnings management error also found at least one of the

distracting errors, leaving only one participant that found the compensation error who did not identify either distracting error.

In addition, a manipulation check of the diversionary statement sought to ensure that the background information appropriately alerted auditors to risk in other areas. This was done by asking the auditors whether or not management identified any turnover in the accounting department, and if so, which accounts were affected. Overall, 91.7% of all auditors passed the manipulation check (i.e., responded correctly whether or not the diversionary statement was present), which provided evidence of a successful manipulation.

In summary, all of the variable and manipulation checks were successful. The earnings management error, as part of the dependent variable, was difficult yet detectable. In addition, both distracting errors appeared to be easier to detect than the earnings management error. Finally, the diversionary statement appropriately alerted auditors to risk elsewhere in the financial statements.

CHAPTER 4

DATA ANALYSIS

This chapter presents an analysis of the data gathered. The independent variables are the two baiting tactics employed by the client (a diversionary statement and distracting errors). The main dependent variable is a measure of audit effectiveness. As a supplementary dependent variable, I also examine the simple detection rate of the earnings management error. I then provide several analyses of search related variables (i.e., time and number of pages viewed), and number of judgments made, that may impact one's ability to detect the earnings management error. Finally, I examine the effect of individual need for closure differences, and auditors' perceptions of management (i.e., auditor skepticism), and how these may modify an auditor's ability to identify earnings management.

Audit Effectiveness

Since the experiment involved a realistic analytical review task, which allowed auditors to list as many potential errors as deemed necessary, participants could list many areas they believed contained an error (i.e., take a shotgun approach). While identifying a large number of accounts for investigation should, in theory, increase the likelihood of detecting the true error, most audits involve finite time budgets within which auditors must complete their work. As such, each additional account identified dilutes the amount of resources the audit team can commit to locating the true earnings management error. This could affect not only audit efficiency, but also effectiveness, because sufficient time might not remain to adequately investigate the area containing the earnings management error.

To account for this effect, my main dependent variable is a measure of audit effectiveness, calculated as follows:

$$\text{Audit Effectiveness} = \frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}.$$

The identification of the earnings management error is a binary variable, where the response is coded correct (1) if the auditor identified one or more of the affected compensation accounts (or listed compensation or an appropriate synonym), and incorrect (0) otherwise.¹² The number of irrelevant judgments reflects the number of accounts (or areas) identified by the auditor as potentially containing an error where no error actually existed. For instance, if a participant listed inventory, accounts receivable and leases as accounts possibly containing errors, then three irrelevant judgments would be recorded.

This audit effectiveness index scales the detection of the compensation error by the number of erroneous judgments listed, so auditors who identify the earnings management error along with no or few irrelevant judgments will score higher than auditors who identify the error along with several irrelevant judgments. Additionally, those who identify the correct error will always score higher than those who do not. As such, an individual who identified the compensation error without any irrelevant judgments would receive an audit effectiveness score of 1.00. On the other hand, an auditor who listed three irrelevant judgments along with the compensation error would receive an audit effectiveness score of 0.25, while an auditor who failed to indicate the

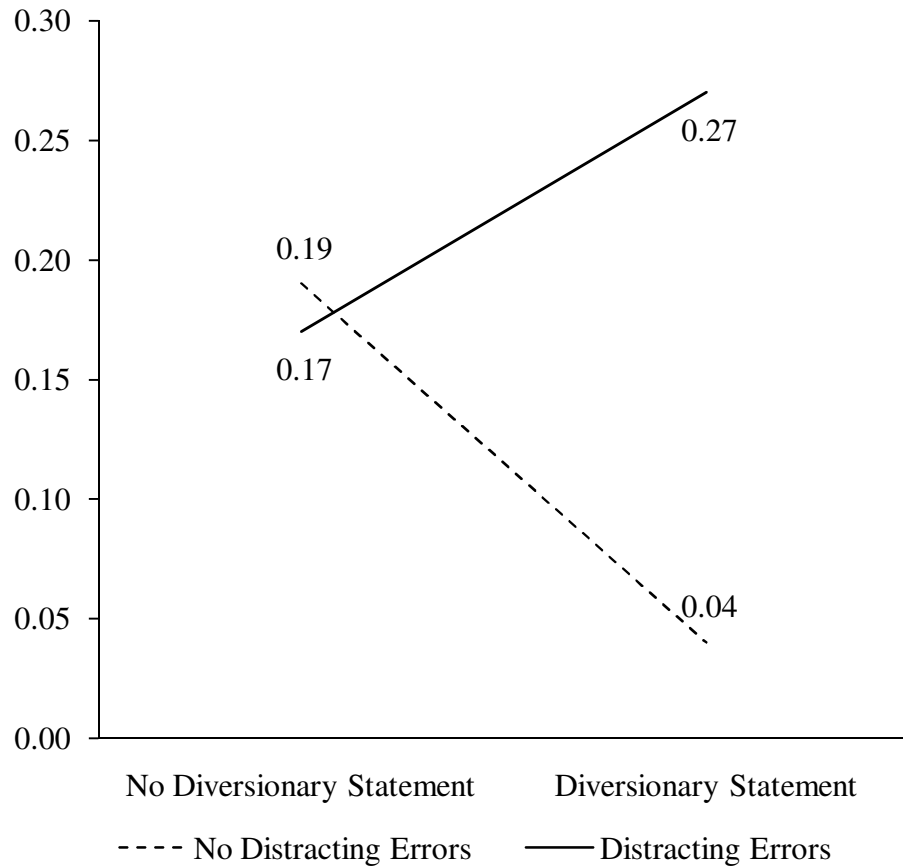
¹² The accounts affected by the earnings management error were both selling and administrative compensation expenses and both current and non-current compensation accruals.

compensation error would receive a score of 0.00, regardless of the number of irrelevant judgments listed.

The results point to an interaction between diversionary statements and distracting errors. As shown in Figure 4.1 and Table 4.1, the effect of a diversion depends on whether the area that the auditor is directed to contains an error. More specifically, auditors who were directed to accounts that were error free had an audit effectiveness score of only 0.04, which is significantly lower than the score of 0.27 for auditors who were led to risky accounts that contained distracting errors (two-tailed $p=0.02$). Conversely, there were no differences in audit effectiveness between participants not exposed to any baiting tactics and participants who received only the distracting errors (0.17 versus 0.19 respectively, two-tailed $p=0.81$). This effect is underscored by the results of the ANOVA found in Table 4.1, Panel B, indicating an interaction significant at $p=0.07$.

As an additional analysis, I tested whether the audit effectiveness score in each condition was statistically significant from zero. The scores in the no baiting tactic, distracting errors only, and diversionary statement with distracting errors conditions were all significantly different from zero (two-tailed p -values = 0.01, 0.02 and <0.01 , respectively). On the other hand, the diversionary statement without distracting errors was not different from zero (two-tailed $p=0.55$). These findings indicate that when auditors are diverted to areas that do not contain errors, they are not likely to uncover

Figure 4.1
The Effect of Baiting Tactics on Audit Effectiveness^a



$$^a \text{ Audit Effectiveness} = \frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$$

earnings management errors elsewhere in the financial statements.¹³

These results suggest that the effect of diversionary statements will vary depending on what auditors find in the areas they are led to. If management alerts auditors to risk in accounts that are ultimately clean, the baiting tactic appears to be

¹³ In addition, the 0.04 audit effectiveness score in the diversionary statement without errors condition is significantly less than the average audit effectiveness score of 0.21 for the rest of the participants ($t=3.28$, two-tailed $p<0.01$). Also, the 0.27 audit effectiveness score for auditors diverted to accounts with errors was marginally higher than the 0.13 average score of the remaining conditions ($t=1.67$, two-tailed $p=0.10$).

Table 4.1
The Effect of Baiting Tactics on Audit Effectiveness:^a ANOVA

Panel A: Cell Means, (Standard Deviations), *Sample Sizes*

		Diversionary Statement	
		No	Yes
Distracting Errors	No	0.19 (0.37) <i>n=19</i>	0.04 (0.09) <i>n=21</i>
	Yes	0.17 (0.32) <i>n=19</i>	0.27 (0.38) <i>n=17</i>

Panel B: ANOVA

Source	SS	df	MS	F-statistic	p-value
Diversionary Statement (DS)	0.01	1	0.01	0.11	0.74
Distracting Error (DE)	0.21	1	0.21	2.16	0.15
DS x DE	0.31	1	0.31	3.28	0.07
Error	6.84	72	0.09		
Total	7.37	75			

Panel C: Contrasts

Contrast	Estimate	t-statistic	p-value ^b
Effect of Distracting Errors when a Diversionary Statement is present	-0.23	2.31	0.02
Effect of Distracting Errors when a Diversionary Statement is not present	0.02	0.24	0.81
Effect of a Diversionary Statement when Distracting Errors are present	-0.11	1.02	0.31
Effect of a Diversionary Statement when Distracting Errors are not present	0.15	1.56	0.12

^a Audit Effectiveness = $\frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$

^b All p-values are two-tailed.

effective at “diverting” the auditor away from managed earnings. That is, auditors are less likely to uncover an earnings management error in other areas of the audit.

However, if management overtly leads auditors to an area containing errors, auditors perform better at discovering managed earnings elsewhere in the financial statements.

Overall, the results suggest that diversions can distract auditors if they do not raise any alarms. However, if auditors find errors in audit areas with already elevated misstatement risk, they appear to more closely scrutinize the remaining financial statement data, which ultimately causes the baiting tactic to backfire on management.

Effect of Search and Ability Control Variables

While the previous analysis shows the effects of baiting tactics, other variables may potentially explain the result. A priori, there are two potential factors that may affect how well auditors perform at identifying the earnings management error: the breadth of the search and the ability of the participants.¹⁴ That is, those participants who perform a more in-depth analysis and those with higher levels of audit ability should perform best at this task.

To investigate this issue, I included variables representing the depth of the information search and the ability level of the auditor in the model. Depth of information search relates to the amount of time the auditor spent on the task and how many pages he/she viewed. Specifically, those who spend more time on the task and those who view more accounts (or repeatedly view accounts) should perform better at the task than those who perform a less in-depth analysis. In addition, auditor ability can reasonably be

¹⁴ The breadth of the analysis could endogenously be affected by the baiting tactics, and will be subsequently analyzed. Ability of the auditor (as measured by experience and whether or not they worked at a Big 4 audit firm) should be controlled by random assignment.

measured by the amount of audit experience one has and by the type of firm for which he/she works. An auditor who has more years of experience should have had more practice performing analytical procedures, and should, theoretically, perform better on the experimental task. Also, some might argue that auditors employed by Big 4 firms will perform better, because, in general, these firms have more resources available to attract top accounting students. As such, I regressed the audit efficiency score on the four potential explanatory variables discussed above, as well as three dummy variables representing the presence of the diversionary statement, distracting errors and the interaction of the two as represented by the following equation:

$$AE_i = \beta_0 + \beta_1 DS_i + \beta_2 DE_i + \beta_3 DS \times DE_i + \beta_4 Time_i + \beta_5 Pages_i + \beta_6 Experience_i + \beta_7 Big4_i + \varepsilon_i$$

where,

AE	=	$\frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$
DS	=	Diversionsary Statement
DE	=	Distracting Error
DS x DE	=	Diversionsary Statement / Distracting Error Interaction
Time	=	Time (in minutes) from the start of the background information until completing the analytical review.
Pages	=	Number of pages viewed from the start of the instructions to the completion of the analytical review procedures
Experience	=	Years of Audit Experience
Big4	=	1 if employed by a Big 4 Audit firm, 0 otherwise.

The results of the regression are displayed in Table 4.2. As can be seen, the interaction between the presence of a diversionary statement and distracting errors is still significant (two-tailed $p=0.06$), even in the presence of the control variables discussed above, none of which are significant.¹⁵ In addition, the main effect of the diversionary statement alone appears to negatively impact audit effectiveness (two-tailed $p=0.09$),

¹⁵ Multicollinearity did not appear to contribute to the low p-values for the control variables, as the largest variance inflation factor for the control variables was 1.11.

Table 4.2
The Effect of Baiting Tactics on Audit Effectiveness: Regression

$$AE_i = \beta_0 + \beta_1 DS_i + \beta_2 DE_i + \beta_3 DS \times DE_i + \beta_4 Time_i + \beta_5 Pages_i + \beta_6 Experience_i + \beta_7 Big4_i + \varepsilon_i$$

<u>Variable</u>	<u>Coefficient</u>	<u>S.E.</u>	<u>t-statistic</u>	<u>p-value^a</u>
Constant	0.20	0.12	1.67	0.10
DS	-0.18	0.10	1.72	0.09
DE	-0.04	0.10	0.37	0.71
DSxDE	0.29	0.15	1.96	0.06
Time	0.00	0.00	0.99	0.33
Pages	0.00	0.00	0.65	0.52
Experience	0.00	0.01	0.22	0.84
Big4	0.09	0.08	1.24	0.23

AE	= Audit Effectiveness = $\frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$
DS	= Diversionary Statement
DE	= Distracting Error
DSxDE	= Diversionary Statement / Distracting Error Interaction
Time	= Total time (in minutes) spent from the start of the background to the completion of the analytical review procedures
Pages	= Number of pages viewed from the start of the instructions to the completion of the analytical review procedures
Experience	= Years of Audit Experience
Big4	= 1 if employed by a Big 4 Audit firm, 0 otherwise

^a p-values are two-tailed.

indicating that the variability of the control variables, taken together, might have led to a slight bias against finding results, further indicating the strength of the effects of baiting tactics.

Summary

The preceding three analyses all suggest that using a diversionary statement to lure auditors to a clean (i.e., error-free) set of accounts is an effective means of audit management (i.e., it allows management to hide errors used to manage earnings).

However, while distracting errors alone did not appear to affect auditors' error detection rates, leading auditors to a set of accounts with errors actually backfires, and increases

their ability to detect managed earnings elsewhere in the financial statements. These results remained significant even after controlling for several other potential explanatory variables.

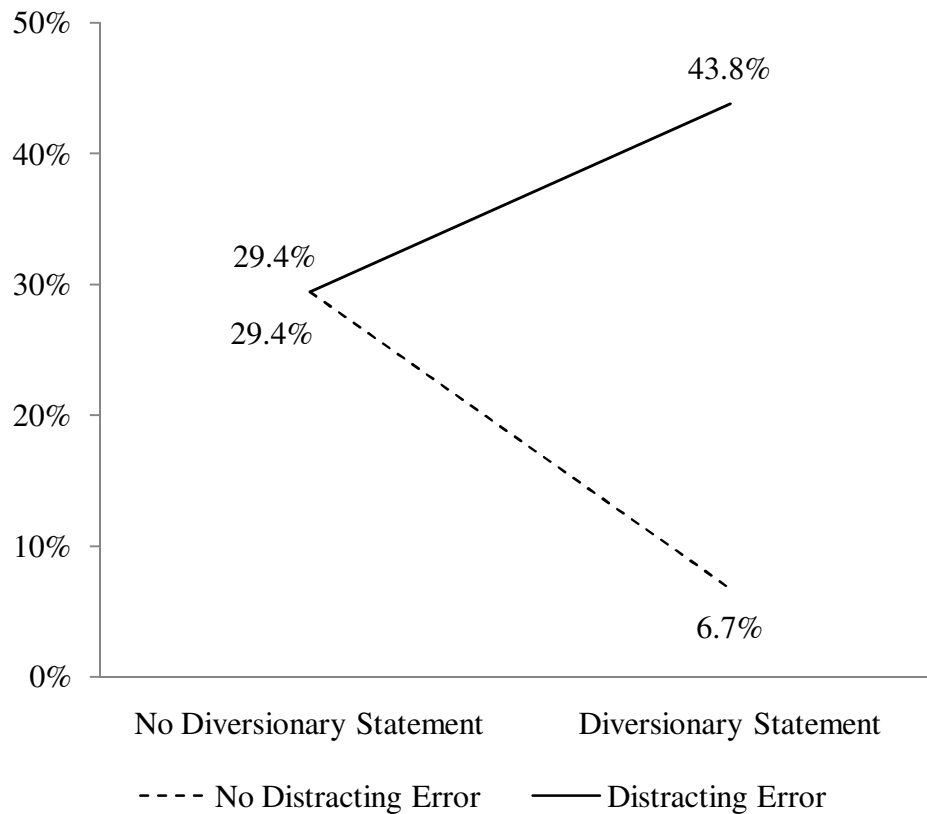
Identification of the Earnings Management Error

I next examined the auditors' ability to simply detect the earnings management error to further investigate the effectiveness of baiting tactics. Again, the earnings management error was coded as correct if the auditor identified any of the affected compensation accounts (or compensation or an appropriate synonym), and incorrect otherwise. To limit the effect of auditors identifying the earnings management error as a result of simply taking a shotgun style approach (i.e., by listing many accounts), I first analyzed only the judgments of auditors who identified less than five irrelevant errors. As can be seen in Figure 4.2 and Table 4.3, auditors who were diverted to clean (i.e., error-free) accounts again performed significantly worse than auditors who were led to accounts that contained errors (6.7% compared to 43.8%, two-tailed $p=0.02$). Also as before, auditors who received only distracting errors (with no diversionary statement) performed similar to those receiving no baiting tactic (two-tailed $p>0.99$).¹⁶

All in all, these results point to the same interactive effect as found in the audit effectiveness analysis and suggest that directing auditors to areas in which the accounts

¹⁶ In addition, auditors who were exposed to a diversionary statement which led them to an error-free account were significantly less likely to discover the earnings management error than the remainder of the sample (6.7% compared to 34.0%, $\chi^2=4.31$, two-tailed $p=0.04$), while auditors exposed to a diversionary statement which led them to an account containing errors performed marginally better than the remainder of the participants (43.8% compared to 22.4%, $\chi^2=2.73$, two-tailed $p=0.10$).

Figure 4.2
The Effect of Baiting Tactics on the Identification of the Earnings Management Error^a



^a This analysis includes auditors who listed less than five irrelevant judgments to limit the impact of taking a shotgun approach. Responses were coded correct (1) if any of the judgments recorded identified any of the affected accounts, the word compensation or an appropriate synonym, and incorrect (0) otherwise.

are clean may be an effective audit management tool, but diverting auditors to accounts containing errors may not only be ineffective, but actually may backfire on management. At the same time, baiting auditors with distracting errors alone appears to be relatively ineffective, as further evidenced by the insignificant difference in the detection rate between auditors receiving only distracting errors and the remainder of the participants (29.4% compared to 27.1%, $\chi^2=0.03$, two-tailed $p=0.85$).

Table 4.3
The Effect of Baiting Tactics on the Identification of the Earnings Management Error^a

Panel A: Percentages, *Sample Sizes*

		Diversionsary Statement	
		No	Yes
Distracting Errors	No	29.4% <i>n=17</i>	6.7% <i>n=15</i>
	Yes	29.4% <i>n=17</i>	43.8% <i>n=16</i>

Panel B: Contrasts

<u>Contrast</u>	χ^2	<u>p-value^b</u>
Effect of Distracting Errors when a Diversionsary Statement is present	5.56	0.02
Effect of Distracting Errors when a Diversionsary Statement is not present	0.00	>0.99
Effect of a Diversionsary Statement when Distracting Errors are present	0.73	0.39
Effect of a Diversionsary Statement when Distracting Errors are not present	2.71	0.10

^a This analysis includes auditors who listed less than five irrelevant judgments to limit the impact of taking a shotgun approach. Responses were coded as correct (1) if any of the judgments recorded identified any of the affected accounts, the word compensation or an appropriate synonym, and incorrect (0) otherwise.

^b All p-values are two-tailed.

Sensitivity to the Number of Irrelevant Judgments

To further the analysis, I also performed a sensitivity analysis to determine how the number of irrelevant judgments listed impacts the error detection rates of the auditors. As shown in Table 4.4, the results are significant at $p < 0.05$ for all analyses under seven irrelevant judgments, are significant at $p \leq 0.08$ for analyses under eleven irrelevant

Table 4.4
The Effect of Baiting Tactics on the Identification of the Earnings Management Error:
Sensitivity to Number of Irrelevant Judgments^a

Irrelevant Judgments Included ^b	n	No DS ^c		DS		p-values ^e			
		No DE ^d (1)	DE (2)	No DE (3)	DE (4)	1-2	1-3	2-4	3-4
All	76	31.6%	31.6%	23.8%	47.1%	1.00	0.58	0.34	0.10
< 13	75	33.3%	31.6%	23.8%	47.1%	0.91	0.51	0.34	0.13
< 12	75	33.3%	31.6%	23.8%	47.1%	0.91	0.51	0.34	0.13
<11	74	33.3%	31.6%	20.0%	47.1%	0.91	0.35	0.34	0.08
<10	74	33.3%	31.6%	20.0%	47.1%	0.91	0.35	0.34	0.08
< 9	74	33.3%	31.6%	20.0%	47.1%	0.91	0.35	0.34	0.08
< 8	74	33.3%	31.6%	20.0%	47.1%	0.91	0.35	0.34	0.08
< 7	71	29.4%	33.3%	15.8%	47.1%	0.80	0.33	0.41	0.04
< 6	68	29.4%	33.3%	11.8%	43.8%	0.80	0.20	0.53	0.04
< 5	65	29.4%	29.4%	6.7%	43.8%	1.00	0.10	0.39	0.02
< 4	61	25.0%	25.0%	7.7%	43.8%	1.00	0.22	0.26	0.03
< 3	55	28.6%	30.8%	8.3%	43.8%	0.90	0.19	0.47	0.04
< 2	42	25.0%	25.0%	0.0%	50.0%	1.00	0.09	0.25	0.01
None	27	37.5%	25.0%	0.0%	60.0%	0.59	0.09	0.20	0.02

^a Individual responses were coded correct (1) if any of the judgments recorded identified any of the affected accounts, the word compensation or an appropriate synonym, and incorrect (0) otherwise.

^b An irrelevant judgment relates to an error-free area that an auditor identified as possibly containing an error.

^c DS = Diversionary Statement.

^d DE = Distracting Error.

^e All p-values are the result of Chi. Sq. tests and are two-tailed.

judgments, and at $p \geq 0.10$ above that point. It appears that the effect of baiting tactics previously found are generally robust across the number of irrelevant judgments, except when auditors list a large number of irrelevant judgments. Again, the results reveal that auditors intentionally directed to error-free accounts are significantly less likely to

discover earnings management errors in the financial statements than auditors directed to accounts that contain errors.

Summary

Overall, the analyses performed on the identification of the earnings management error alone lead to the same conclusion as described earlier. That is, when auditors are diverted to error-free accounts, they perform much worse at identifying earnings management elsewhere in the financial statements. On the other hand, while seeding in distracting errors alone does not appear to affect auditors, specifically leading auditors to accounts with errors may actually backfire on management and cause auditors to perform better at identifying managed earnings. The results appear to hold when a number of irrelevant judgments were included in the analysis.

Information Search and Judgments

As previously discussed, differences in information search and judgment variables may affect an auditor's ability to identify the earnings management error. Since the task allowed participants to determine their own search process and record as many judgments as they wished, differences may arise between groups that could potentially explain the results. That is, auditors who performed a deeper analysis of the data and who listed more judgments should have had a higher likelihood of detecting the earnings management error. Furthermore, search pattern differences may endogenously result from the baiting tactics. Therefore, I examine the impact of two search variables, time and number of pages viewed, as well as the number of judgments listed. Time represents the total time taken (in minutes from the start of the background information until finishing the analytical review), while number of pages viewed represents the number of

times auditors navigated to different pages during the task. The number of judgments represents the number of errors (or accounts identified as possibly containing errors) identified during the task.

The results are reported in Table 4.5. As can be seen, search variables and judgments do not significantly differ between groups, providing evidence that these factors did not drive the results and that the baiting tactics did not impact how people search. However, the simple contrast of time indicates that auditors provided with only a diversionary statement spent marginally more time on the task than those receiving no baiting tactic (two tailed $p=0.08$). The group exposed to only the diversionary statement appeared to take more time than the other groups. This is particularly interesting, because taking longer on the task should increase the likelihood of finding the error, yet this group was the least successful at identifying managed earnings. Generally speaking, the results suggest that information search and the number of judgments made do not explain my results, providing further support for my conclusions about the effectiveness of baiting tactics.

Comparison Between Auditors Who Identified the Error and Those Who Did Not

Next, I dissected the sample into those who identified the error and those who did not. As can be seen in Table 4.6, time, number of pages viewed and number of judgments listed does, in fact, impact an auditor's ability to identify the earnings management error. For instance, those who found the error spent more time than those who did not (58.88 minutes versus 38.61 minutes, two-tailed $p=0.09$). In fact, individual differences between those who found the error and those who did not is at least

Table 4.5
The Effect of Baiting Tactics on Information Search Variables and Number of Judgments

Panel A: Cell Means (Standard Deviations)

<u>Diversionsary Statement</u>	<u>Distracting Errors</u>	<u>n</u>	<u>Time^a</u>	<u>Pages^b</u>	<u>Judgments^c</u>
No	No	19	34.94 (28.74)	89.63 (41.85)	2.42 (3.28)
No	Yes	19	41.43 (23.16)	99.26 (44.75)	3.04 (3.29)
Yes	No	21	62.18 (71.72)	99.86 (50.71)	3.05 (3.29)
Yes	Yes	17	40.21 (48.91)	105.31 (82.58)	3.23 (2.76)

Panel B: ANOVA F-statistics (p-values)

<u>Source</u>	<u>Time</u>	<u>Pages</u>	<u>Judgments</u>
Diversionsary Statement (DS)	1.39 (0.24)	0.34 (0.56)	0.36 (0.55)
Distraction Errors (DE)	0.49 (0.49)	0.39 (0.53)	1.02 (0.32)
DS x DE	1.66 (0.20)	0.03 (0.87)	0.13 (0.72)

Panel C: Simple Contrast p-values^d

<u>Contrast</u>	<u>Time</u>	<u>Pages</u>	<u>Judgments</u>
No DS (No DE – DE)	0.68	0.60	0.34
DS (No DE – DE)	0.17	0.77	0.65
No DE (No DS – DS)	0.08	0.57	0.49
DE (No DS – DS)	0.94	0.75	0.87

^a Time represents the number of minutes spent from the start of the background until the completion of the analytical review.

^b Pages represents the number of pages viewed from the start of the instructions to the completion of the analytical review procedures.

^c Judgments represents the number of areas (i.e., accounts) that potentially contain errors.

^d All p-values are two-tailed.

marginally different for all manipulated groups, except for those who received the diversionary statement only condition (two-tailed $p=0.84$). This is, again, particularly interesting because this group performed the worst on the task.

Similarly, those who found the error also examined marginally more pages (111.80 pages versus 91.78 pages, two-tailed $p=0.14$), however this effect does not appear to be as strong as the effect of the time variable. These marginal effects seem to be driven by the group that only received the diversionary statement and the group that only received the distracting errors, as those who discovered the earnings management error in each of the groups viewed more pages than those who did not (two-tailed $p = 0.07$ for both conditions). It appears that when only one baiting tactic was present, auditors needed to look through more pages to find the earnings management error (or increase the breadth of their search), possibly indicating that a more in-depth search is required to overcome the distraction provided by the baiting tactics.

Finally, as expected, those who uncovered the earnings management error listed significantly more judgments than those who did not (4.76 judgments compared to 2.22, two-tailed $p < 0.01$). The number of judgments represents the number of areas (i.e., accounts) that the auditors' identified as potentially containing errors. In fact, all of the conditions receiving a baiting tactic needed to list more judgments to discover the error (two-tailed p -values range from < 0.01 to 0.16).

The effects described above provide insight into how auditors' information search and number of judgments listed impacted their ability to identify the earnings management error. Generally speaking, those who found the error took more time to complete the task, looked at more pages and listed more judgments.

Table 4.6
The Effect of Baiting Tactics on Information Search and Number of Judgments:
Breakdown Between Individuals Who Found
the Earnings Management Error and Those Who Did Not

Panel A: Cell Means (Standard Deviations) and t-statistics (p-values^a)

	Time ^b			Pages ^c			Judgments ^d		
	Not Found	Found	t (p)	Not Found	Found	t (p)	Not Found	Found	t (p)
Overall	38.61 (50.21)	58.88 (41.58)	1.75 (0.09)	91.78 (59.45)	111.80 (44.26)	1.49 (0.14)	2.22 (2.45)	4.76 (2.77)	4.07 (<0.01)
No DS / No DE	25.75 (18.09)	54.88 (38.63)	2.28 (0.04)	91.69 (49.85)	85.17 (17.50)	0.31 (0.76)	1.92 (3.50)	3.50 (2.66)	0.42 (0.34)
No DS / DE	35.96 (22.22)	53.29 (22.37)	1.58 (0.13)	82.85 (28.57)	134.83 (55.07)	2.18 (0.07)	2.77 (2.31)	4.50 (2.59)	1.46 (0.16)
DS / No DE	60.32 (82.38)	68.18 (14.49)	0.21 (0.84)	88.69 (46.48)	135.60 (51.58)	1.92 (0.07)	1.75 (2.02)	7.20 (3.27)	4.55 (<0.01)
DS / DE	22.40 (16.71)	60.27 (65.42)	1.68 (0.11)	110.33 (112.04)	99.63 (34.27)	0.26 (0.80)	2.67 (1.50)	4.38 (2.13)	1.93 (0.07)

Panel B: ANOVA F-statistics (p-values)

	Time		Pages		Judgments	
	Not Found	Found	Not Found	Found	Not Found	Found
Diversionary Statement (DS)	0.56 (0.46)	0.32 (0.58)	0.50 (0.48)	0.21 (0.65)	0.04 (0.85)	2.84 (0.11)
Distracting Error (DE)	0.97 (0.33)	0.07 (0.79)	0.14 (0.71)	0.17 (0.69)	1.54 (0.22)	0.74 (0.40)
DS x DE	2.92 (0.09)	0.03 (0.86)	0.77 (0.38)	6.58 (0.02)	0.00 (0.96)	3.25 (0.09)

(continued on next page)

Panel C: Simple Contrasts p-values^a

	Time		Pages		Judgments	
	<u>Not Found</u>	<u>Found</u>	<u>Not Found</u>	<u>Found</u>	<u>Not Found</u>	<u>Found</u>
No DS (No DE – DE)	0.60	0.95	0.71	0.05	0.39	0.52
DS (No DE – DE)	0.07	0.76	0.40	0.14	0.38	0.07
No DE (No DS – DS)	0.07	0.62	0.90	0.06	0.85	0.03
DE (No DS – DS)	0.53	0.77	0.30	0.13	0.93	0.93

^a All p-values are two-tailed.

^b Time represents the number of minutes spent from the start of the background until the completion of the analytical review.

^c Pages represents the number of pages viewed from the start of the instructions to the completion of the analytical review procedures.

^d Judgments represents the number of areas (i.e., accounts) identified during the analytical review.

Examination of Auditors Who Did Not Identify the Earnings Management Error

The previous analysis suggests that those who provided a deeper search and listed more judgments were more likely to identify the earnings management error. I next examine the search variables and judgments for individuals who did not identify the error. I performed this analysis in order to provide insights into why individuals between groups did not identify the error and to understand “what went wrong.”

Referring back to Table 4.6, there was an interaction between the baiting tactics for the time variable ($p=0.09$), which seems to be driven by the fact that those receiving only the diversionary statement took longer (60.32 minutes) than those receiving both the diversionary statement and distracting errors (22.40 minutes, two-tailed $p=0.07$) and those not exposed to a baiting tactic (25.75, two-tailed $p=0.07$). Keep in mind that none of these individuals actually found the earnings management error. However, considering the fact that those in the diversionary statement only condition took more time provides evidence that diverting individuals to clean accounts may not only prevent

them from identifying earnings management, but it also may cause them to search aimlessly through the data or “spin their wheels.”

The other variables do not suggest any other differences in time, number of pages viewed or number of judgments listed. Interestingly, there were no differences in number of judgments listed between those receiving distracting errors and those who did not, possibly suggesting that those without distracting errors listed more irrelevant judgments. Overall through, this analysis indicates that there are no candid explanations as to why individuals did not identify the error other than being affected by the baiting tactics (i.e., no particular group failure could be explained by an extremely limited search or too few judgments listed).

Examination of Auditors Who Identified the Earnings Management Error

The next analysis I performed examined differences between search variables and number of listed judgments for auditors who ultimately identified the earnings management error. This analysis provides insights into differences in efficiencies for individuals who found the correct error. As such, taking less time, searching through fewer pages and listing fewer judgments would suggest more efficiency in finding the error.

Referring again to Table 4.6, the most striking difference appears to be that those receiving only a diversionary statement listed several more judgments (7.20) compared to those diverted to the distracting errors (4.38, two-tailed $p=0.07$) and those not receiving a baiting tactic (3.50, two-tailed $p=0.03$). Remember, those in the diversionary statement only condition ultimately performed the worst. Hence, the few who did find the earnings management error had to list six irrelevant judgments, indicating that future audit work

would need to be divided out to effectively test those areas. What is more, the inefficiencies are magnified by the fact that those who were diverted to distracting errors had over two more areas of concern to list when they identified the earnings management error. This suggests the amount of extra work it took to actually discover the error when only a diversionary statement was present.

While there were no differences in time, there was a significant interaction between the baiting tactics for the number of pages viewed. Further analysis indicates that those receiving a distracting error or a diversionary statement viewed more pages than those diverted to the distracting errors and those not receiving a baiting tactic (134.83 and 135.60 compared to 99.63 and 85.17 pages), providing further support for the conclusion that intentionally leading auditors to error-free accounts increases audit inefficiency. This also suggests that diverting auditors to a set of accounts with errors may backfire on management, because not only do auditors in this condition perform better at discovering the earnings management error, but they do so more efficiently (i.e., they completed the analytical review examining fewer pages). In addition, the analysis suggests that while simply embedding distracting errors will not reduce an auditor's ability to uncover the earnings management error, it may add to the auditors' search and possibly cause inefficiencies within the audit.

Examination of the Point When the Earnings Management Error was Discovered

As a final analysis of search variables and judgments, I examined the point at which the earnings management error was discovered. This analysis differs from the previous analyses performed, which looked at the total time, the total number of pages viewed and total number of judgments listed during the entire analytical review. In

contrast, this analysis examined the amount of time it took to find the error, the number of pages viewed and how many irrelevant judgments were listed at the point when they listed the earnings management error.

Overall, it took participants an average of 45.08 minutes to find the error after viewing 74.16 pages. When the earnings management error was identified, on average, it was after 3 other judgments were already identified (i.e., it was between the third and fourth judgment listed) (see Table 4.7). As can be seen, there are really no significant differences in time (minimum contrast two-tailed $p=0.35$) or number of pages ($p=0.37$). There was a main effect of the diversionary statement ($p=0.02$) for judgments, indicating that those receiving a diversionary statement listed more judgments before the earnings management error was identified than those not receiving a diversionary statement. Moreover, auditors receiving only distracting errors found the error marginally earlier than those specifically diverted to the distracting errors (2.67 compared to 4.13, two-tailed $p=0.14$). Overall, the results suggest that the presence of the diversionary statement resulted in more judgments being listed before the earnings management error was identified.

Summary

As expected, those who identified the error took longer to complete the task, viewed more pages and listed more irrelevant judgments. However, those in the diversionary statement condition who did not discover the earnings management error took just as long to complete the task as those who did. It appears that the diversionary statement group took marginally longer than the other groups, suggesting a possible inefficiency in the audit. This is particularly interesting considering that this group

Table 4.7
The Effect of Baiting Tactics on Information Search and Number of Judgments
at the Point When the Earnings Management Error was Discovered

Panel A: Cell Means (Standard Deviations)

<u>Diversionsary Statement</u>	<u>Distracting Errors</u>	<u>n</u>	<u>Time^a</u>	<u>Pages^b</u>	<u>Judgments^c</u>
No	No	6	47.00 (38.70)	61.00 (19.76)	2.17 (1.47)
No	Yes	6	31.78 (15.27)	79.00 (48.07)	2.67 (0.82)
Yes	No	5	43.44 (13.72)	76.40 (16.24)	4.40 (2.61)
Yes	Yes	8	54.64 (66.99)	79.00 (36.67)	4.13 (1.89)

Panel B: ANOVA F-statistics (p-values)

<u>Source</u>	<u>Time</u>	<u>Pages</u>	<u>Judgments</u>
Diversionsary Statement (DS)	0.29 (0.60)	0.32 (0.58)	6.56 (0.02)
Distraction Errors (DE)	0.01 (0.91)	0.56 (0.46)	0.02 (0.88)
DS x DE	0.55 (0.47)	0.32 (0.58)	0.29 (0.60)

Panel C: Simple Contrast p-values^d

<u>Contrast</u>	<u>Time</u>	<u>Pages</u>	<u>Judgments</u>
No DS (No DE – DE)	0.56	0.37	0.63
DS (No DE – DE)	0.66	0.89	0.79
No DE (No DS – DS)	0.90	0.46	0.05
DE (No DS – DS)	0.35	1.00	0.14

^a Time represents the number of minutes spent from the start of the background until earnings management error was identified.

^b Pages represents the number of pages viewed from the start of the instructions until the earnings management error was identified.

^c Judgments represents the number of areas containing errors listed when the earnings management error was identified.

performed the worst at the task. Furthermore, other inefficiencies appeared to result from the inclusion of the diversionary statement, as those who found the error did so only by listing several more judgments and searching more pages.

Effect of Need for Closure

Next, I explored whether other variables may have impacted the auditor's likelihood of discovering the earnings management error. The first of these, the need for closure, essentially measures one's desire to feel completion with a task. As such, those with lower need for closure should carry out more in-depth analyses and perform better. Webster and Kruglanski (1993; 1994) measured and validated this effect across five dimensions: need for order, desire for predictability, decisiveness, discomfort with ambiguity and closed mindedness. As mentioned in chapter three, I selected three questions from each dimension of their 42 question Need for Closure scale. Each question was measured on a six-point Likert scale ranging from strongly disagree (coded as 1) to strongly agree (coded as 6). The three questions for each dimension were averaged to create an overall dimension score and the five dimension scores were averaged together to create an overall need for closure score. To promote variability between high and low scores, I examined the frequency of each score to approximate the data into thirds for each dimension and overall need for closure. From there, I compared the high and low scoring groups (i.e., high need for closure dimension compared to low need for closure dimension).

I compared the audit effectiveness score, the number of judgments made, the time taken and the number of pages viewed between individuals who were scored as high and low for each need for closure dimension and the overall need for closure. The results

appear in Table 4.8. As can be seen, the only variable that appears to have had an effect is closed-mindedness. That is, those who were less closed minded had higher audit effectiveness scores than those who more closed-minded (0.27 compared to 0.08, two-tailed $p=0.03$). In addition, those who were less closed minded listed more judgments (4.00 compared to 2.52, two-tailed $p=0.05$ and 57.08 minutes compared to 39.33, two-tailed $p=0.11$).

Other than the findings explained above, the need for closure did not appear to substantially affect an auditor's ability to uncover the earnings management error.¹⁷ Further analysis leads me to conjecture that the lack of significant differences may have resulted from one of two possibilities. First, three questions for each dimension may not have imparted enough variability to effectively drive separation between those scoring high and low. The original scale consisted of 42 questions; generally the scores appear to be normally distributed, meaning that many scored a moderate level of need for closure. As such, more questions may have been necessary to really understand the differences between these individuals.

Second, research has shown that auditors (especially staff and seniors) have a higher need for closure (Bailey et al. 2006; Webster 1993; Webster and Kruglanski 1994). As such, given a midpoint score of 3.5 for each dimension, the sample of auditors

¹⁷ There were sporadic differences within other dimensions. Those with high need for order took more time (two-tailed $p=0.05$), those with high overall need for closure took marginally more time (two-tailed $p=0.13$), and those with high need for predictability viewed marginally more pages ($p=0.14$).

Table 4.8
The Effect of Need for Closure^a on Audit Effectiveness, Information Search and Number of Judgments:
Means, (Standard Deviations) and t-tests^b

	n		Audit Effectiveness ^c			Judgments ^d			Time ^e			Pages ^f		
	Low	High	Low	High	t (p)	Low	High	t (p)	Low	High	t (p)	Low	High	t (p)
Need for Order ^g	30	26	0.16 (0.35)	0.22 (0.37)	0.63 (0.54)	3.27 (2.99)	2.35 (2.33)	1.27 (0.21)	57.40 (67.71)	30.98 (21.49)	2.02 (0.05)	96.80 (69.75)	93.85 (47.05)	0.18 (0.85)
Need for Predictability ^h	26	23	0.17 (0.33)	0.18 (0.34)	0.15 (0.88)	3.42 (2.28)	3.17 (3.26)	0.31 (0.75)	50.08 (45.22)	49.26 (64.12)	0.05 0.96	108.92 (41.48)	91.13 (42.26)	1.49 (0.14)
Decisiveness ⁱ	28	30	0.19 (0.32)	0.15 (0.31)	0.38 (0.69)	3.43 (3.70)	2.73 (2.10)	0.87 (0.39)	44.38 (59.97)	46.91 (46.93)	0.18 (0.86)	102.00 (73.34)	86.57 (41.81)	0.99 (0.32)
Discomfort with Ambiguity ^j	21	29	0.08 (0.23)	0.15 (0.28)	0.97 (0.34)	2.67 (2.59)	3.41 (2.98)	0.92 (0.36)	42.87 (36.78)	42.09 (40.61)	0.07 (0.94)	102.14 (79.30)	94.21 (42.53)	0.46 (0.64)
Closed-Mindedness ^k	28	23	0.27 (0.37)	0.08 (0.23)	2.31 (0.03)	4.00 (2.43)	2.52 (2.94)	1.96 (0.05)	57.08 (46.26)	39.33 (27.72)	1.62 (0.11)	109.71 (45.62)	97.52 (75.76)	0.71 (0.48)
Total Need for Closure ^l	23	29	0.19 (0.34)	0.16 (0.32)	0.34 (0.74)	3.91 (2.52)	3.10 (3.49)	0.94 (0.35)	64.62 (74.58)	38.99 (27.17)	1.56 (0.13)	115.13 (75.59)	94.69 (43.20)	1.22 (0.23)

^a Each need for closure dimension represents the average of the three six-point questions comprising each, while the total need for closure score represents the average of all fifteen questions. The data were divided approximately into thirds. The top third represents those coded as having high need for closure, while the bottom third were coded as low.

^b p-values are two-tailed.

^c Audit Effectiveness = $\frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$

^d Time represents the number of minutes spent from the start of the background until the completion of the analytical review.

^e Pages represents the number of pages viewed from the start of the instructions to the completion of the analytical review procedures.

^f Judgments represents the number of areas (i.e., accounts) identified during the analytical review.

^g Scores of 3.67 or lower were considered to be low need for order, while 4.67 or higher was considered to be high need for order.

^h Scores of 3 or lower were considered to be low need for predictability, while 4 or higher was considered to be high need for predictability.

ⁱ Scores of 3.67 or lower were considered to be low decisiveness, while 4.33 or higher was considered to be high decisiveness.

^j Scores of 3.67 or lower were considered to be low discomfort with ambiguity, while 4.67 or higher was considered to be high discomfort with ambiguity.

^k Scores of 2 or lower were considered to be low closed-mindedness, while 3 or higher was considered to be high closed-mindedness.

^l Scores of 3.47 or lower were considered to be low need for closure, while 3.8 or higher was considered to be high need for closure.

had medians above the midpoints for three of the four dimensions where no differences occurred (medians scores ranged from 3.33 to 4.33).¹⁸ In fact, closed-mindedness, which was the only dimension that had an effect on audit effectiveness, had a median score of 2.33, well below the mid-point, indicating that, in general, these auditors were less closed-minded. The median scores above the midpoint for the remaining four dimensions and the overall need for closure are consistent with the research suggesting that auditors have higher need for closure scores. This higher need for closure may explain the low overall detection rate on this task, as well as those found in other studies (e.g., Asare and Wright 2003; Bedard and Biggs 1991b; Bhattacharjee et al. 1999).

Effect of Auditors' Perception of Management and the Audit Process

I next examined the effect of auditors' perception of management and the audit process, and whether or not their beliefs affect their ability to uncover managed earnings. As mentioned in Chapter 3, after auditors completed the analytical review and need for closure questions, they responded to seven statements that related to their belief of managers willingness to manipulate earnings, commit fraud, deceive auditors, whether or not the audit process mitigates fraud, and another regarding management's credibility.¹⁹ Similar to the need for closure scale, auditors were asked to indicate their agreement with these statements on six-point scales, each ranging from strongly disagree (1) to strongly agree (6). Three of the points indicated disagree (strongly to slightly) and three points indicated agree. As such, the data were coded so that individuals who answered one through three were coded as "disagree" while those who responded four through six were coded as "agree."

¹⁸ Predictability had an average score just below the midpoint at 3.33.

¹⁹ For the list of questions, refer to Chapter 3 or the footnotes in Table 4.9.

I compared how auditors' agreement with these statements affected their audit effectiveness scores, as well as the number of judgments listed, the time spent and the number of pages viewed. The results of the analysis appear in Table 4.9. As can be seen, the search variables and number of judgments listed were not affected by whether or not auditors agreed with the statements. However, and more interestingly, audit effectiveness measures were affected by four of the questions. More specifically, auditors who thought that managers try to manage earnings had significantly higher audit effectiveness scores than those who did not (0.19 compared to 0.06 two-tailed $p=0.04$). This was also true for auditors who thought that managers would try to commit fraud (0.29 compared to 0.10, two-tailed $p=0.05$), for auditors who thought that managers try to hide errors in the financial statements (0.20 compared to 0.06, two-tailed $p=0.01$), and marginally true for auditors who thought that managers may try to distract auditors with more easily detectable errors (0.28 compared to 0.12, two-tailed $p=0.13$).

Auditor Skepticism

A principal components analysis indicated that these four statements all load onto the same general construct (all received component scores >0.5). All of the statements appear to relate to professional skepticism (Cronbach alpha=0.72), and are listed in Table 4.10. As such, I used these responses to create a professional skepticism composite score (mean response to the four statements) for each auditor, and divided the auditors using a midpoint split. Auditors who were above the midpoint generally agreed with the statements and, thus, were considered to be more skeptical, while those who were below

Table 4.9
The Effect of Supplementary Management Statements Agreement^a on Audit Effectiveness, Information Search and Number of Judgments:
Means, (Standard Deviations) and t-tests^b

	n		Audit Effectiveness ^c			Judgments ^d			Time ^e			Pages ^f		
	Agree	Disagree	Agree	Disagree	t (p)	Agree	Disagree	t (p)	Agree	Disagree	t (p)	Agree	Disagree	t (p)
1 ^g	62	14	0.19 (0.34)	0.06 (0.15)	2.13 (0.04)	3.10 (3.02)	2.86 (1.70)	0.29 (0.78)	42.30 (46.98)	58.45 (53.22)	1.13 (0.26)	97.81 (58.21)	100.86 (42.66)	0.19 (0.85)
2 ^h	28	48	0.27 (0.40)	0.10 (0.23)	2.00 (0.05)	3.21 (2.96)	2.96 (2.75)	0.38 (0.71)	36.62 (25.61)	50.33 (57.13)	1.20 (0.23)	93.57 (47.90)	101.17 (59.70)	0.57 (0.57)
3 ⁱ	58	18	0.20 (0.35)	0.06 (0.11)	2.60 (0.01)	2.98 (2.57)	3.28 (3.56)	0.33 (0.75)	43.72 (47.04)	50.28 (52.98)	0.50 (0.62)	92.88 (41.27)	116.06 (86.09)	1.10 (0.28)
4 ^j	40	36	0.16 (0.31)	0.16 (0.32)	0.01 (0.99)	3.30 (2.95)	2.78 (2.67)	0.81 (0.42)	44.22 (51.62)	46.45 (44.86)	0.20 (0.84)	98.50 (47.14)	98.22 (64.09)	0.02 (0.98)
5 ^k	19	57	0.28 (0.40)	0.12 (0.27)	1.59 (0.13)	3.84 (3.29)	2.79 (2.62)	1.42 0.16	58.31 (70.19)	40.93 (38.13)	1.37 (0.18)	115.26 (82.96)	92.74 (42.12)	1.37 (0.27)
6 ^l	67	9	0.17 (0.31)	0.13 (0.33)	0.36 (0.72)	3.07 (2.83)	2.89 (2.85)	0.19 (0.85)	46.70 (50.53)	34.67 (24.41)	0.70 (0.49)	100.10 (58.14)	85.44 (26.64)	0.74 (0.46)
7 ^m	57	19	0.15 (0.30)	0.20 (0.37)	0.57 (0.57)	3.16 (2.72)	2.74 (3.12)	0.56 (0.58)	46.50 (53.34)	41.61 (28.63)	0.38 (0.71)	99.68 (59.72)	94.42 (41.06)	0.36 (0.72)

^a Each question was assessed on a six-point scale ranging from strongly disagree to strongly agree. Scores ranging from one through three were coded as “disagree,” while four through six were coded as “agree.”

^b All p-values are two-tailed.

^c Audit Effectiveness = $\frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$

^d Time represents the number of minutes spent from the start of the background until the completion of the analytical review.

^e Pages represents the number of pages viewed from the start of the instructions to the completion of the analytical review procedures.

^f Judgments represents the number of areas (i.e., accounts) identified during the analytical review.

^g Managers try to manage earnings to meet earnings targets.

^h Managers are likely to commit fraud if left unmonitored.

ⁱ Managers may try to hide an error in the financial statements to meet an earnings target.

^j Auditors prevent managers from committing fraud.

^k Managers try to distract auditors with easily detectable errors in hopes of hiding other errors.

^l When auditors begin to uncover relatively easy errors in financial statements, they usually increase the depth of their analysis with the expectation to find more errors.

^m If management identifies risky areas of the audit to you (the auditor), you would view management as more credible.

Table 4.10
The Effect of Skepticism on Audit Effectiveness

Percentage of Auditors Classified as More or Less Skeptical and Audit Effectiveness Means (St. Dev.) and t-tests^c

Individual Statement ^a	% of Auditors ^b		Audit Effectiveness ^c			
	Disagree (Less Skeptical)	Agree (More Skeptical)	Disagree (Less Skeptical)	Agree (More Skeptical)	t-stat.	p-val. ^d
Earnings Management	18.5%	81.5%	0.06 (0.15)	0.19 (0.34)	2.13	0.04
Management Fraud	63.2%	36.8%	0.10 (0.23)	0.27 (0.40)	2.00	0.05
Hide Errors	23.7%	76.3%	0.06 (0.11)	0.20 (0.35)	2.60	0.01
Distract Auditors	75.0%	25.0%	0.12 (0.27)	0.28 (0.40)	1.59	0.13
<u>Composite Score^e</u>						
Total Skepticism	56.9%	43.1%	0.07 (0.19)	0.26 (0.41)	2.26	0.03

^a Auditors responded to the following four statements pertaining to skepticism of management:

- Managers try to manage earnings to meet earnings targets.
- Managers are likely to commit fraud if left unmonitored.
- Managers may try to hide an error in the financial statements to meet an earnings target.
- Managers try to distract auditors with easily detectable errors in hopes of hiding other errors.

For each statement, they were asked to indicate their agreement on a six-point scale, ranging from strongly disagree to strongly agree. Scores ranging from one through three were coded as disagree (i.e., less skeptical of management), while scores of four through six were coded as agree (i.e., more skeptical of management).

^b The sample consists of 76 auditors for the individual questions. The composite skepticism score includes the 65 auditors who were either above or below the midpoint (more or less skeptical respectively).

^c Audit Effectiveness = $\frac{\text{Identification of Earnings Management Error}}{1 + \text{Number of Irrelevant Judgments}}$

^d All p-values are two-tailed.

^e The skepticism composite score was calculated by taking the mean response to the four statements. Auditors who were above the midpoint generally agreed with the statements and were considered to be more skeptical of management, while those who were below the midpoint disagreed and were considered to be less skeptical. Eleven individuals fell exactly on the midpoint and were removed from the analysis.

the midpoint generally disagreed and were considered to be less skeptical.²⁰

As can be seen, the majority of auditors agreed that managers try to manage earnings and will hide errors to meet earnings targets (81.5% and 76.3% agreed, respectively). On the other hand, most auditors disagreed that managers will commit fraud and use errors to distract auditors (63.2% and 75.0% disagreed, respectively). It appears that auditors are generally skeptical of management with respect to managing earnings, but not to the point where they think managers would act in a fraudulent or overtly deceitful manner.

The overall composite score indicates that 43.1% of auditors were on the skeptical side of the scale, while 56.9% were considered less skeptical. While auditors are trained to practice professional skepticism, there appears to be a difference in the degree of skepticism held by auditors. The question therefore arises; Are auditors who are more skeptical more likely to question management's motives, dig further in to the data and perform better at detecting managed earnings? The composite score in Table 4 indicates that more skeptical auditors had greater audit effectiveness scores than those who were not as skeptical (0.26 compared to 0.07, two-tailed $p=0.03$), providing evidence that skeptical auditors are more likely to discover managed earnings.²¹ Auditors' agreement

²⁰ Sixty-five auditors were classified as either skeptical or not skeptical after dichotomizing the skepticism composite score. Eleven auditors scored exactly on the midpoint (3.5) and were removed from analyses employing this measure of skepticism. Those classified as more skeptical had an average composite score of 4.2, which was significantly different than the 2.9 score for those classified as less skeptical (two-tailed $p<0.01$). Furthermore, more skeptical auditors were more in agreement with each individual skepticism statement than less skeptical auditors (all two-tailed p -values <0.01).

²¹ When I added the skepticism score as a covariate to the audit efficiency score ANOVA, the covariate was significant at $p=0.01$, and the interaction between baiting

to each individual statement generally yielded similar results. Specifically, those who agreed with the statements concerning earnings management, management fraud and hiding errors had higher audit effectiveness than those who disagreed (two-tailed p-values=0.04, 0.05 and 0.01 respectively).

Table 4.11 provides evidence on whether skepticism affects an auditor's ability to identify the earnings management error across the different number of irrelevant judgments listed by the auditors (similar to Table 4.4). As can be seen, more skeptical auditors performed significantly better than less skeptical auditors at identifying the earnings management error across most levels of irrelevant judgments. In fact, the more skeptical auditors were nearly twice as likely to identify the error as compared to less skeptical auditors, and the significance level was $p \leq 0.06$ for all analyses that included fewer than eleven irrelevant judgments. These data suggest a means to potentially mitigate a client's ability to hide earnings manage errors. Differences exist in the level of skepticism reported across auditors, and more skeptical auditors are better at identifying managed earnings. As a result, while auditors are trained to practice skepticism, there seems to be an opportunity for enhanced training on professional skepticism, which could, in turn, make them more effective at detecting managed earnings.

tactics was significant at $p=0.086$. Furthermore, there were no differences in level of skepticism between baiting tactic conditions ($p=0.74$).

Table 4.11
The Effect of Skepticism on the Identification of the Earnings Management Error:
Sensitivity to the Number of Irrelevant Judgments^a

Irrelevant Judgments Included ^b	n		Identified Error		χ^2	p-value ^c
	Less Skeptical	More Skeptical	Less Skeptical	More Skeptical		
All	37	28	21.6%	39.3%	2.40	0.12
< 13	37	27	21.6%	40.7%	2.73	0.10
< 12	37	27	21.6%	40.7%	2.73	0.10
< 11	36	27	19.4%	40.7%	3.43	0.06
< 10	36	27	19.4%	40.7%	3.43	0.06
< 9	36	27	19.4%	40.7%	3.43	0.06
< 8	36	27	19.4%	40.7%	3.43	0.06
< 7	34	27	17.6%	40.7%	3.99	0.05
< 6	34	25	17.6%	40.0%	3.64	0.06
< 5	33	23	15.2%	39.1%	4.16	0.04
< 4	31	22	12.9%	36.4%	4.04	0.04
< 3	27	20	14.8%	40.0%	3.83	0.05
< 2	20	15	5.0%	40.0%	6.56	0.01
None	10	13	10.0%	46.2%	3.49	0.06

^a The composite measure of auditor skepticism was created by taking the mean response to the four management statements on skepticism (each was on a six-point scale). Auditors who were above the midpoint (3.5) were labeled as more skeptical, while auditors below the midpoint were labeled as less skeptical. Eleven individuals had composite skepticism scores at the midpoint and were removed from the analysis. Individual responses were coded correct (1) if any of the judgments identified the affected accounts, the word compensation or appropriate synonym, and incorrect (0) otherwise.

^b An irrelevant judgment relates to an error-free area that an auditor identified as possibly containing an error.

^c All p-values are two-tailed.

Summary of Analyses

In summary, diversionary statements and distracting errors appear to have an interactive effect on an auditor's ability to discover managed earnings in other areas of the financial statement. Specifically, when auditors were alerted to risky accounts that were ultimately error free, they were unlikely to identify the earnings management error. However, when auditors were overtly led to accounts that contained errors, management's attempt to manage earnings actually backfired, as receiving this tactic actually made auditors more likely to discover the earnings management error.²² I created a measure of audit effectiveness to account for the number of irrelevant judgments, which increases an auditor's ability to discover the earnings management error but does so with a cost of diluting the amount of time to follow-up across the several irrelevant errors. Even still, when I looked at the identification of the earnings management error, the results held in the presence of several irrelevant judgments.

The diversionary statement not only influenced the effectiveness of the audit, but it also caused inefficiencies as well. That is, despite performing the worst, those in the diversionary statement only group took more time, and those who found the earnings management error had to look at more pages and list more judgments to effectively find the earnings management error. Furthermore, when diversionary statements were present, the earnings management error was discovered later relative to other judgments listed.

²² It is possible that the results are caused by the simple presence of both baiting tactics and not the fact that the diversionary statement pointed to the distracting errors. As such, future research may wish to examine the effect of a diversionary statement that leads to one area when distracting errors are seeded in another.

Finally, while need for closure differences generally did not moderate this effect (with the exception of those who were more open-minded), being more skeptical of management did. That is, auditors who thought managers try to manage earnings, were likely to commit fraud and attempt to deceive the auditor performed much better at discovering the managed earnings than those who did not. This suggests that even though auditors are trained to practice professional skepticism, audit firms have an opportunity to further this education, which might make auditors conduct more effective audits.

CHAPTER 5

CONCLUSIONS

This study examined the impact of baiting tactics on an auditor's ability to uncover earnings management errors. Professional auditors completed an analytical review on the financial information of a client that contained an earnings management error (i.e., an intentional error that resulted in the client meeting an earnings target). I manipulated the presence of two baiting tactics: a diversionary statement (management of the company alerting the auditor to risk in another area of the financial statements) and distracting errors (seeding in off-setting, easy-to-detect errors in those other areas). In doing so, I investigated whether management can influence the effectiveness of auditor judgments and overall audit quality.

The results suggest that diverting auditors to a clean set of accounts (i.e., error-free) significantly reduces the likelihood that they will identify an error elsewhere in the financial statements. On the other hand, diverting an auditor's attention to accounts that contain errors may actually backfire on management and increase the likelihood that the auditor will detect errors elsewhere in the statements. Finally, distracting errors without diversionary statements appear to have no effect on the auditor's error detection rate.

In general, certain baiting tactics seem to be effective, while others may backfire. Specifically, if auditors are alerted of risk in accounts that turn out to be clean, they are much less effective at uncovering managed earnings in other areas, indicating that this tactic might be advantageous for clients to use. On the other hand, if auditors are alerted to risk in accounts that actually contain errors, then auditors actually perform better at identifying managed earnings, indicating that this tactic is not only ineffective, but it may

actually backfire on management. Upon examining these interactive effects, it appears that if an auditor's sense of risk is reduced when no errors are discovered in areas where they were thought to exist, the auditor's sense of risk for all other areas seems to decrease as well. Moreover, when errors are discovered where they were thought to exist, then the perceived risk seems to increase across all areas.

The study provides several contributions to the literature. Most importantly, it demonstrates that a baiting tactic can deter auditors from finding managed earnings. It also uncovers a situation in which auditors may be more likely to detect earnings management. That is, when auditors are led to accounts that contain errors, it appears that those errors raise a red flag, resulting in a greater likelihood of finding managed earnings in other parts of the financial statements. The study also points out that more skeptical auditors are more likely to discover managed earnings than less skeptical auditors. Even though auditors widely practice professional skepticism, the variability in skepticism displayed by auditors suggests that there is room for further growth, through added practice and training.

In addition, this study introduces the concept of audit management, a broad topic that can be explored in future research. While studies have examined auditors' responses to earnings management (e.g., Anderson et al. 2004; Nelson et al. 2002; Ng 2007), auditors in these studies were generally provided with evidence of accounting irregularities and asked to make a judgment. This study differs in that it examines the auditor's ability to detect earnings management rather than the determination of whether or not to book an identified audit difference. Finally, the study may contribute to psychological research investigating the effectiveness of distraction techniques.

Limitations

One potential limitation of this study is its task realism. As with all experimental research, I held constant many important variables that auditors would experience in practice. To compensate for this, I created an instrument of considerable depth to make the task more realistic, while still manipulating only the two baiting tactics.

A second potential limitation is the method in which the study was administered. Since I used professional auditors, it was necessary to have them complete the analytical review on their own time. As a result, I was not able to create a laboratory-like setting where all participants completed the study in a controlled environment. As such, even though participants were instructed to complete this independently and in one sitting (without interruption), I could not monitor their progress to ensure all of the guidelines were followed. At the same time, had I conducted the experiment as part of a large group (i.e., in a classroom), I would not have been able to use experienced auditors, which is necessary for a task such as this.

A third potential limitation may be the timing of the experiment. The study was conducted toward the end of 2008 and beginning of 2009, shortly after the failures of several banks and at the beginning of what appears to be a lengthy economic recession. As such, auditors may have had a heightened awareness of risk during this time and may have reacted differently to information than they would have when the economy is stable.

Suggestions for Future Research

This study is exploratory in nature and leaves open several possible avenues for future research. First, the interactive effects found are consistent with certain tactics either abating or intensifying an auditor's misstatement risk. As such, future research

may seek to further examine how an auditor's assessed level of risk affects their ability to discover managed earnings. In addition, an examination as to what specifically affects an auditor's risk assessments may be fruitful for audit literature.

Furthermore, the findings suggest that auditors may be more effective at overall error detection when they are diverted to accounts containing actual errors. Exploring deeper into the causes of this group's heightened performance may result in a common variable that make auditors more likely to discover managed earnings, thereby making them more effective when examining financial statements. As such, future research can examine other factors that influence the effectiveness of the baiting tactics investigated here.

This study specifically employed a type of earnings management that resulted from the client departing from GAAP (i.e., illegally manipulating income). I chose this type of reporting to increase variability in detection of the managed earnings. However, I argue that these tactics transcend various types of earnings management (both within and outside the rules of GAAP). Future research may explore other methods of earnings management, and whether or not baiting tactics will affect their detection.

Finally, this dissertation discussed a term called "audit management," a phenomenon that is relatively unexplored in the accounting literature. Future research may examine other ways that clients try to prevent auditors from effectively discovering managed earnings. Field studies could identify specific tactics that management uses, and experimental research (like this study) could investigate their impact. In doing so, both the academic and professional communities could benefit immensely from future work in this area. By learning which tactics are effective, researchers can further

understand how professional auditors make decisions and, more specifically, how biases found in psychology affect auditors. Professionals, on the other hand, could benefit by learning about the gaps or inefficiencies in their judgments, which could then be mitigated through additional training.

APPENDIX
RESEARCH INSTRUMENT

The screen shots of the experimental instrument that auditors received are presented on the following pages, which included the following information:

- Pin Number
 - Invalid Pin Number
- Welcome Screen
- Instructions
- Background Information
 - The Client
 - The Industry
 - The Market
 - The Audit
- Analytical Review
 - Financial Information
 - Recording Judgments
- Post Experimental Questionnaire
 - Manipulation Check
 - Need For Closure
 - Management and the Audit
 - Demography
- Completion and Email Instructions

This study is locked and only available to individuals who received a pin number. If you have a pin number, please enter it in the box below and click continue.

If you do not have a pin number, please click exit to quit the study.

For more information or to receive a pin number, please email Ben Luippold at bluippold@som.umass.edu.

Pin #: ▶

Continue

Exit

The pin number you entered is not valid. Please click on the retry button to try again.

If you do not have a pin number, please click on the exit button to quit the program.

For more information, if your pin number is invalid, or to obtain a pin number, please email Ben Luippold at bluippold@som.umass.edu.

Retry

Exit



Analytical Review Study

Start

Balance Sheet
Income Statement
Cash Flow Statement
Marketable Securities
Accounts Receivable
Inventory
Cost of Goods Manufactured / Sold
Prepaid Expenses
Property, Plant & Equipment
Accumulated Depreciation
Intangibles
Other Non-Current Assets
Purchases, Payables & Taxes
Other Current Liabilities
Debt
Other Non-Current Liabilities
Retained Earnings
Sales
Selling Expenses
Administrative Expenses
Background

Sign in

To receive credit, please enter your name in the box below and press enter.

Record Judgment

End Analytical Review

Balance Sheet
Income Statement
Cash Flow Statement
Marketable Securities
Accounts Receivable
Inventory
Cost of Goods Manufactured / Sold
Prepaid Expenses
Property, Plant & Equipment
Accumulated Depreciation
Intangibles
Other Non-Current Assets
Purchases, Payables & Taxes
Other Current Liabilities
Debt
Other Non-Current Liabilities
Retained Earnings
Sales
Selling Expenses
Administrative Expenses
Background

Welcome, and thank you for your time and participation. It is important that you complete this study in one sitting.

You will be evaluating financial information in an analytical review as part of a year-end audit. After completing your analysis, there will be some supplemental questions about the task along with some other opinion and demographic questions. At the end of the program, you will be asked to email the file containing the results back to me.

Before starting the study, please read the instructions on how to navigate through the pages of information. We will then provide you with background information about the client, the industry, the market and the audit.

When you are ready, click on the "Instructions" button to move to the instructions for the study.

Instructions

Record Judgment

End Analytical Review

Balance Sheet
Income Statement
Cash Flow Statement
Marketable Securities
Accounts Receivable
Inventories
Cost of Goods Manufactured / Sold
Prepaid Expenses
Property, Plant & Equipment
Accumulated Depreciation
Intangibles
Other Non-Current Assets
Purchases, Payables & Taxes
Other Current Liabilities
Debt
Other Non-Current Liabilities
Retained Earnings
Sales
Selling Expenses
Administrative Expenses
Background

INSTRUCTIONS

You are the senior-in-charge on Flexpack's current year-end financial audit. In preparation for fieldwork, you are responsible for completing analytical review procedures on the year-end financial statements. In doing so, please analyze the company's financial statements and analytical review details to determine if there are any possible material errors or unusual fluctuations within the financial statements.

All of the relevant procedures associated with the analytical review have already been drawn up for you. You may assume that all the ratios, subtotals and totals have been calculated correctly.

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Use the list of buttons on the left side of every screen to navigate through the statements within the information set. Each button will activate a separate schedule created for the analytical review.

The top three buttons relate to the company's financial statements. If you would like to access more detailed information, the next 17 buttons provide additional statements further describing key balances within the balance sheet and income statement.

Finally, the last button on the list will allow you to revisit the background information, which will be initially provided following these instructions.

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During your analysis, you may click on the "Record Judgment" button below at any time to record your judgment. After entering your evaluation, click the "Save Judgment and Return to Analytical Review" button which will save any information you recorded and return you to the financial information to continue your analysis.

You may determine that the statements are free of material errors, or you may determine that the statements have one or more errors. Please do not feel like you need to record your entire evaluation at once, as you may add additional judgments as many times as necessary during your analysis.

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When you have completed the analytical review, please click on the "End Analytical Review" button below to continue on to the supplementary questions.

Please note: Once you have completed the review, you will not be able to go back and analyze the data.

When you are ready to read the background information relating to the client, the industry, the market and the audit, click on the "Background" button below.

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THE CLIENT

Flexpack, Inc. designs, manufactures, and sells a variety of cardboard boxes used for packaging and shipping. Flexpack markets the boxes to food and beverage, automotive and clothing manufacturers. The company's executive office and manufacturing facilities are located in Morristown, New Jersey. The manufacturing plant uses a 45,000 square foot facility. The company employs approximately 670 people, of whom 55% are in manufacturing, 31% in sales and customer service, and 14% in management and finance. Flexpack currently produces and markets three products: 1) corrugated and solid fiber boxes, 2) folding solid paperboard boxes, and 3) set-up paperboard boxes. There have been no significant changes in the selling price of any products over the last three years.

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THE INDUSTRY

Flexpack is part of the Cardboard Box & Container Manufacturing Industry. According to IBISWorld, in 2008, industry revenues were \$51,387.9 million, and the industry is forecasted to remain stable through the next five years.

The industry consists of over 1,500 companies in the United States who cater to various segments of the market. These manufacturers serve numerous potential users of cardboard containers including food and beverage manufacturers, engineered products manufacturers, and clothing and footwear manufacturers.

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THE MARKET

The company has approximately 19,000 stockholders of record and 10,000,000 outstanding shares of common stock. Flexpack, Inc.'s stock is registered with the NASDAQ Stock Exchange. The President and Chief Executive Officer, David C. Borden, owns 1% of the outstanding shares, and no other director owns more than 1%.

Analysts have consistently forecasted earnings at \$0.82 per share over the past three years. Given the stability of the industry, analysts recently forecasted earnings to remain at \$0.82 per share (or \$8,200,000 in total earnings). Flexpack has been very committed to meeting this benchmark and has not missed an earnings forecast since 2001.

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THE AUDIT

Your company has audited Flexpack since its incorporation, and it has always received an unqualified opinion. In addition, there have been no material control deficiencies since the inception of the Sarbanes-Oxley internal control audits, nor have there been any significant accounting changes, extraordinary items or unusual operating activities. As such, the materiality threshold for inconsistent fluctuations and financial errors remains at \$100,000, the same level from previous years.

Conversations with management have indicated that the individual responsible for maintaining non-current assets (i.e. property, plant & equipment, intangibles and other non-current assets) left the company about six months ago. Her replacement transferred in from the manufacturing floor and has very little accounting experience. Aside from that change, there has been no other turnover with any of the accounting personnel responsible for financial reporting.

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This paragraph is omitted in the No Diversionary Statement condition.

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When you are ready to begin the analytical review, click on the "Analytical Review" button below. This will bring you to the balance sheet. To access other financial information, click on the relevant navigation button on the left side of the screen.

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	Balance Sheet Items	Current Year Unaudited		Last Year Audited		Two Years Ago Audited	
	Assets	\$ Amount	% Total Assets	\$ Amount	% Total Assets	\$ Amount	% Total Assets
	Cash and Cash Equivalents	\$ 8,620,607	9.3%	\$ 8,677,250	9.3%	\$ 8,629,425	9.3%
	Marketable Securities	2,249,997	2.4%	2,160,342	2.3%	2,164,170	2.3%
	Net Accounts Receivable	24,660,926	26.5%	24,612,731	26.4%	24,555,262	26.4%
	Inventory (FIFO)	21,814,976	23.5%	21,747,251	23.3%	21,741,687	23.3%
	Prepaid Expenses	2,226,979	2.4%	2,299,783	2.5%	2,233,167	2.4%
	Total Current Assets	59,573,485	64.1%	59,497,357	63.9%	59,323,711	63.7%
	Property, Plant and Equipment	32,247,699	34.7%	32,205,471	34.6%	32,106,344	34.5%
	Less: Accumulated Depreciation	(4,985,046)	5.4%	(5,209,853)	5.6%	(5,006,753)	5.4%
	Net Property Plant and Equipment	27,262,652	29.3%	26,995,618	29.0%	27,099,591	29.1%
	Intangibles-Net	1,175,043	1.3%	1,752,586	1.9%	1,880,104	2.0%
	All Other Non-Current Assets	4,955,928	5.3%	4,926,267	5.3%	4,843,056	5.2%
	Total Assets	\$ 92,967,108	100.0%	\$ 93,171,827	100.0%	\$ 93,146,462	100.0%
	Liabilities and Owner's Equity						
	Accounts Payable	\$ 14,097,618	15.2%	\$ 14,018,901	15.0%	\$ 14,038,406	15.1%
	Accrued Tax Liability	789,474	0.8%	817,547	0.9%	800,260	0.9%
	Notes Payable-Short Term	8,699,172	9.4%	8,788,724	9.4%	8,751,098	9.4%
	Current Portion-Long Term Debt	3,081,291	3.3%	3,156,947	3.4%	3,217,406	3.5%
	Other Current Liabilities	8,147,146	8.8%	8,349,790	9.0%	8,314,009	8.9%
	Total Current Liabilities	34,814,701	37.4%	35,131,909	37.7%	35,121,178	37.7%
	Long Term Debt	11,609,012	12.5%	11,545,354	12.4%	11,503,489	12.3%
	Other Non-Current Liabilities	4,281,228	4.6%	4,485,980	4.8%	4,530,438	4.9%
	Common Stock	4,950,000	5.3%	4,950,000	5.3%	4,950,000	5.3%
	Retained Earnings	37,312,168	40.1%	37,058,584	39.8%	37,041,356	39.8%
	Total Shareholder's Equity	42,262,168	45.5%	42,008,584	45.1%	41,991,356	45.1%
	Total Liabilities and Owner's Equity	\$ 92,967,108	100.0%	\$ 93,171,827	100.0%	\$ 93,146,462	100.0%

In the "No Distracting Error" condition, the current year balances change to:

Less: Accumulated Depreciation	(5,435,072)	5.8%
Net Property Plant and Equipment	26,812,625	28.8%
Intangibles Net	1,525,069	1.7%

End Analytical Review

	Relevant Analytical Review Procedures for Marketable Securities			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited	
Marketable Securities	\$ 2,249,997	\$ 2,160,342	\$ 2,164,170	
Marketable Securities % Total Assets	2.42%	2.32%	2.32%	
Marketable Securities % Current Assets	3.78%	3.63%	3.65%	
Breakdown of Marketable Securities by Type				
Cost Bases				
U.S. Government & Agencies (Treasury Notes)	\$ 1,298,799	\$ 1,288,312	\$ 1,284,956	
Maryland State General Obligation Funds	549,200	538,485	529,531	
Illinois State General Obligation Funds	340,501	333,471	343,304	
Total Amount	\$ 2,188,500	\$ 2,160,268	\$ 2,157,792	
Market Value				
U.S. Government & Agencies (Treasury Notes)	\$ 1,332,765	\$ 1,289,314	\$ 1,318,201	
Maryland State General Obligation Funds	552,814	546,414	508,358	
Illinois State General Obligation Funds	364,419	324,614	337,612	
Total Amount	\$ 2,249,997	\$ 2,160,342	\$ 2,164,170	

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Relevant Analytical Review Procedures for Accounts Receivable			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited
Accounts Receivable Turnover Ratio	7.08	7.12	7.13
Days Net Receivables Outstanding	51.52	51.27	51.20
Allowance for Doubtful Accounts as a % of Net Sales	\$ 1,345,515 0.77%	\$ 1,319,049 0.75%	\$ 1,325,332 0.76%
as a % of Net Receivables	5.46%	5.36%	5.40%
Bad Debt Expense as a % of Net Sales	\$ 817,235 0.47%	\$ 845,374 0.48%	\$ 839,126 0.48%
as a % of Net Receivables	3.31%	3.43%	3.42%
Accounts Receivable Aging Analysis (all sales made on credit with terms, Net 30)			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited
Days Outstanding			
1-30 days	\$ 12,440,269	\$ 12,428,843	\$ 12,345,340
31-60 days	8,799,184	8,740,171	8,713,282
61-90 days	3,214,358	3,180,074	3,232,630
Over 90 days	1,552,629	1,582,692	1,589,342
Total Gross Receivables	26,006,441	25,931,780	25,880,594
Less: Allowance for Doubtful Accounts	(1,345,515)	(1,319,049)	(1,325,332)
Net Accounts Receivables	\$ 24,660,926	\$ 24,612,731	\$ 24,555,262

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	Relevant Analytical Review Procedures for Inventory (FIFO)			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited	
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Inventory	\$ 24,756,784	\$ 24,365,448	\$ 24,202,533	
	1.71	1.69	1.69	
	1.02	1.01	1.01	
	5.74	5.76	5.76	
Cost of Goods Manufactured / Sold				
Prepaid Expenses	63.57	63.32	63.35	
	4.8%	4.7%	4.7%	
Property, Plant & Equipment				
Accumulated Depreciation	13.0%	12.8%	12.7%	
	26.6%	26.2%	26.0%	
Intangibles	1.88	1.88	1.88	
Other Non-Current Assets	7.06	7.19	7.23	
	4.88	4.82	4.81	
Purchases, Payables & Taxes				
Other Current Liabilities	\$ 4,185,075	\$ 4,197,151	\$ 4,190,096	
Debt	5,763,106	5,732,344	5,745,986	
Other Non-Current Liabilities	11,866,795	11,817,756	11,805,606	
	\$ 21,814,976	\$ 21,747,251	\$ 21,741,687	
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	Schedule of Cost of Goods Manufactured	Current Year Unaudited	Last Year Audited	Two Years Ago Audited
	Direct Material Costs:			
	Beginning Material Inventory, Jan. 1, 200X	\$ 4,197,151	\$ 4,190,096	\$ 4,274,419
	Purchase of Direct Materials	78,729,659	78,779,049	78,760,777
	Cost of Direct Material Available	82,926,810	82,969,145	83,035,196
	Less: Ending Material Inventory, Dec. 31, 200X	(4,185,075)	(4,197,151)	(4,190,096)
	Direct Material Cost	78,741,736	78,771,994	78,845,100
	Direct Labor Costs	22,458,206	22,461,831	22,407,832
	Manufacturing Overhead Costs	24,136,900	24,118,536	24,084,276
	Manufacturing Costs Incurred	125,336,841	125,352,361	125,337,208
	Add: Beginning Work In Process	5,732,344	5,745,986	5,718,466
	Total Manufacturing Costs Accounted for	131,069,185	131,098,347	131,055,673
	Less: Ending Work in Process	(5,763,106)	(5,732,344)	(5,745,986)
	Cost of Goods Manufactured	\$ 125,306,078	\$ 125,366,003	\$ 125,309,688
	Schedule of Cost of Goods Sold			
	Beginning Finished Goods Inventory	\$ 11,817,756	\$ 11,805,606	\$ 11,756,168
	Add: Cost of Goods Manufactured	125,306,078	125,366,003	125,309,688
	Goods Available for Sale	137,123,834	137,171,608	137,065,855
	Less: Ending Finished Goods Inventory	(11,866,795)	(11,817,756)	(11,805,606)
	Cost of Goods Sold	\$ 125,257,040	\$ 125,353,852	\$ 125,260,249

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	Relevant Analytical Review Procedures for Prepaid Expenses			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited	
Prepaid Expenses	\$ 2,226,979	\$ 2,299,783	\$ 2,233,167	
% Current Assets	3.74%	3.87%	3.76%	
% Total Assets	2.40%	2.47%	2.40%	
Breakdown of Prepaid Expenses				
Prepaid Rent	\$ 1,014,014	\$ 1,040,509	\$ 1,015,591	
Prepaid Insurance	632,236	647,086	617,615	
Office Supplies	580,730	612,187	599,960	
Total	\$ 2,226,979	\$ 2,299,783	\$ 2,233,167	

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Relevant Analytical Review Procedures for Accumulated Depreciation			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited
Accumulated Depreciation by Asset Class			
Land	\$ -	\$ -	\$ -
Building & Improvements	1,956,691	1,872,790	1,807,097
Machinery & Equipment	2,597,117	2,451,051	2,330,704
Furniture & Fixtures	259,903	714,626	697,466
Leasehold Improvements	80,092	77,624	73,960
Delivery Equipment	91,244	93,763	97,525
Total	\$ 4,985,046	\$ 5,209,853	\$ 5,006,753
Depreciation by Asset Class¹			
Land	\$ -	\$ -	\$ -
Building & Improvements	577,443	573,026	554,067
Machinery & Equipment	988,062	951,457	950,521
Furniture & Fixtures	60,148	509,110	496,404
Leasehold Improvements	30,261	30,644	30,036
Delivery Equipment	82,583	84,767	84,616
Total	\$ 1,738,497	\$ 2,149,003	\$ 2,115,645
Depreciation as % of PP&E	5.39%	6.67%	6.59%
1. All depreciation employs a straight-line method with no salvage value.			

In the "No Distracting Error" condition, the current year balances change to:

Accumulated Depreciation by Asset Class	
Furniture & Fixtures	709,929
Total	\$ 5,435,072
Depreciation by Asset Class¹	
Furniture & Fixtures	510,174
Total	\$ 2,188,523

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Relevant Analytical Procedures for Intangible Assets			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited
Intangible Assets	\$ 1,175,043	\$ 1,752,586	\$ 1,880,104
Intangible Assets % of Total Assets	1.26%	1.88%	2.02%
Breakdown of Intangible Assets			
Goodwill	\$ 409,949	\$ 859,975	\$ 859,975
Patents	765,093	892,611	1,020,128
Total	<u>\$ 1,175,043</u>	<u>\$ 1,752,586</u>	<u>\$ 1,880,104</u>
Intangible Acquisitions (Disposals / Impairments)			
Goodwill	\$ -	\$ -	\$ -
Patents	-	-	-
Total	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Amortization of Intangible Assets			
Goodwill	\$ 450,026	\$ -	\$ -
Patents	127,518	127,518	127,518
Total	<u>\$ 577,544</u>	<u>\$ 127,518</u>	<u>\$ 127,518</u>

In the "No Distracting Error" condition, the current year balances change to:

Breakdown of Intangible Assets	
Goodwill	\$ 859,975
Total	<u>\$ 1,625,069</u>
Amortization of Intangible Assets	
Goodwill	\$ -
Total	<u>\$ 127,518</u>

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	Relevant Analytical Procedures for Other Non-Current Assets			
	Current Year Unaudited	Last Year Audited	Two Years Ago Audited	
Other Non-Current Assets	\$ 4,955,928	\$ 4,926,267	\$ 4,843,056	
Other Non-Current Assets % of Total Assets	5.33%	5.29%	5.20%	
Breakdown of Other Non-Current Assets				
Deposits with Utility Companies	\$ 1,370,346	\$ 1,344,279	\$ 1,323,521	
Notes Receivable	2,517,337	2,556,700	2,472,448	
Other Non-Current Assets	1,068,244	1,025,288	1,047,087	
Total	\$ 4,955,928	\$ 4,926,267	\$ 4,843,056	

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Balance Sheet	Relevant Analytical Review Procedures for Purchases, Payables & Taxes			
Income Statement	Current Year Unaudited	Last Year Audited	Two Years Ago Audited	
Cash Flow Statement				
Marketable Securities				
Accounts Receivable				
Inventory	\$ 78,729,659	\$ 78,779,049	\$ 78,760,777	
Cost of Goods Manufactured / Sold				
Prepaid Expenses	\$ 9,560,005	\$ 9,593,215	\$ 9,599,406	
Property, Plant & Equipment	\$ 7,101,234	\$ 7,083,725	\$ 7,029,075	
Accumulated Depreciation				
Intangibles	\$ 944,756	\$ 945,349	\$ 945,129	
Other Non-Current Assets	1.20%	1.20%	1.20%	
Purchases, Payables & Taxes	\$ 14,097,618	\$ 14,018,901	\$ 14,038,406	
Other Current Liabilities	8.07%	8.00%	8.02%	
Debt				
Other Non-Current Liabilities				
Retained Earnings				
Sales	\$ 789,474	\$ 817,547	\$ 800,260	
Selling Expenses	21.95%	22.44%	21.99%	
Administrative Expenses				
Background				

Record Judgment

End Analytical Review

	Relevant Analytical Review Procedures for Selling Expenses					
	Current Year	Last Year	Two Years Ago			
	\$ Amount	\$ Amount	\$ Amount	% Net Sales	% Net Sales	% Net Sales
Selling Expenses:						
Warranty Expense	\$ 2,717,675	\$ 2,681,668	\$ 2,714,635	1.6%	1.5%	1.6%
Bad Debt Expense	817,235	845,374	839,126	0.5%	0.5%	0.5%
Advertising	2,022,383	2,070,011	2,085,544	1.2%	1.2%	1.2%
Sales Compensation	6,428,136	6,667,895	6,661,117	3.7%	3.8%	3.8%
Sales Commissions	5,736,057	5,799,737	5,787,090	3.3%	3.3%	3.3%
Total Selling Expenses	\$ 17,721,486	\$ 18,064,686	\$ 18,087,513	10.1%	10.3%	10.3%
Total Selling and Administrative Expenses:	\$ 35,833,169	\$ 36,379,112	\$ 36,357,152	20.5%	20.8%	20.8%

Balance Sheet
Income Statement
Cash Flow Statement
Marketable Securities
Accounts Receivable
Inventory
Cost of Goods Manufactured / Sold
Prepaid Expenses
Property, Plant & Equipment
Accumulated Depreciation
Intangibles
Other Non-Current Assets
Purchases, Payables & Taxes
Other Current Liabilities
Debt
Other Non-Current Liabilities
Retained Earnings
Sales
Selling Expenses
Administrative Expenses
Background

Record Judgment

End Analytical Review

	Relevant Analytical Review Procedures for Administrative Expenses							
	Current Year Unaudited		Last Year Audited		Two Years Ago Audited			
	\$ Amount	% Net Sales	\$ Amount	% Net Sales	\$ Amount	% Net Sales		
Balance Sheet								
Income Statement								
Cash Flow Statement								
Marketable Securities								
Accounts Receivable								
Inventory								
Cost of Goods Manufactured / Sold								
Prepaid Expenses								
Property, Plant & Equipment								
Accumulated Depreciation								
Intangibles								
Other Non-Current Assets								
Purchases, Payables & Taxes								
Other Current Liabilities								
Debt								
Other Non-Current Liabilities								
Retained Earnings								
Sales								
Selling Expenses								
Administrative Expenses								
Background								
	General and Administrative Expenses:							
	Rent	\$ 4,999,465	2.9%	\$ 4,956,223	2.8%	\$ 4,939,971	2.8%	
	Depreciation	360,272	0.2%	806,422	0.5%	807,888	0.5%	
	Amortization	577,544	0.3%	127,518	0.1%	127,518	0.1%	
	Telephone	238,598	0.1%	237,308	0.1%	243,697	0.1%	
	Maintenance & Repairs	335,404	0.2%	338,943	0.2%	326,873	0.2%	
	Gas & Oil	60,281	0.0%	60,470	0.0%	60,473	0.0%	
	Utilities	454,603	0.3%	464,092	0.3%	448,921	0.3%	
	Supplies Expense	223,956	0.1%	225,074	0.1%	221,816	0.1%	
	Insurance	1,040,229	0.6%	1,026,135	0.6%	1,017,207	0.6%	
	Administrative Compensation	8,270,611	4.7%	8,510,661	4.9%	8,490,624	4.9%	
	Other Operating Expenses	1,550,720	0.9%	1,561,581	0.9%	1,584,652	0.9%	
	Total Administrative Expenses	\$ 18,111,682	10.4%	\$ 18,314,426	10.5%	\$ 18,269,639	10.4%	
	Total Selling and Administrative Expenses:	\$ 35,833,169	20.5%	\$ 36,379,112	20.8%	\$ 36,357,152	20.8%	

In the "No Distracting Error" condition, the current year balances change to:

Depreciation		810,298	0.5%
Amortization		127,518	0.1%

End Analytical Review

Balance Sheet
Income Statement
Cash Flow Statement
Marketable Securities
Accounts Receivable
Inventory
Cost of Goods Manufactured / Sold
Prepaid Expenses
Property, Plant & Equipment
Accumulated Depreciation
Intangibles
Other Non-Current Assets
Purchases, Payables & Taxes
Other Current Liabilities
Debt
Other Non-Current Liabilities
Retained Earnings
Sales
Selling Expenses
Administrative Expenses
Background

Please record any judgments about the financial statements in the box below.

If you determine that the statements do not contain any material errors, write "None" in the box.

If you determine that the statements contain one or more errors, please write a description of the error(s), the specific accounts affected, and the overall amount(s) in the box below.

When you are done, click on the "Save Judgment and Return to Analytical Review" button to resume your analysis. Your judgment will be permanently moved to the gray box at the bottom as part of your evaluation. Your entire evaluation will consist of all of the judgments you made. You may return to this page at any time and add judgments to your evaluation.



Save Judgment and Return to Analytical Review

Your Evaluation:

Record Judgment

End Analytical Review

Balance Sheet
Income Statement
Cash Flow Statement
Marketable Securities
Accounts Receivable
Inventory
Cost of Goods Manufactured / Sold
Prepaid Expenses
Property, Plant & Equipment
Accumulated Depreciation
Intangibles
Other Non-Current Assets
Purchases, Payables & Taxes
Other Current Liabilities
Debt
Other Non-Current Liabilities
Retained Earnings
Sales
Selling Expenses
Administrative Expenses
Background

You are about to end the analytical review.

You will not be able to return to the information set after you indicate that you are finished with the analytical review.

[Return to Analytical Review](#)

[End Analytical Review](#)

[Record Judgment](#)

[End Analytical Review](#)

Please respond to the following questions about the analytical review.

Did conversations with management identify any turnover in the accounting department?

No

Yes

If you answered yes to the last question, please identify what financial areas or accounts the person was responsible for. If you answered no, leave blank.

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

I feel uncomfortable when I don't understand the reason why an event occurred in my life.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I tend to put off making important decisions until the last possible moment.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I would describe myself as indecisive.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

I enjoy the uncertainty of going into a new situation without knowing what might happen.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I tend to struggle with most decisions.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

When considering most conflict situations, I can usually see how both sides could be right.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

I don't like to be with people who are capable of unexpected actions.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

When thinking about a problem, I consider as many different opinions on the issue as possible.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I dislike it when a person's statement could mean many different things.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

I find that establishing a consistent routine enables me to enjoy life more.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I enjoy having a clear and structured mode of life.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I like to have a place for everything and everything in its place.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

I feel uncomfortable when someone's meaning or intention is unclear to me.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I always see many possible solutions to problems I face.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

I dislike unpredictable situations.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

Managers try to manage earnings to meet earnings targets.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Managers are likely to commit fraud if left unmonitored.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Managers may try to hide an error in the financial statements to meet an earnings target.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with each of the following statements.

Auditors prevent managers from committing fraud.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Managers try to distract auditors with easily detectable errors in hopes of hiding other errors.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

When auditors begin to uncover relatively easy errors in financial statements, they usually increase the depth of their analysis with the expectation to find more errors.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please indicate the extent to which you agree or disagree with the following statement.

If management identifies risky areas of the audit to you (the auditor), you would view management as more credible.

Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

Next

Please respond to the following questions.

How many months of auditing experience do you currently have?

What is your current audit title?

What firm do you currently work for?

Next

Please respond to the following questions.

What is your age?

What is your gender?

Female

Male

Next

You're done!

Thank you again for participating in this study.

In the folder on your desktop labeled "Analytical Review," there is a file labeled "**data.dat**."

Please email that file to bluippold@som.umass.edu.
You will receive credit after I receive the **data.dat** file.

End

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